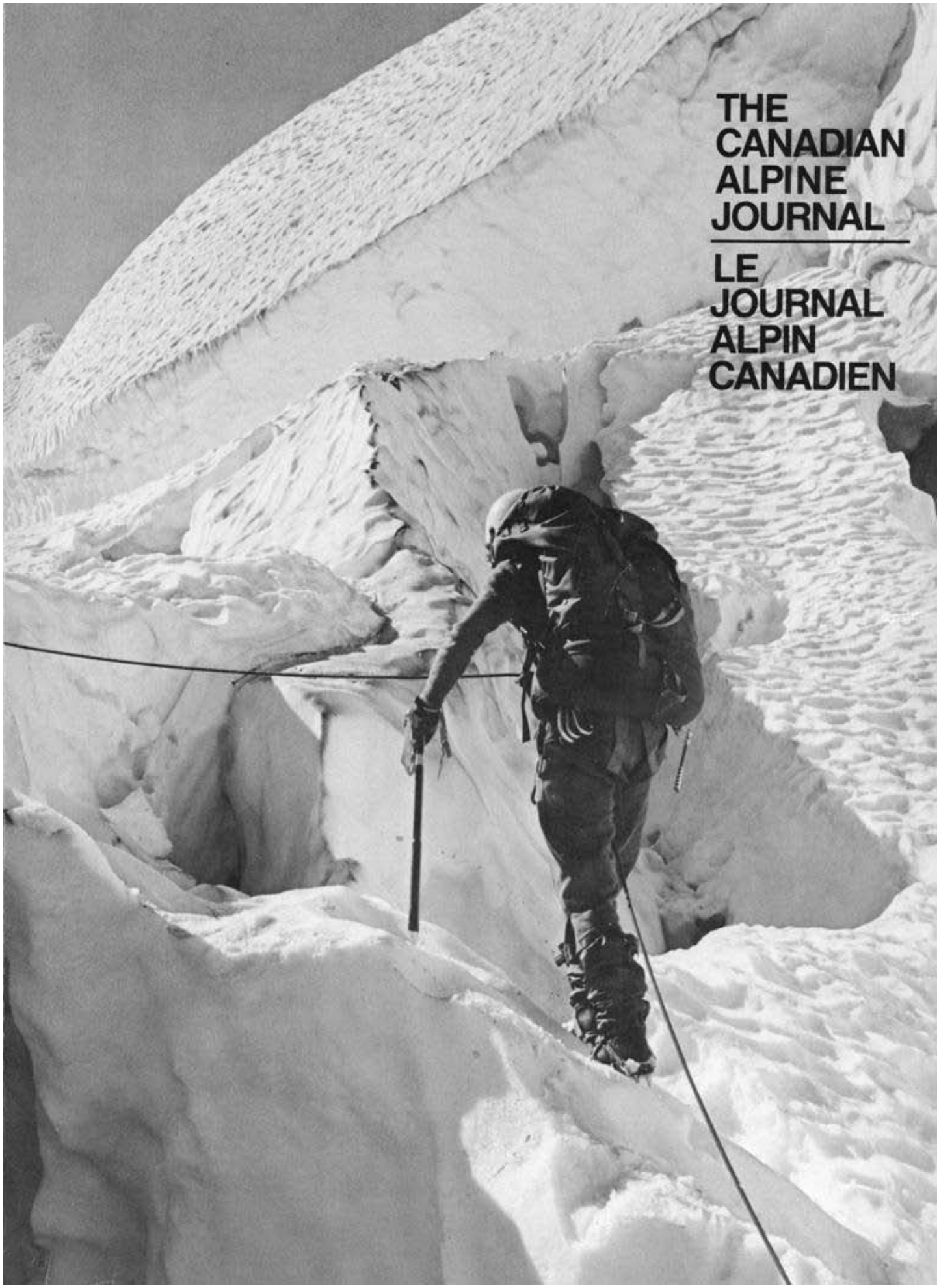

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Cover: On the North-east Face of Mt. Redoubt. Corina Acheson

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Stikine Stalkoes

It is surprising that the Stikine Icecap, and the compact group of Mt Ratz, Mussell Peak and Noel Peak in particular, have received so little attention from mountaineers. These peaks are high (over 3000 m, have good glacial approaches from both Alaska and British Columbia, and present an unique opportunity to climb major unclimbed peaks of considerable difficulty. No less an authority than Fred Beckey has written,

If you... could... fly the entire span of Canadian and Alaskan ranges from Vancouver to Anchorage, I think you would conclude as I have that the Stikine Valley is the most overwhelming of them all, and that the fringing icefields enshrine some of the wildest North American peaks.[1]

The recent history of the Stikine River starts in 1793 when Captain Vancouver charted the shoals by its mouth, though he did not realize a large river emptied there. The coastal area by the mouth of the Stikine came under Russian influence when Fort Dionysius was established in 1834; later it became a Hudson Bay post and changed its name to Fort Stikine. When acquired by the United States in 1867 it became Wrangell and prospers today under that name.

The Stikine, a swift, turbulent river, is navigable to Telegraph Creek some 122 miles from the sea. Until 1861 there was no incentive to force a way upstream but in that year Alexander Choquette discovered placer gold and in 1862 there was a gold rush of some 800 miners and prospectors. Concern for lawlessness caused consternation on the part of the colonial administrators; at that time the Colony of British Columbia and the Imperial Writ extended only to the Nass River. So by proclamation on 19 July 1862 the territory "bounded to the west and southwest by the frontier of Russian America" and north of the Nass River and south of the Yukon Territory was declared to be a Crown colony known as the "Stickeen Territory". James Douglas, Governor of British Columbia, was appointed Administrator until 28 July 1863 when the Stickeen Territory was amalgamated with the Colony of British Columbia.[2]

The Stikine gold rush was shortlived but it emphasized the importance of the Stikine River as a navigable waterway giving access to the land behind the coastal mountains. The mountains were not explored or surveyed although the Treaty of 1825 between Britain and Russia defined the boundary as following certain known geographical features. Article III provided:

... the line of demarcation shall follow the summit of the mountains situated parallel to the coast as far as the point of intersection of the 141st degree west of longitude. . .

Article IV provided that when the "summit of the mountains" was more than 10 marine leagues from the sea the boundary shall follow "the windings of the coast, which shall never exceed the distance of 10 marine leagues therefrom".

This ill-defined boundary caused no difficulties until in 1867 the United States purchased Russian America. In 1873 Henry Thibert discovered rich gold deposits near Dease Lake in the Cassiar District of British Columbia and again the Stikine River became important as giving the most practicable access to this area. The United States customs officer at Wrangell prevented free access of Canadian vessels to the sea in 1873 which resulted in retaliatory action on the part of Canada. Considerable local friction arose and pressure mounted to have the boundary fixed particularly on the Stikine River. This was finally settled in 1878 but as the Cassiar gold rush had subsided there was no longer a pressing need to settle the rest of the boundary. By 1892 the problem was clearly identified by WF King, Chief Astronomer of Canada, and TC Mendenhall, Superintendent of the United States Coast and Geodetic Survey, who reconnoitred the area. They found there was no distinct range of mountains parallel to the coast; the country was a "sea of mountains". Article III and IV of the 1825 Treaty were capable of two interpretations.[3]

In 1896 the discovery of rich gold fields in the Klondike brought the issue again to the fore as customs disputes became more frequent. A Joint High Commission split on the interpretation of the treaty in 1899. Finally in 1903 the matter was referred to the Alaska Boundary Tribunal for arbitration; they compromised between the two positions but the effect was favourable to the United States. Certain identified summits were arbitrarily selected and the boundary ran straight from one such summit to another.

The next step was to survey the boundary and the first record of exploration into the Stikine Icecap is from the International Boundary Survey. HS Mussel and WF Ratz worked on that project and in 1907 travelled high up the Flood Glacier where they surveyed the boundary and the Devil's Thumb, one of the peaks selected by the Alaska Boundary Tribunal. Noel Ogilvie was the surveyor in charge of south-eastern Alaska from 1909 to 1914. It was after these three men that the highest peaks in this area were named.

The first serious attempt to climb any of the major peaks was made by Fritz Weissner, Donald Brown and Bestor Robinson. They made an unsuccessful attempt on Kate's Needle in 1937, the year after Weissner's successful climb of Mt Waddington. Ten years were to elapse before Weissner and Brown returned. They were joined by Fred Beckey and others and the party successfully climbed Kate's Needle and the Devil's Thumb. Their glowing accounts of the area did not result in hordes of mountaineers rushing to follow their footsteps; it was not until 1964 that Fred Beckey, Henry Mather, Layton Kor and Dan David climbed Mt Ratz and Mussell Peak.

Since then the area has received sporadic attention from Canadian climbers, many of them inspired by Dick Culbert, Paul Starr, and Fred Douglas who pressed a new route up the Devil's Thumb in 1970[4] and who returned in 1972 to climb the Cat's Ears. Martin Kafer, Esther Kafer and Rob Taylor climbed the south ridge of Kate's Needle in 1970[5] and in 1976 Paul Starr led a party up Oasis Peak and Peak 73. Strangely the three highest peaks, which are in a compact group, received no more attention until 1974 when Roger Neave, Mike Walsh, the writer and three others walked most of the way in from Thomas Bay, Alaska, to climb some other peaks and to make a brief, unsuccessful attempt on Noel Peak.[6] This party, with variations, was back in 1977 but weather and other

circumstances prevented a successful conclusion.[7]

So Noel Peak, still unclimbed in 1981, lured back Roger Neave, Mike Walsh and the writer. We were joined by Hugh Neave, Tom Volkers, Paul McEwen, Alfred Menninga, Carol and Walter Latter and Peg Davidson. This time we decided to approach the area from the Canadian side. On 6 July we woke at the Dease Lake camp site to two inches of fresh snow. After a quick gourmet breakfast at the leading cafe (Wicked Wanda's), we set off on the last leg of the long drive (2000 kms) most of the party had made from Vancouver Island to Telegraph Creek. We received dire warnings in Dease Lake of the treacherous condition of the road. They were amply justified; there were moments of incredible quiet in the van as we slithered out of control around some corners. We contemplated the spectacular beauty of the Grand Canyon of the Stikine with some concern that we might add to its dramatic colours.

Telegraph Creek is built on several levels, the lowest at the river's edge. It does not feel like a Canadian town as, apart from the school, all the buildings appear to date from the turn of the century; it has the atmosphere of a small village in the high mountains of Peru. We had arranged with a local entrepreneur, Francis Gleason, to take us 100 kms down river to the point where the Scud River enters the Stikine. Gleason operates two jet boats. Soon we were speeding down stream at the unlikely speed of 65 kph. Added to the river current it made a total of between 75 and 80 kph, truly breathtaking.

Gleason pointed out the homes of the unusual people who carve a difficult existence from this remote and beautiful wilderness. Large stands of spruce, hemlock and cottonwood lined the banks; ahead, swimming strongly across the river was what at first sight looked like a deer; it turned out to be a massive grizzly bear that ignored the rapids and standing waves. We turned gradually from south-west to south and cast longing looks at the fine, accessible granite pinnacles of the Sawback Range, almost all its major summits unclimbed. At the Scud River we disembarked and found a passable camp site where we engaged in a long battle with the bugs — more varied, more voracious and more plentiful than those found in other parts of British Columbia.

This was the location at which we had arranged to meet a helicopter. It was contracted to the Teck Corporation who were testing the mineral wealth of Schaft Creek, south of Telegraph Creek. Before long a Jet-Ranger whirled into view and landed on a gravel bar. From this marvel of the 20th century emerged the best dressed pilot any of us had seen; Bob Murphy has such confidence in his own ability and the machine he flies that he dresses for the bar of the Ritz-Carlton rather than the wilds of the Stikine. The weather had been bad but he thought it would clear enough to fly us in the next morning; with that he was off and we were left to examine the tracks in the sand; they were of wolf, bear and Bob Murphy's sandals.

The next morning, despite persisting clouds, the helicopter came in and Murphy agreed to make an attempt at landing us on the glacier to the south of Noel Peak. Three of us left and were whisked up above the cloud cover at 2800 m. Mt Ratz, Mussell Peak, and Noel Peak stood out above the clouds to the north-west and we flew to them. Luckily there was a hole and quickly we descended to our 1977 camp site. The weather gradually cleared and over the next two hours the rest of the party flew in without incident. Murphy then departed, happy to leave what he considered to be unfriendly country though his experiences in the Arctic, Africa and Iran appeared to us to be in areas less congenial than that we had reached.

Clearing skies showed the mountains had recently been dusted with fresh snow, making all but the ridge routes unsafe. Mt Ratz to the east dominated the place we chose for base camp and we set to making the area comfortable while casting covetous eyes on the blue ice of the north face of that impressive mountain. We checked its angle with a clinometer and found it to be over 60 degrees for 600 m of the face that was visible.

The next day we all carried from base camp at 1500 m to a higher camp on the south-western ridge of Noel at 2300 m. Three of us had been over this ground before but nonetheless we had forgotten the impact of the spectacular beauty of the knife-edge ridges, steep buttresses and countless cascading glaciers. We carved a higher camp out of the boulders in a blizzard and five stayed up there while the rest returned to the calm of base camp.

The next day, 9 July, was bright and clear. Because of the fresh snow the high camp party decided to attempt the summit via the south-west ridge, the route chosen by Roger and the writer on our descent from an unsuccessful attempt in 1977. The going was slow, exposure great, the gendarmes we had to by-pass formidable. We left camp at 4 am and passed the first large gendarme which we called "the Cigar" without difficulty — it is on a subsidiary ridge. We ran into real difficulties on the next major gendarme called by us "the Coronet". Tom and Paul on one rope managed to traverse around its base only to be confronted by another gendarme, "the Outhouse". Following that was another horror yet to be named and beyond that yet more before the summit tower could be attempted. It was now after 2.30 pm. We judged the route would require at least another four hours so decided to turn back and try a different route another day. Climbing down was as delicate as the ascent; we finally reached camp at 10.30 pm, considerably chastened. We had got no further than the point reached in 1977, about 300 m below the summit.

The next three days were spent in idle conversation, waiting for the faces to clear, counting avalanches, and on one day the base camp inhabitants visited us hoping to make a bid for the summit after what they fondly imagined was our successful climb. On another day two went down to base camp to bring back more food. During this time a route was decided upon. It was the route we had attempted in 1977 and involved a glacial traverse below the peaks at about 2050 m to the south-east ridge, then a climb up below the south-east ridge until the bergschrund could be crossed. Then we hoped an angling climb up the south face would land the party in a couloir between the twin summits. The exit to the couloir was not visible nor was the final 100 m beyond. This route was hazardous as it was swept by small avalanches after a snowfall and the fluting that distinguishes the mountains in that area was well defined. If the weather were warm the route would take hours as the snow above the bergschrund would be unconsolidated and bottomless but a clear, cold night should leave a thin coating of ice up which we hoped to crampon.

Tom Volkers on summit of Noel Peak, Oasis Peak in background. Paul McEwen

On 13 July conditions were perfect. We rose early (2.30 am) and descended to the glacier where we donned crampons. By 4.30 we were climbing. Because of the hazards we moved as quickly as possible. A fine crossing of the bergschrund was found by Tom Volkers, who was leading Paul McEwen on the first rope. Above the bergschrund our crampons bit crisply into the ice and we moved fast together. The major part of the route above the couloir required front pointing and the couloir steepened to more than 45 degrees. The exit went without a hitch and beyond was plain walking up a 35 degree slope to the summit. This was reached by the first rope at 7.30 am and by the second rope of Mike Walsh, Alfred Menninga and the writer 20 minutes later. We looked down the ridge we had attempted three days earlier and saw that our estimate of four hours had been far too short. We took photographs and congratulated ourselves and the mountain for being so splendid. Then, as the weather was warming up, we descended. That took more time; towards the bergschrund the crust of ice was breaking down. On the lower parts of the glacier we waded above our knees in unconsolidated snow and it was with relief that we reached the secure rocks of high camp.

During this time the base camp contingent made an unsuccessful and frightening attempt on an unnamed peak to the west of Noel. They went up a couloir that offered no protection and were bombarded by rock from above. Exercising the discretion that is rewarded by longevity, they returned to base camp in time to meet Murphy who had flown by to check on our progress. The base camp contingent decided to fly out a few days earlier than scheduled, so Walter Latter came up to high camp to tell us of their changed plans. As our major objective had been achieved we agreed to go out with them. So we packed up, not without some longing looks at Mussell Peak and Mt Ratz which we had decided to try by new routes. We wandered down the ridge to base camp to find the wine hardly touched, a grave error that was quickly rectified. Before long a most vicious snowball fight broke out and lasted two full hours. That night Hugh treated us to verse by Robert Service and by a little known bard called Hugh Neave. the rendition of which was improved by the wine, the mountains and Grand Old McNish. The next day Murphy returned on schedule to fly us out and we met up at the Scud River with Gleason who ferried us back to Telegraph Creek at reduced speed — he was now fighting the 9 knot current.

Ralph Hutchinson

FOOTNOTES

1. Summit Magazine, March 1973.
2. JT Harvey, 1963. The Law Amidst the Cassiar.
3. HF Angus. FN Howay, WN Sage, 1942. British Columbia and the United States.
4. CAJ 1971
5. CAJ 1971
6. CAJ 1975
7. CAJ 1978

1981 Canadian Dhaulagiri Expedition

I spotted Al's distinctive stook across the mass of writhing bodies which filled the customs shed at Kathmandu Airport. He ushered us quickly through the officials and out into the midday heat and dust. Soon we were sorting equipment at Mike Cheney's Trekking headquarters. The Twins had been busy during the time they had spent in Nepal after their attempt on Everest in winter. All the local food and equipment we should need had been bought and was already packed into 30 kg porter loads. A scout had already been sent out to recruit porters from villages high in the Myagdi Khola. Only a few bureaucratic chores remained and so, only three days after arriving in Kathmandu, everything was ready.

It took eight hours by rented truck to reach Naudanda, one hour beyond Pokhara. There, on 15 March, a jabbering mob of 80 porters engulfed our truck and made off into the dusk with all our food and equipment. But the chaos was organized and everything turned up safely that night.

The 100 mile walk to base camp was an experience in itself. The first few days were along well populated and frequently travelled paths. As the days progressed the population became sparser, the country wilder, and the expedition members happier. We had no worries and could relax and enjoy the astounding scenery. What a contrast to those hectic months of preparation in Canada! We were now living the dream that kept us going during that miserable time. Narrow paths wound through deep gorges, fragile suspension bridges spanned foaming rivers, and the dazzling white ramparts of the Dhaulagiri Himal towered over everything. We caught glimpses of Dhaulagiri I several times during the walk in, each time a little closer, each time more massive.

On the sixth day we reached Darbang in the pouring rain. It was the second day of Phagupurniya, the yearly festival of god Krishna and, when the deluge stopped, the locals held an archery contest. Competitors shot from 50 m at a man sized wood target to which was fixed a one inch diameter ring at heart height. Don tried his luck and amazed the locals by hitting the target close to the heart. That night everyone drank lots of rakshi and the noisy celebration continued until dawn.

The trail climbed higher and the villages became fewer and poorer. We reached Bogara, the last village on our route. It was like a scene from mediaeval times. Only a discarded Japanese oxygen cylinder, used as a school bell, reminded one that this was the 20th century. In Bogara we purchased a water buffalo to supplement our diet of rice, dal, potatoes and vegetables. Tenzing, our cook, excelled himself that night. We over ate, over-indulged in rakshi and ganja, and feel into a deep and happy sleep, thus rendering ourselves impervious to the nightly serenade by the local dogs.

Beyond Bogara the Myagdi surges through a deep gorge. In places the path clings precariously to precipitous valley sides. Only a few terraces and the occasional patch of ganja mark man's presence. We passed through verdant hollows, rich in mosses and Maiden Hair ferns. A strange mixture of firs, bamboo, hemlock, birch and blazing red rhododendrons confounded us. Sometimes there would be a clump of orchids surrounded by primroses and gentians. And just above this lush vegetation lay the remains of the winter snow.

Last winter was more severe than usual in this part of Nepal and spring was late. Dhaulagiri The Mountain of Storms was living up to its reputation. It had stormed almost every day since we had left Kathmandu. The snow and cold made the last few days miserable for the porters, many of whom were barefoot. Thirteen days after leaving Naudanda our entourage reached first base camp at 3600 m. We paid off most of our porters and watched them run back down towards their villages. They did not like this place. It was cold, windswept, and desolate and watched over by the west face of Dhaulagiri — an ugly precipice of ice and rock which sweeps 4600 m into the screaming jet stream.

Ten of the strongest porters were retained for a few extra days to carry loads a further five miles up the Myagdi Glacier to our main base camp. The strongest of this group were seven Tibetans whose capability and good spirits won our utmost respect. They were true survivors and in a class of their own. During the walk in they would always arrive first with their loads, find any available shelter, and have a fire going and food prepared long before the other porters came into camp. Their leader was wild looking, with shoulder length hair and a leathery weather beaten face split by an infectious mischievous smile. His name was Chothar and he was the strongest of them all. We called him "Iron Man". Whenever he could he got out his bamboo flute and filled the valleys with his music.

The route up the Myagdi Glacier to our main base camp at 4600 m was straightforward although the first section, a narrow cleft cut deeply between Dhaulagiri V and Dhaulagiri I, was prone to avalances once the sun hit the upper slopes. A week of ferrying loads up the glacier enabled us to acclimatize sufficiently to start pushing a route through the Myagdi icefall towards the north-east col (5600 m). The only problem on this section was avalanche activity on both sides of the valley. While we were working in the icefall the remaining porters and sherpa base camp staff continued ferrying supplies up the glacier to our main base camp. To speed things up many were now carrying double (60 kg!) loads for double pay. By 10 April camp 1 (5100 m) was established at a spot sheltered by a sérac in the icefall and all our supplies (including 40 loads of firewood) had arrived at base camp. We paid off the remaining porters and watched sadly as Chothar and his friend took off, hopping and laughing down the glacier.

Base camp consisted of six old and tattered tents and a tarpaulin thrown over snow walls for a kitchen. A mile down the glacier we could see the small town that was the base camp of the Argentinians who were attempting The Pear route on the north flank of Dhaulagiri. They had the comforts and resources that go with a mega-expedition. We had few comforts but the mobility of the small expedition. Our base camp staff consisted of six Sherpas, two of whom Pasang Tensing and Nima Tenzing, were climbing Sherpas who helped us with some load carrying up to the north-east col. Pasang was also our Sirdar and had supervised all the porters and staff during the walk in. Nima was a veteran of 23 previous expeditions. At times he bore an uncanny resemblance to the legendary British climber Joe Brown, and did in fact accompany

Burgess twins arriving at north-east col (18,500 ft) of Dhaulagiri I. J. Jones

Burgess twins rehydrating at base camp the day after the summit. J. Jones

Chuck Masters pausing for a rest from load carrying at 2,.000 ft; Annapurna I in background. C. Masters

Chothar playing the flute during a rest stop. J. Jones

View from snow cave at 21,500 ft; Annapurna I to right, Nilgiris to left. J. Jones

Joe to the top camp on the first ascent of Kanchenjunga in 1955.

During the next month all team members worked hard ferrying loads up the mountain and by 8 May, camps 2 (north-east col), 3 (6550 m) and 4 (7000 m) had been established. At this point the expedition received an unexpected reduction in its manpower. I was at base camp with a severe case of bacilliary dysentery, leaving the other five members on the northeast col. I spotted a lone figure descending quickly through the crevasses below the col. It was Jim. He had been unable to eat at altitude due to lack of acclimatization. This, combined with the effort of trying to keep up with the Twins, had exhausted him. He decided to leave the expedition and return to Canada. Now the Twins would have only Don and Chuck in support, since my own obscene yellow sprays showed no sign of abating and the severe dehydration had left me quite weak.

Next morning dawned brilliantly clear — the weather looked like it would stay long enough for Nima and Pasang to make a supply run to camp 2. They set off at 6 am. I followed their progress through binoculars. It was slow going for them in the deep new snow. By 10 am fingers of clouds had crept up the Myagdi valley. Soon they covered the whole mountain and it began to snow heavily again. By noon I began to be concerned. Nima and Pasang should be back by now. The storm worsened. Suddenly two figures loomed out of the mist — Nima and Pasang. The journey to camp 2 and back had taken more than 10 hours but they had made it. The food they had struggled to take to camp 2 included fried chicken and chapattis — this would do much to boost the morale of the four upon the col.

The expedition had reached a crucial stage. We had been on the mountain for six weeks with very few rest days. With no Sherpa support above advanced base camp we had transported countless loads up the mountain and such work at high altitude was very fatiguing. A small expedition such as ours can only support a very small top camp. To have a more secure, better stocked camp would require massive Sherpa support and increase the size of the expedition to a point that would remove some of the challenge and uncertainty which makes a small expedition so exciting. The bad weather had depleted our resources. The team's size was now effectively only four members. It looked like we would not get much of a good spell of weather, a couple of days at the most. We'd heard reports that the monsoon was coming ten days early this year. There would probably be just one more summit push. It was clear that all our resources should be put into supporting the Twins on a summit bid — they were the strongest and best acclimatized and had been so since very early on in the expedition. Due to our slender resources and the unsettled weather the timing of the summit push would have to be perfect.

The weather remained bad for two more days then on 12 May things began to improve. It was colder and the barometric pressure had begun to rise. Next day Don and Chuck would break trail and carry supplies from camp 2 to 3. The Twins would follow with lighter packs thus saving energy which would be vital on the summit push. By 14 May the Twins, supported by Don and Chuck, had moved up to camp 4, intending to move up to camp 5 the next day. High on the mountain the wind began to get stronger. By 3 pm a huge snow plume, several miles long, stretched out from Dhaulagiri's summit. When I contacted Aid by radio that night I could barely hear his voice above the terrifying roar of the wind. "If this tent goes we will be in big trouble! I don't know how much more of this hurricane it can stand." That night's weather forecast from Radio Nepal gave no comfort — winds 50 to 60 knots at 7000 metres.

Next morning was again clear but there were snow plumes streaming out from every summit in the region. Through the binoculars I could still make out the red speck which was the tent at camp 4. At least they had survived the night — more than one expedition has been blown right off the mountain in such a storm. I radioed Aid at 7 am. He told me that the wind had prevented he and Al from sleeping or drinking and that they would rest and spend the day trying to re-hydrate.

During the morning the winds began to subside a little. I checked camp 4 with the binoculars — the tent had gone! Frantically I searched the ridge and to my relief spotted two figures heading for camp 5. Al and Aid had made a break for it during the lull! By mid-afternoon the wind had renewed its strength and it started to snow heavily at base. That night the strong wind made walkie talkie contact with Aid even more difficult. A real howler was in progress at camp 5. Aid was really worried that the tent would be torn to pieces leaving them to spend the night in the open. The storm raged all night. The weather forecast called for continuing strong westerly winds. I did not envy the Twins, now almost two miles vertically above.

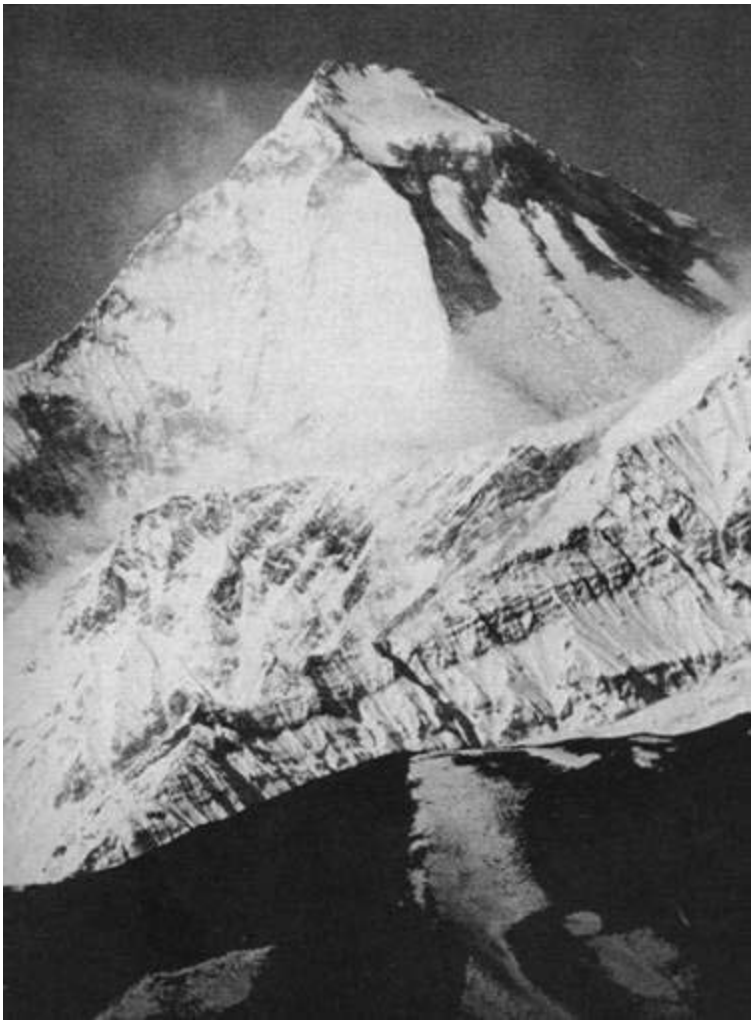
At noon next day I contacted Al at camp 5. They had spent an uncomfortable night and hadn't slept much due to the noise of the wind. He thought that they would have to try for the top tomorrow or come down. But the wind was starting to rise again. Today they would rest. That night the Radio Nepal 24 hour weather forecast was frightening. "Winds increasing 60 to 70 knots, temperature at 9000 metres -38°C." It looked like things were against us once again. But up on the mountain it looked calm. None of the snow plumes of the last few days. Perhaps the forecast was wrong — the weather on Dhaulagiri can change very quickly.

At 5 am the sun's rays touched the top of Dhaulagiri and slowly a pink glow soaked down through the summit snowfields. Base camp came to life. Kami carried hot coals to the small Sherpa shrine he had built. He placed a few green Juniper boughs on the coals and a fragrant smoke drifted heavenwards along with his prayers for good luck. "Om mani padme hum." Soon the base camp Sherpas were intoning their own mantras. The prayer flags flapped in the wind. Everyone knew that today must be the day.

At 6 am I spotted two tiny red specks moving up the snowfield above camp 5. The Twins were going for it! All day long everyone at base was in a state of extreme excitement — taking turns with the binoculars, pointing in all directions, talking excitedly and laughing. Once I looked at where Kami was pointing — there was no one. But it didn't matter. He was excited anyway. By 11 the Twins had moved out of sight and I was forced to move a mile further up the glacier to watch them again. They were going very quickly but were still belaying each other. Less cautious climbers might have unroped to save time but they had the sense to realise how dangerous to move unroped on such a mountain. By 1 pm

Afternoon clouds from 22,000 ft; Annapurna I on left, south-east ridge of Dhaulagiri I on right. J. Jones

Dhaulagiri I from Muktinath; north-east spur is prominent arête in centre. A. Burgess



Al Burgess straddles summit ridge just below main summit. A. Burgess

they were on the final section approaching the forepeak which lay between them and the true summit.

The valley clouds moved in very quickly. Within minutes the upper part of Dhaulagiri was totally obscured. The hours dragged by. The clouds thickened. At 3 they lifted a little and I spotted the Twins descending slowly and cautiously. How tempting it must have been for them to take a short cut down the snowfield which led straight back to camp 5 but they stuck to the rock ridge — a longer, more difficult but much safer way.

At 6 I radioed camp 5. Aid's voice sounded quite slurred, a result of the altitude, but the message was clear, "We reached the top at 1.20 pm." Never had so few words made me so happy. We'd done it! All the desperate work of the last year setting up the trip had been worth it. All the frustration, all the disappointments, all those replies to request for help which said, "However we regret. . ." All the doubts, all the fears, all were over and done with. Now perhaps people would believe that you don't need an army and a small fortune to climb a Himalayan giant — just a determined and cohesive group. I think all five of us felt very close that day.

Early next morning I ran down the glacier to the Argentinian base camp. There was no need to say anything — the grin gave the secret away! The "felicitaciones" were sincere and very enthusiastic. Pablo promised he would get the news to Canada on their radio (which he eventually did by radio message to a friend in Buenos Aires who telephoned Calgary). And so only one day after the Twins had reached the summit Canada knew the good news.

All that remained was to strip the mountain of all the gear and walk out. But not before our kind Argentinian friends had treated us to a superb celebration luncheon. Their hospitality was overwhelming. They even produced a bottle of white wine! Later that night we were visited at our base by two of the Argentinians — they had come to wish us goodbye once more and had brought a walkie talkie with them so that we could speak with the rest of their team and listen to the world-wide messages they picked up on their base radio. We talked with Alfredo and Hector at camp 5. They would try to push to camp 6 the next day and then try for the top. We wished them "Buena Suerte". We talked to the support team of our good friends, Werner, Marcelo and Jorge at camp 3, exchanged insults and promises to stay in touch and maybe to climb together somewhere someday. We listened to their base camp radio. There were messages from Buenos Aires, a confirmation that news of our success had reached Canada, congratulations to Canada from the captain of an Argentinian ship somewhere just off the coast of Australia and rock and roll music from Bariloche. It was an amazing experience and almost an impossibility if one really thought about it. We were in touch with the whole world from a glacier in the middle of one of the most isolated parts of Asia. The rakshi flowed and the camaraderie grew. Yes, it had been worth it.

To get back to Kathrnandu we took a shortcut over Frenchman's Pass (17,400 ft) and Dampus Pass (17,100 ft) to Jomosom in the Kali Gandaki valley. Thirteen gruelling hours and 24 miles later we were back in "civilization". It seemed so incredibly green and full of life. Rippling fields of ripening wheat and barley were everywhere. Prayer flags flapped and cracked in the incessant arid winds. Pilgrims, trekkers with stereo headsets, and Tibetan traders followed centuries old tracks etched deeply into the dust. Griffons soared and prayer wheels turned. We were back in that odd mixture of the 12th and 20th centuries found in northern Nepal.

While our porters walked out from base camp via the Myagdi Kola we flew in a Twin Otter from Jomosom to Kathmandu. The elegant white pyramid of Dhaulagiri towered above us. What a beautiful giant! We could see all of it rising 20,000 ft above the valley floor. Had we really been there? The weather was clear and calm, perhaps our friends had made the summit today. Ojala que. . . . Later we learnt that tragedy struck; Dhaulagiri claimed yet another victim. This time a friend, the leader of the Argentinian Expedition.

Ours was the first Canadian expedition to succeed in climbing one of the world's fourteen 8000 m peaks. Not only that but we accomplished this in the finest of modern Himalayan styles — with a small team, without the use of oxygen and on a modest budget of $32,000. In fact we are the smallest independent team to have climbed this particular mountain — most before us had been large and highly costly expeditions, supported by a small army of Sherpas.

It was a team effort in which selfishness and personal ambition had no place. We all worked hard but high on the mountain it was the Twins who were going the best and so the rest of us supported them. But in the end it was just the strength and incredible tenacity and determination of Alan and Adrian which won the summit.

Jon W Jones, expedition leader

Ascent of the north-east spur of Dhaulagiri I, 8167 m, Nepal. Team members: Alan Burgess, Adrian Burgess, Don Gardner, Chuck Masters, Jon Jones, Jim Elzinga.

Expedition finances: team member contributions, $6800; four return airfares, Vancouver to Kathmandu, paid by members (Twins travelled independently), $6800; total monies raised, $18,800; total cost of expedition, $32,100.

The expedition's major sponsors were Canadian Hunter Exploration Ltd and Japan Air Lines. Expedition cost above does not include free excess baggage of approx 400 kg (Vancouver to Delhi) kindly donated by JAL.

This was NOT an Everest training climb! No monies were received by the expedition from the Canadian Mount Everest Society. A grant of $3000 was made by the Mount Everest Society to Jim Elzinga to cover his own expenses.

Humble Horse

July 6 Junior is on his way to learn about alpine climbing. With a six pack and a reasonable alpine start of 11 am I'm off to the Columbia Icefields with Big Jim Elzinga. Unfortunately for Jim I whaled down on more than my share of the brew and behave as if I've just been released from prison. I love it. A quick stop in Banff to pick up a much needed harness; we listen to a guide say that the mountains are out of condition. I give Mr E a questioning glance as he has kept our objective secret thus far. Back in the car Jim comments that guides don't know everything as he starts squeaking out his version of On the Road Again!

We finally arrive at the Icefields only to find them in their usual dismal state of low cloud and blowing snow. Poor visibility and Jim's indecision as to which valley we have to hike up has us heading towards Jasper for some much needed beer. Later on that evening as we head back to the Icefields campground the clouds lift enough for a peek at the route. Mr E is excited and as keen

as all hell at which point I think that perhaps my bizarre sense of humour has a deteriorating effect on the poor man's mind. I'm not quite as jubilant and, more to the point, definitely concerned looking at this thing for it was the biggest boulder problem I had ever encountered. For some reason I didn't get much sleep that night.

Morning dawns; we drive to our point of departure and prepare to ford a disgusting river under the watchful eyes of many tourists. Mr E goes first and strolls across with his long legs. Looks easy enough I think. Off come the knickers and into the river Horse goes. Half-way across I realize the Sunwapta has Horse by the balls but Horse is hard and makes it across. A pleasant hike sees us stopped below a rock band with hanging ice that marks the start of the glacier we have to cross to the base of the face. We crack the rock band by hiking up the lateral moraine on the righthand side of the valley — until we come to a big gully that goes straight up to the toe of the glacier that leads across to the north face of Diadem.

We stop for a rest and Mr E scopes out the route, muttering some uncertainties about the ice couloir we intend to follow; does it have ice in the upper section? I mutter that maybe we should go back to the bar and talk this route over. After much discussion we rope up, cross the glacier, climb the bottom 1200 ft of the face moving together, and set up a deluxe five star bivy. Later that night Mr E asks to borrow my duvet. I lie there delighted because earlier in the day I had been lectured about my pack being too heavy. Horse regains his composure after that and once again becomes a cocky pain in the butt to poor Mr Elzinga.

Dawn comes — Mr E, humming On the Road Again. I lead out the first pitch. At the stance I hang off some nuts, displeased; it's 4 am, my legs ache, my toes are cold and it looks like it may snow again. From the bivy we climb ten pitches of ice with a few pseudo mixed sections and some vertical ice. The last two pitches turn out to be the most exciting. Jim leads the second last pitch up a narrow ribbon of vertical ice that has a waterfall cascading over it. I follow and offer to lead the last pitch as Jim has led the last four. Jim and I both agree that it looks relatively straightforward so up I go, only to find myself humbled once again. Thirty feet above my tied off snarg I find myself on more vertical ice, both feet slip off and one tool decides to pull. Under the influence of fear and threats from Mr E I do a one arm pull up, re-set my feet and ice tool, fire in a short screw, and climb up another ten feet only to be stopped by a slightly overhanging crack that consists of loose blocks. I climb back down to the screw and yogo down to the belay. Up goes Jim and once again I'm the unfortunate victim of falling debris. Jim gets up to the crack, decides the rock is too loose to climb, then traverses across a vertical wall of verglas up in some snow below a short rock wall that leads to the top. He starts up the wall, crampons scraping on rock, shouts down that he may fall off — which would result in the whole pitch pulling and having the force of the fall (200 Ibs of skinny) wang on a belay consisting of two melted out screws. I frantically look round to see if I can get another screw or pin in when I hear Mr E's familiar shout of "Secure"! As the sweat subsides I pull out man's best friend and jumar the last pitch. A hundred feet of snow brings us to the summit and face to face with the north face of Alberta. The sun breaks through the swirling mist and we hurriedly set off on our descent while the visibility is good. The descent is uneventful except for 140 ft of somersaults and cartwheeling performed in classic alpine style by yours truly. Mr E was not impressed, probably because he was on the other end of the rope that had to stop him and Horse from 1000 ft of uncontrolled glissade. A long hike out in the dark brought us back to the road where Jim thumbs back to the car. Mr E arrives back with the car, picks Horse and the gear up, and early Saturday morning we were On the Road Again.

Jeff Marshall

Humble Horse, grade V 5.7. An account of Jeff Marshall's first alpine ascent with Jim Elzinga on the undimbed, 3000 ft north face of Diadem.

A Letter from Timaru

In January 1980 my daughter Sylvia, age 19 at the time, went to New Zealand on a holiday which was to include some mountaineering. The others in the group were Dr Jerry Osborne, a Calgary geologist, Dr Lou Graber, a medical doctor from California, his wife Jan, and another girl, Laura Lee. In late January we got a phone call from Sylvia that she and Jerry were in hospital with frostbite and in February we received the following letter from her.

Don Forest

Timaru Hospital
Timaru, NZ.
Dear Mom and Dad,

I know it must have come as quite a shock for you to hear that Jerry and I are in the hospital with frostbite. To ease your minds, mine is a fairly mild case. I may lose a bit of skin on my right big toe and my left big toe nail but all my toes will remain intact. Jerry on the other hand is not so well off. Where only the tip of my toe is black, Jerry's entire right big toe is black. The doctors should know within a week what the verdict will be. We're not sure how this will affect the remainder of our south Pacific trip but we've both concluded that we will have to cancel the Peru trip. No doubt the other members of our group will still try to go. This may be quite disappointing to you Dad, as I know you would have been proud to have me climb Huascaran or Allpamayo. Oddly enough I am not disappointed. The reasons being that our climb up Mt Cook was probably technically more difficult than Allpamayo; and Huascaran would have been a long slog at higher elevation with colder weather in comparison. It was the most epic trip of my entire life, of Jerry's life, and of Lou's life — they both agreed that it was far more serious and difficult than any of their Himalayan climbs (Jerry's only been there once but Lou's been two or three times) and far more difficult than any climb they'd done in North America, and in ten years of climbing, they have both done a lot. So. . . this is what happened.

We originally planned to climb the Silberhorn route on Mt Tasman however upon arriving found that a large portion of the ridge had broken away and that it was now unsafe and unappealing. We then set our goal for the Simes Ridge on Mt Tasman as it looked like a very beautiful route — a snow ridge going almost directly to the summit. We flew in to the Plateau Hut by ski plane (what an experience) about six days ago in warm, sunny weather. (In New Zealand they only give weather reports for one day spans as the weather is too unpredictable to forecast for longer periods.)

After we arrived Jerry and I ascended a small bump on the nearby ridge called Glacier Dome from which, it is said, is the most beautiful view of the area. You are in the heart of the Mt Cook region with Mt Cook on one side, Mt Tasman across from it, spectacular icefalls all round, giant hanging glaciers, enormous crevasses and séracs, rugged rocks jutting through the rivers of ice like angry teeth, black and foreboding. But most impressive was the awesome feeling from gazing across the huge expanse of rugged black and white — it is incredibly difficult to put what I saw into words and I'm afraid the camera will be highly inadequate to record the scene. Once back at Plateau Hut we got talking to some of the Kiwi climbers and they introduced another possibility to us; the Zerbriggen Ridge on Mt Cook — mixed snow and rock, 4500 ft elevation gain from the hut, descent down the Linda Glacier. Now there must have been some misjudgement on our part as to the severity of the climb, or perhaps we didn't have enough information. Most Canadians we'd talked to compared the mountain to Mt Robson, which is what I based my judgement on. The guide book gave a vague description of the route and called it moderate, the Kiwis in the hut described it as straightforward with no problems. Some photos Jerry had looked at made the Linda Glacier look as easy as the Robson Glacier (ie with objective danger from icefalls and crevasses but easy travelling terrain). The map also made things look navigable. Thus we decided to go for the Zerbriggen Ridge. The last party to ascend Mt Cook by that route had recorded their time in the register book as 35 hours and other parties had taken even longer, so we were aware that we could be a couple of days on the mountain.

We repacked our climbing gear (we had rented ice axes and crampons). Both Jerry and Lou had an extra ice hammer. We rented an ice picket, had bought a snow fluke in LA, had a good collection of ice screws, one wart hog, two 150 ft ropes, one pair of jumars, one pair of gibbs, one set of prusik slings, as well as our personal climbing gear ie slings, hammers, crabs, etc.

We had a good supper at 5 pm, got to bed by 8 and were up again at 1 am. We had a good healthy breakfast and were roped up and away by 2.30, winding our way with flashlights through the small crevasses on the broad glacier going to Mt Cook. We had rations for one day: two chocolate bars each, two packages of crackers, one of raisins, one of toffee candies (about 25 candies) and three pint bottles of water.

By daylight we had crossed the bergschrund and were part way up the 50 to 60 degree snow face beside the rock ridge. It was a glorious sunrise, as the alpenglow slowly worked its way down Mt Tasman across from us and lit up the sky behind, then turned to brilliant red as the sun hit the rocks and ice. It warmed up immediately and we shed clothes down to tee shirts, put sun goggles on, plastered our faces with sun cream, and I had a scarf to put over my nose and mouth. What a day. I'm guessing now as I don't have a guide book or map in front of me but I think the face is about 2000 ft high and it was all soft ice — no snow. I'm not sure what other climbers do on that route. I guess that most do not belay. One small slip would send the whole party into oblivion. The Kiwis say most of them do belay but if they do I can't figure out how they do it so fast. Nevertheless we did belay which slowed us down some but we were moving fairly quickly — we thought. We took no prolonged breaks, stopping at belay stances for a bite of chocolate. (One problem which we didn't foresee had a great effect on our time. Three people on a rope, although we were using both lengths of rope, slowed us down considerably.) We ate conservatively all day, mostly because we were too busy climbing to take time out and our hunger was not that great. By afternoon we had ascended the ice face and I led a full rope length of difficult (the most difficult so far that day) snow covered verglas, with rocks underneath, to the ridge — really hairy and dangerous. I brought Jerry up to the ridge I had gained (it was as knife-edged as that east ridge going up to the Dome high camp on Mt Robson, Dad, a 60 degree convexly curved ice slope on either side) and he continued

unbelayed to a rock rib while I brought Lou up.

Unfortunately Lou got into a difficult spot in the rocks and took so long getting up to me that, after sitting in the snow for so long, I got hypothermic, shivering uncontrollably and thoroughly wet. I climbed up to where Jerry was on the rock rib, shed all my wet clothes, put on my dry turtleneck, put on every piece of dry clothing I had, and within 20 minutes was dry again and warm. By this time (about sevenish) a storm started moving in, one that hadn't been forecast naturally. We climbed up through the loose rock and up a steep ice pitch — it was water ice — very hard ice, and got back onto loose rock. It was now snowing heavily with a strong gusty wind. The rock was wet and slippery. It was dark and we had no place to go. I don't know how Lou did it but he climbed an impossible short steep pitch to a small overhang big enough for one person, tied himself in, and sat up all night, perched like a bird. Jerry and I were somewhat more fortunate; we found a small cave with a spot big enough to lie horizontally a few feet away. We couldn't see Lou but we could yell to each other. Jerry had a sleeping bag cover that would hold one person. The storm was getting worse. We tried to put both of us in the sleeping bag cover for added warmth but after a half hour found it impossibly claustrophobic so Jerry got out. He had warmer clothes anyway. I had my black leotard underwear which I put on in the storm (far too hot to wear during the day), my green cotton pants, Kathy's un-waterproof wind pants, an undershirt, a thin turtleneck sweater, a cotton sweater, my borg jacket, my mitts, and three extra pairs of socks. I was trying out my Heli-Hansen pile socks I got at Mountain Co-op with the leotards and I carried the other socks in case they didn't work. That was lucky. So. . . there we were. I was the only one lucky enough to lie down all night — semi-sheltered. Half-way through the night Jerry took one of my boots to use as a pillow (we both removed our boots as it was warmer that way). In the morning the boot was gone. We couldn't figure it out. Somehow it had fallen over the edge. It was still snowing and everything was plastered with several inches of snow. We decided now we would have to get off the mountain the best way possible. I put on all but one pair of socks, reserving one pair till last in case the others got too wet, taped a piece of shale to my foot, put a nylon stuff sack (waterproof) over that, then my gaiter, then my crampon. The whole thing came off within five minutes. I readjusted it. put it on again, and it promptly fell off again. I was beginning to lose hope. Finally the third time it seemed to work and stayed on for the remainder of the day. We decided to continue climbing as the best escape route we could think of was down the Linda Glacier — as opposed to down climbing 2000 ft of very steep ice with only one boot. As it turns out that would have been our best move but at the time we weren't aware of that. We figured to climb up the ridge to the Linda Glacier and go down it. By about 10 am the storm started to break and the rest of the day we were blessed with clear sky and warm sun.

I'm starting to get a little confused now as to which day we climbed which rock section and which ice section, but directly above our bivouac site was the continuation of the snow arête. Steep, exposed, and delicate. That went up to another easier rock rib, then mixed rock and ice — not steep, to a very difficult rock buttress. This was indeed a problem. I forgot to mention, last night Jerry and I had about eight crackers each and Lou had one third of a package of raisins. Yesterday we polished off both my chocolate bars; I gave Jerry and Lou a third of each. This morning for breakfast Jerry and I had another eight crackers and Lou had more raisins. Then Lou cut one of his chocolate bars in thirds, so we each had a third — almost. Lou threw one third to me but I was quite a ways away. He missed by miles and my part fell into the depths. Sigh. Also Jerry's flashlight was too dim for him to lead with so he borrowed mine (that I'd just bought) and lost it when it fell out of his pocket. We were down to Lou's good head lamp and Jerry's very poor flashlight. That day we finished the bag of toffee.

Anyway, we ascended the buttress by skirting around to the east, traversing a 60 to 65 degree hard water ice slope (about 20 ft wide) and up very loose delicate rock to what we hoped to be a plateau. It was not. Again it was the continuation of the rock buttress. We found a very poor shelter — no, not shelter — just a place to sit down, which we chopped out of ice just as it got dark. Somehow we had missed the Linda Glacier exit. We saw high cirrus clouds coming in and a moon dog. The wind began to howl. I could quote from Sam McGee, "Talk of your cold. Through the parka's fold it stabbed like a driven nail. If our eyes we close, then the lashes froze, till sometimes you couldn't see. It wasn't fun. . ." But nobody whimpered. Not even Sam McGee.

That was a long, cold, miserable night. I sat between Lou and Jerry and shivered all night. We had the sleeping bag cover over all three of us. When the day finally dawned it was to a bleak and miserable sky. We tried to climb but it started to get worse. At first we could see the summit of Mt Cook about 500 ft away — easy climbing up the "icecap". All the difficult climbing was over. We were stiff and tired and dehydrated. Our water had long since been used up. We could barely hear each other yelling in the howling wind and visibility was rapidly deteriorating. We descended to a rock outcrop which semi-sheltered us from the wind, spent about an hour chopping out three seats in the ice, and spent the rest of the day and all night shivering through the storm. We spread the sleeping bag cover over two of us (Lou was too far out of reach to cuddle) but it was exceedingly wet. Snow piled three inches high on our laps then we'd wake from a doze and sweep it off. Then it would pile up again. All day.

Lou and Jerry had gortex but none of my clothing was waterproof, not even my rain jacket. At night I got inside the sleeping bag cover. Our muscles ached from shivering so much. We'd already finished off all the chocolate bars and first half bag of crackers. All we had left were a few raisins and crackers. That was the longest night of all. Sometime during the night the snow and wind stopped and the stars came out and danced about, Jupiter and Saturn — and directly below the Southern Cross, Alpha and Beta Centauri, Orion, Sirius and Canopus, a crescent moon — everything just so brilliant in the thin cold air.

We were huddled that night somewhere between 11,000 and 12,000 ft, not high really but we all had breathing problems. Lou thinks it was probably due to the lack of food and water. Breathing became very difficult. Our worst stiffness seemed to be in the hip joint, due to crouching and shivering. As we got weaker I got a terrible stiffness in my lower back, neck, and, finally, knees. None of the stiffness was due to over exercise or exertion. Finally the sun rose clear and cold over the horizon, creating the most amazing,

enormous shadow over the ocean a few miles away — the entire shape of Mt Cook painted on the clouds, blanketing the Pacific Ocean, just like a surrealistic painting. Despite our weakened state we couldn't help marvelling over the incredible beauty of our surroundings.

We slowly put our crampons back on, very arduous task, coiled the frozen rope which we'd been using for padding to sit on, drove in the first ice screw of the day. Took a good, longing look at the summit of Mt Cook, which appeared so horribly close, sighed, and turned our backs on it. Finally we were going to get off the mountain. (That day?) Route finding was very difficult. We had to go by instinct and intuition. As you can guess, my foot was smashed to a pulp by this time with all that frontpointing on hard ice. The down climbing was even trickier. Then two things happened which could easily have impaired our chances of survival. First, when Jerry got up in the morning his sun glasses fell out of his pocket in the same manner my flashlight had a few days ago. Although the day became cloudy and overcast with snow flurries, he began to go snow blind. Secondly, as he took his first step onto steep ice he dropped his ice axe. Later that day he recalled feeling "very spaced out and not with it" and that's why he forgot to put the axe strap around his wrist. Any other time it wouldn't have happened.

The days were starting to get to us. For breakfast Lou surprised us with two pieces of chocolate each. He'd either forgotten about them or had hoarded them for such a situation.

The descent was long. The morning mist turned into another whiteout snow storm. We were doing really scary stuff, including two rappels off ice blocks. We were moving so slow; it soon became apparent that we would not make it down that night. The problem was compounded when our second rappel didn't work properly. We couldn't see the bottom so we tied the two ropes together for the descent. We sacrificed the rented ice picket to make a reliable rappel anchor as we had to descend a 30 ft overhang. At the bottom we tried to retrieve the ropes but found them to be hopelessly stuck. We climbed back up as far as we could and cut both ropes. We were all now moving very slowly. We retreated to a small place which offered the best bivouac site we'd yet encountered. We were becoming bivouac experts. There was a small overhanging ice cliff with a solid wall on one side, thick icicles dripping down the other side and both ends open. We levelled the slope to make a flatfish platform for three people, laid down the ropes, used the sleeping bag cover for a ground sheet for all three of us to lie on, and had the packs as pillows.

The weather cleared. It was the clearest, coldest night yet. We were very lucky that the New Zealand climate is considerably milder than in the Canadian Rockies. The severest temperature we had was not much below freezing. Unfortunately it was cold enough that night to do our toes in — that's when it started. I don't mind admitting that we were all pretty cozy that night. I alternated between having my head on Jerry's arm to Lou's arm, and half the night my foot with the boot on was between Lou's knees. Lou thinks he saved his own toes by keeping them between Jerry's legs. Confused? Well as usual I was in the middle. I periodically opened my eyes. I don't think I slept even though it was the first time I'd been in a horizontal position in three days. I could see Jupiter and Saturn staring down at me with cold eyes through the crystal clear atmosphere. It seemed as though they were laughing at our vulnerability. Pretty impressionalistic, eh?

Unfortunately Jerry slept the whole night. That's probably why he let his feet go. Once he lost feeling he didn't care any more. He thought they were just numb. In the morning we ate the last of our one day ration of food — about eight raisins each. An aeroplane had been flying around for the last two days, trying to keep an eye on us through the storms. We were getting desperate. We used the red sleeping bag cover as a rescue signal and Lou and I motioned for help. Jerry's eyes were hurting so much that he didn't dare get out of the ice cave and open his eyes. The plane saw us and flew away again. Lou felt certain we would be rescued. I loaned Jerry my goggles to ease his pain. I also had been travelling without a hand tool much of the time as Jerry had to use my axe. I kept my eyes closed as much as I could the whole day and managed to get away with mild snow blindness and burned eye lids.

I had to do more leading as Jerry couldn't see. Lou and I went out a couple of rope lengths for reconnaissance, found a possible route down through the broken icefall and steep ice and rock slopes, and went back to get Jerry. I did the first lead of hard steep ice. Pretty neat. I really enjoyed it. We were moving incredibly slowly but finally down climbed a very dangerous, steep slope of rapidly melting snow in an avalanche path. Lou set up a belay when he reached some rocks. Jerry and I continued to down climb. Jerry made it to a stance. About 50 ft from the belay my crampon fell off and the piece of shale fell out and went down the mountain. Luckily I didn't lose the crampon. We then did a nightmare traverse to more rocks, set up another rappel, and glissaded to and crossed the bergschrund. Our rappels measured a total of about 200 ft. We down climbed, me ahead probing for crevasses, and finally got down to where the ground was level enough to remove crampons (although I had to leave my one crampon on as the nylon bag would have been too slippery). We made a trail through the most enormous crevasses I have ever seen, then Lou took the lead. The sun was rapidly fading and the shadows were long. It was getting cold. Lou fell into several crevasses. The stuff we were going through was incredibly enormous and hairy. Then suddenly — TRACKS — yes, we spotted tracks. I took the lead again and completed the long trudge through easy terrain, across the long, drawn cut flat glacier, dragging ourselves — literally — to the Plateau Hut, just before dark.

The first thing I did was to go to the bathroom — for the first time in four days. The people at the hut then handed me a cup of hot, sweet tea as I stumbled into the hut and they radioed to park headquarters news of our safe arrival. Then the bad news came — we saw our toes for the first time. Oops.

We would have stayed the night at the hut and flown out by plane just as we had come in but the weather was not predictable so everyone advised we fly out by helicopter that evening. We quickly packed our gear in the dim light, drank lots of soup, and just as it got dark the helicopter came. What an experience. I've always wanted to ride in a helicopter but not for the reason that we were doing so now. It was interesting to note that rescue never did appear and we did make it out on our own.

Lou and I had had a slight disagreement. He wanted to sit on the

glacier and wait for the rescue he felt sure would come as a result of our distress signal. I wanted to continue as far down the glacier as we could, hoping there would be no problem route finding, and get to the hut before dark. It was hard to say who was right. If we got into terrain too difficult when it got dark, we'd be sunk. On the other hand if we waited for rescue (which I felt would not come, as none had come yet after five days and I had no optimism) we would again be caught out. I didn't think we could survive another night. Fortunately we kept going. I still don't know why a rescue didn't come but it's good to know we were able to get out ourselves under the circumstances.

About half-way through the fifth day the strain of the situation had begun to get to me, and I got one of my breathing attacks and few tears fell, but that cleared up as soon as I had to think of something — namely the next rappel. I had also felt pretty shaky on the first day when the first major storm came in, but apart from these it was as if life wasn't important as long as we kept going. That is, we became mechanical and unemotional. Everybody kept their cool.

We were flown directly to park headquarters and Lou treated our feet as best he could with the facilities available there. Jerry and I were then driven three hours to the hospital in Timaru, while Lou stayed at the Mt Cook hermitage where he waited for Laura Lee and Jansport to finish their climbing course. So — there you have it.

Hospital life is a drag. This is only my second day here and I'm already bored. So is Jerry, two doors down. The food is not all that good but I can't complain. It costs $120 per night but we are subsidized by the government under some kind of accident insurance, so for us the stay is free.

The nurses are wonderful, friendly and helpful. I am not allowed out of bed. Nor is Jerry and we must keep our feet elevated and dry, we must use bed pans and, much as I crave a bath the nearest I get is a sponge bath in bed. My toes are healing well but there is a 20 percent chance (Lou estimates) that Jerry will lose his big toe.

Tonight Lou came from Mt Cook with the girls and gave the following report. We were lucky we chose to take the helicopter out as the weather closed in later that night and it is still storming there. The girls had great guides on their course and met Sir Edmund Hillary and his son Peter, who were there making a movie. I don't know if you know the Klatzel family who have done lots of hiking with me, but Louise is here and has been hiking with Doug Connery.

As it turned out the route we came down is called the "Gun Barrel" and had never been done before. The warden commented that the guide book we used was written 40 years ago, had only been updated once since then, and was therefore unreliable. I'm glad to be back safe and sound. I'll write again soon.

Love Syl

Sylvia Forest

Grizzly Group in the Premiers

It was so smooth. Gary Foreman dropped the sling from his spanking new helicopter then it was my turn to climb out. As he wisped away my eyes quickly took in the surroundings. I couldn't contain myself — what a spot — I let out a wild yell. This piece of heaven about an acre and a half in size, sat like a pocket in the hillside overlooking the tumbled mass of the North Canoe Glacier that snaked away to the valley below. A crystal clear creek prattled through the middle of the meadow. To one side a perfectly calm little tarn reflected the mountains across the glacier. Just being here was a thrill. Rain drops woke me from my reverie and I hustled to unload the sling. The plop, plop of the chopper reminded me that the others were on their way. Soon we were all together, left to the silence of the surrounding peaks.

The next few hours were spent organizing camp then we had a quick lunch and set out to look over our surroundings. Four o'clock found us on the summit of Mt Penny with a fine view of the area. Although it was August there was still a lot of late snow on the mountains. We had intended to come the third week of July but due to the tremendous amount of bad weather in June and July we postponed the trip. Not wanting to wait too late it was now first week in August. We lost one of our number, Lyn Michaud, who had a previous commitment for this particular week.

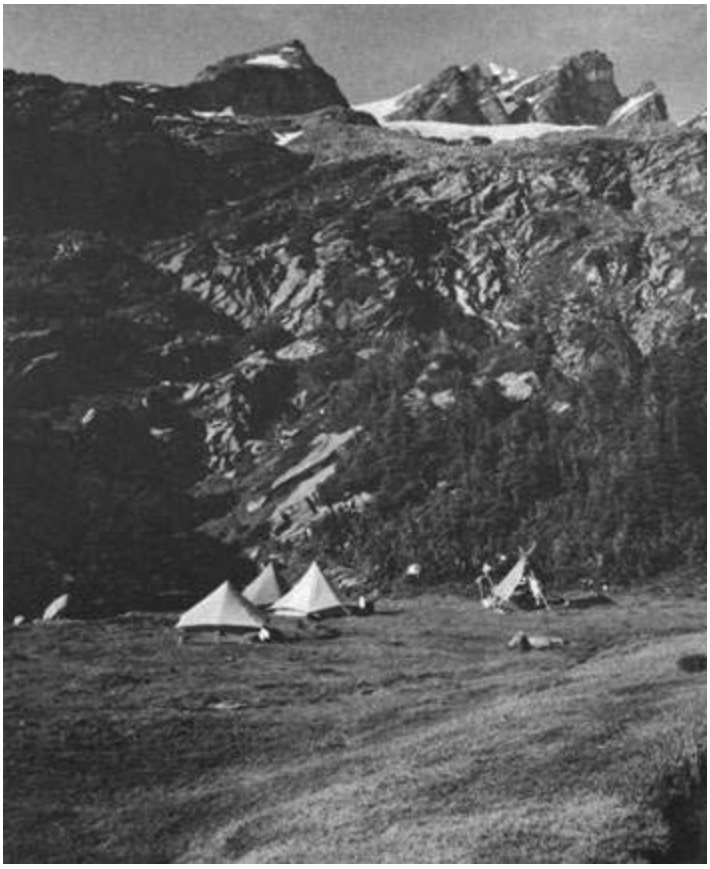
Mt Sir Wilfred Laurier, the highest and most prominent peak in the area, became our first objective. Getting an early start didn't seem to make much difference. By the time we set foot on the glacier the snow was already very soft. The day was unsettled but we plodded on. We'd hoped, higher on the névé, to get a good view of the peak but its top was hidden in cloud which was dropping. We made the mistake of climbing to the east ridge which went nowhere so had to descend back to the névé, losing time and altitude. We were slowed tremendously by the snow; as we gained height the clouds came down to meet us. At the top of the south facing ridge, above the east face, we took a bearing (at ca 10,600 ft) then set off through the mist. Sinking to our thighs in some places, we took turns breaking trail. Every once in a while the wind would part the mist enough for us to see the snow line. Eventually snow conditions changed, the thin crust changed to a strong wind crust which held our weight. It was an eternity until we came to where it sloped off in all directions. We were real happy to be on top even though Leon's altimeter had an odd reading. We stayed only long enough for a rest then turned and retreated as fast as the snow would allow. Back on the névé the warm sun reappeared. Although we were pretty sure we had been on the summit some doubt appeared in our conversations on the way off the mountain.

The following day we took it easy and explored the nooks around our camp site. Tuesday we set off early for David Pass, waiting to decide what we wanted to climb until we got to the pass and had a look around. We gained the glacier by the same route used two days previously, a rock ridge that ran up and into the glacier above the icefall. It was a beautiful cloudless morning. On the névé the snow was reasonably good but by the time we got to David Pass it had begun to deteriorate very fast. We decided on Mt McKenzie King and started out traversing up and across the

From summit of Mt Sir Wilfred Laurier looking south at Mt John Thompson. Glen W. Boles

Looking from 9800 ft level on Mt Sir Wilfred Laurier south to Pyramid and John Thompson; David Pass at centre. Glen W. Boles

Our campsite with Mt Penny at upper right in distance. Glen W. Boles



Mike Simpson and Don Forest at 9800 ft level on Sir Wilfred Laurier
Looking up at next section of mountain to 11,200 ft; summit is behind dome at left, route follows rock ridge at right. Glen W. Boles

Looking south-west across tarn at our camp site at Little Matterhorn Pyramid (just visible) and Mt John Thompson. Glen W. Boles

south face. The snow again proved a deterrent so we angled up to the ridge, the rotten rock and mud making for very unpleasant climbing. At the first flat spot we stopped for a rest and a bite. As we all sat there studying the bulky mass of Mt Sir Wilfred Laurier we realized more or less simultaneously that we had not been on its summit but on a small snow hump about 200 m to the south-west and 50 m below the main summit. As we mulled this over the clouds slowly concealed the summit of Mt McKenzie King. It wasn't our day. The weather and the long rotten up and down ridge festooned with deteriorating cornices made another decision for us. As we got ready to leave it began to snow.

The following day we climbed to the 8200 ft col north-west of our camp site and lazed in the sun. We took time to build a well engineered cairn then descended to the glacier worn rock between camp and the North Canoe Glacier where we bathed in the warm shallow pools and lay in the sun.

As we sat around camp eating supper that night someone threw out the question, "Should we have another go?" meaning of course Mt Sir Wilfred Laurier. Surprisingly everyone answered, "YES". So with a very early start we stumbled along in the semi-darkness over our now very familiar route to the glacier. The morning dawned cloudless and a splendid pink alpenglow stole over the peaks as we neared the glacier. The névé was firm as we hurried along under the hot morning sun. Higher even our old tracks of four days before would not hold. We began to slow and struggle to make headway. Mt Robson dominated the eastern horizon and the conversation as we moved on in a jovial mood for the perfect day was infectious. By late morning we had by-passed the snow hump, our previous high, and climbed up onto the huge dome that comprises the summit. Not a breeze stirred the air as we stood almost spellbound in warm sun drinking in the view. We all admitted the day made the trudge up here worthwhile.

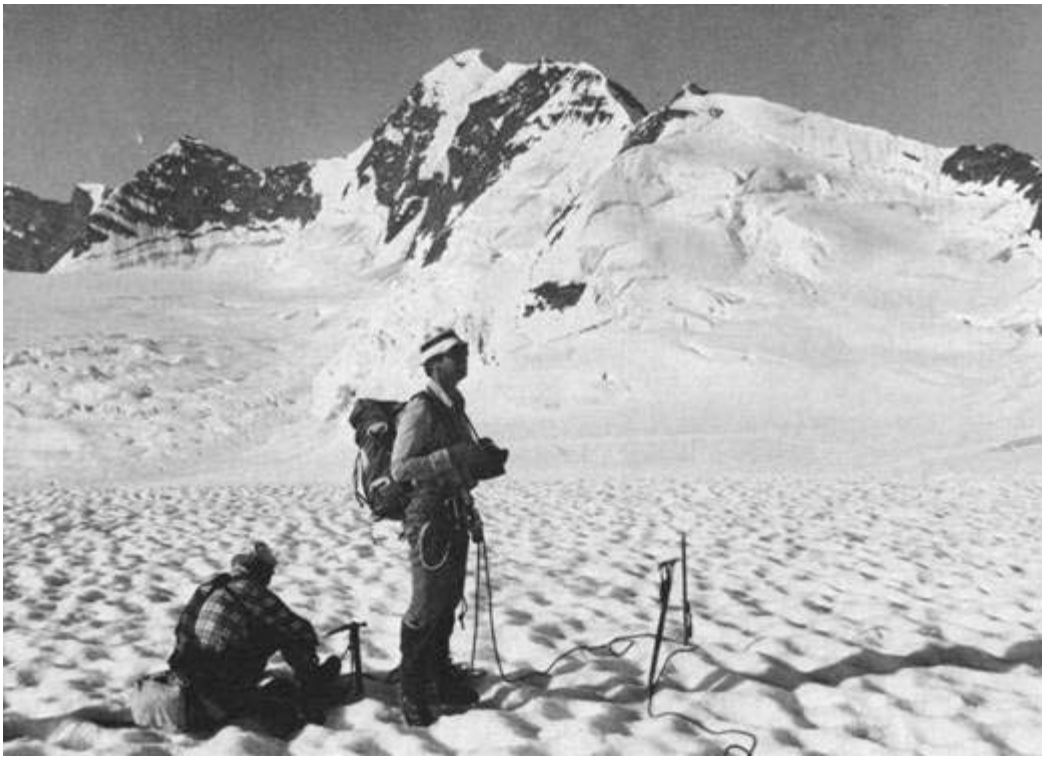
Now Leon is an easy going guy and I've never seen him ruffled but he pulled out his ill fated altimeter which read 9000 and some feet. He rattled off a few well put words, reared back and heaved it like a missile into space. This outburst, foreign to us, brought howls of laughter. Then as if rid of a bad omen he smiled and became his normal self. We spent over an hour on the top. It was exhilarating and we wished we could linger longer but left, knowing what was in store for us on the way down. The longer we delayed, the worse the snow would be. It was exhausting but we still made fairly good time. Shouts of "wait", "stop" or "slow" filled the air as every few steps, instead of going into the knees it was into the crotch and one couldn't extract oneself fast enough to keep moving. On an outcrop above the névé we ate lunch and extracted some weathered garnets. The névé by now was becoming consolidated. Once off the glacier we had a super glissade down to the talus slopes then stopped at the pools in the glacier scoured rock to bathe and laze in the sun. A great way to end the day.

Our final day was spent roaming the slopes above camp, taking pictures, studying the myriad waterfalls, and just enjoying the views. Gary Foreman flew us out the following day. Although we didn't accomplish very much, it was an enjoyable week of camaraderie with great friends. Snow climbs are predominate in this range but with the conditions we experienced the several new routes we had in mind were just not feasible. As it turned out conditions would have been just right two weeks later. Looking back is easy; we look ahead to our return.

Glen W. Boles

Members of the party: Don Forest, Gordon Scruggs, Leon Kubbernus, Mike Simpson, and Glen Boles.

Mike Simpson and Don Forest at on the névé of North Canoe Glacier
Left to right David, Crescent, Pyramid and John Thompson. Photo Glen W. Boles

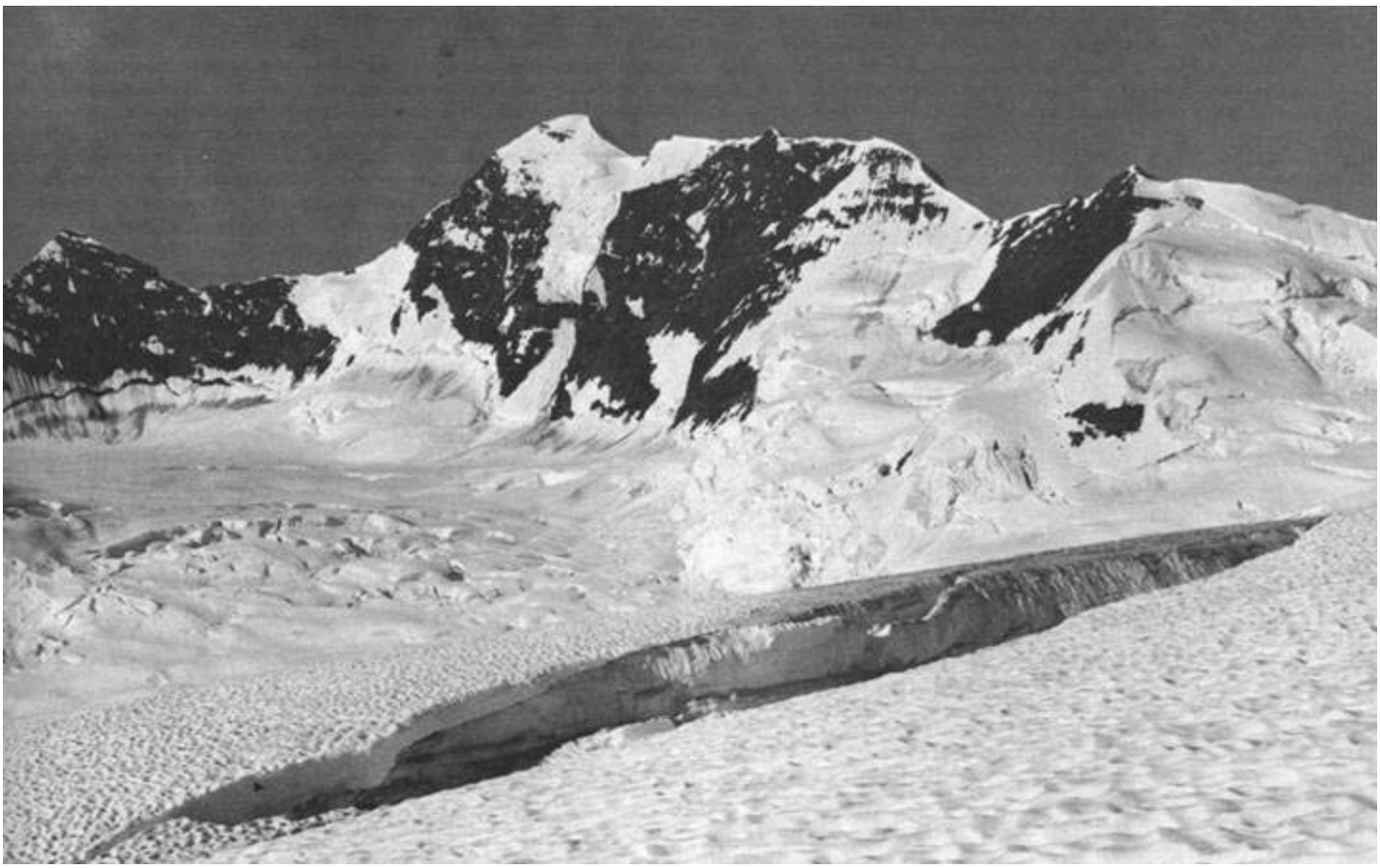


Leon Kubbernus and Gordon Scruggs
climbing to ridge of Mt McKenzie King.
Glen W. Boles

Looking south-west at Mt McKenzie King from 11,000 ft level on Mt Sir Wilfred Laurier, Laurier Glacier below. Glen W. Boles

Little Matterhorn and Pyramid at right standing above the icefall on North Canoe Glacier.

Looking south from neve of North Canoe Glacier to Pyramid and John -Thompson. Glen W. Boles



Czech Winter Ascent of Mt Steele

"This is a helluva way to spend New Year's Eve," Ivan Bohacek thought as he lay in the tent at camp 3 at 14,700 ft on the east ridge of Mt Steele. Outside the temperature was about -30°C and the wind was picking up. He could remember warm evenings spent with friends in Prague. This evening was shared with Vladimir Weigner and Ivan Kohout.

The following day they left camp at about 1000 hrs for the final ascent. After a breakfast of hot drinks the trio trudged upwards for an eternity before reaching the summit at between 1435 and 1450 hrs. They stayed briefly to take pictures. The wind was estimated at 50 kph and the temperature was measured at -41 in the sun. Vladimir was experiencing stomach trouble and Ivan's hands were bad. Their progress was followed by Jirka Kohout who had remained at camp 2 at 12,800 ft with Josef Rubin. He climbed to the knife-edge above camp 2 and could see them with binoculars on the summit and during the descent. Leaving the summit at 1510 hrs they reached camp 3 at 1600, very tired.

It was a long trip from Czechoslovakia to Mt Steele, involving a transatlantic flight and a marathon drive in a venerable Volkswagen microbus from Montreal to Whitehorse where the van required the attentions of mechanics Kohout and Rubin before the final drive to Haines Junction and Burwash. We flew by helicopter from Haines Junction and Burwash, setting up base camp on the glacier at about 7800 ft, well away from the base of the ridge as avalanches had been reported there in the summer by Ron Chambers of KNP. The following day the party moved to camp 1 at 9000 ft, recovering the fuel dropped there by the chopper. The ridge involved mixed climbing with two sections of hard ice.

Camp 2 was located at 12,800 ft on 30 December 1981 after a demanding climb requiring the use of two ice axes by the leader on the 40 to 50 degree ice. We had to digress from the normal route and follow the apex of the ridge rather than the rocks and snowfields used in summer. Along the crest of the ridge the climbing was more technically difficult but not as physically demanding as the route through deep snow. The crevasses were filled with snow. The conditions had been good, temperatures -28 during the day, -33 at night, clear and calm. At the same time temperatures in the rest of the Yukon were below -40°C.

New Year's Eve saw the two Ivans and Vladimir move to camp 3. The weather had changed, temperature dropping to -40 and winds of 40 to 50 kph. The summit was smoking. Setting up the tent was very difficult. They had passed a good site for a snow cave farther down the ridge. But the 600 ft which separated it from camp 3 might mean the difference between success or failure in a summit bid. Radio contact was made that day with TNTA in Whitehorse, reporting on our position and getting a weather report.

The climb from camp 2 had entailed some route finding among the crevasses but was not technically difficult. The only problem was a snow gendarme on the ridge which had to be passed on the left. On 1 January, after the summit had been reached, Ivan, Vladimir and Ivan returned to their camp with the prospect of that ridge to negotiate the following day. In camp 3 they prepared some food and Vladimir's stomach began to improve. But the pain in Ivan Kohout's frostbitten hands worsened. During the night Ivan Bohacek experienced pain in his toes.

In the morning they saw the blisters, bandaged them, and prepared to descend. Their previous high spirits were considerably dampened by the pain. The descent to camp 2 which might take two hours, took the trio three hours. When they reached camp 2 the entire team set off at 1600 hrs for camp 1. The risk of climbing after dark was outweighed by the problems of their weakened physical condition and the possibility that waiting an extra day might mean not being able to reach base camp. Progress was slowed by the need for a fixed rope to secure Ivan Kohout who could not use his hands. But camp 1 and the cached food, fuel and equipment was finally reached at 1900 hrs. After having a meal, we finally got to sleep at 0100 on 3 January. It had been a long day.

In the morning the two Ivans began their descent to base camp while Jirka radioed for help. His call was finally picked up at 1100 hrs and the message relayed to Trans North in Haines Junction. Just before the climbers reached base camp at 1300 hrs the chopper arrived. They were picked up and taken directly to Whitehorse Hospital.

Later that day, 3 January, Jirka, Josef and Vladimir reached base camp, which was well supplied. The temperature had moderated and the wind died and they spent a comfortable night before being evacuated by chopper the next day. Besides the food, fuel and equipment cached at base camp, the next climbers on Steele may find the two kilos of dried fruit and the min/max thermometer left on the summit.

After the climb and helicopter rescue there was a brief flurry of activity by the media. There was talk of restricting winter climbs in KNP because of the "danger". Jim Masyk, the Park Superintendent, made an excellent reply to a radio interview trying to find some sensationalism when he commented that flying a small plane is dangerous. Nobody questions the expense of searches for downed planes.

The climbers from the Prague Alpine Club chose to climb Mt Steele in winter precisely because of the added challenge of winter conditions. In accepting the challenge and succeeding, we completed the second winter climb ever done in the St Elias Range; the first was a climb of Mt Ulu led by Monty Alford during the 1972 Arctic Winter Games, in late February and early March.

We also wanted to learn the limits of our equipment. What we learned may help others wanting to climb in like conditions. It is our opinion that sleeping bags and tents must both be of breathable material, as condensation was a major problem. Very large bags, big enough to accommodate a climber fully dressed should be used. The bags should not be down, useless when wet, but rather of synthetic fill. Jiri Kohout, the leader, is of the opinion that boots should be very large and be made of leather; and at the same time stiff enough, even steel reinforced, so crampon straps do not restrict circulation. It would be good to wear several felt liners, discarding each as it becomes damp. Outer boots should be left outside the tent so they do not contribute to the wetness. Jiri believes that if

the climber is able to stay warm and dry at night, during the day he can manage to use such frozen boots. Climbers must also prepare themselves by rigorous training to move very quickly during the short hours of daylight, being able to accomplish in six hours a full day's climb.

The problems encountered by the team are attributable to the combined effects of cold, wind, altitude and humidity (76%) which led to condensation — clothing and bedding becoming wet — and ultimately, for us, frostbite. The subjective goals of the team were met in their success. The limits of their mountaineering equipment were certainly tested and found wanting.

Mary Whitley

From interviews with Jiri Kohout, Vladimir Weigner, and Ivan Bohacek

Participants: Jiri Kohout (leader), Ivan Kohout, Ivan Bohacek, Vladimir Weigner and Joseph Rubin, all of the Prague Section of the Czech Alpine Association.

The team wishes to extend our thanks to many people at Kluane National Park and Trans North Turbo Air, to Dr and Mrs Peter Steele, to Mary Whitley and family, to the Czech people of Whitehorse, and to the staff at Whitehorse General Hospital who, among others, helped us during our recovery.

Climber's Malady

In past months I have identified the existence of a disease not previously recognized. As it seems to be confined to leaders of expeditions I have named it "leader's syndrome". The disease manifests itself long before the climb begins; the person affected is, in turn, lethargic or over active. As the time for departure nears the sufferer may exhibit symptoms of anaemia — pallor and weakness. Often ulcer symptoms are observed — stomach disorders and pain in the lower left quadrant. During the course of the expedition the malady manifests itself mainly in the actions, or failure to act, of the person afflicted. It is easy to spot the sufferer. He is the one with the long face. As the others besport themselves, enjoying each new experience with exuberance, the leader maintains a solemn mien. As jokes fly and puns and gaiety fill the air, he does not join in. Physical symptoms increase with insomnia added to the sufferer's woes.

I might add that the distance of the party from home is inversely related to the severity of the disease. Thus the party from abroad has a leader suffering more severely than one from within this country's borders. And further a party climbing in its "home area" is likely to have a leader completely unaffected.

The disease does not appear to be hereditary but is contracted through acceptance of the position of expedition leader. I thus assume that it is contagious and warn all climbers to beware. A perfectly jovial and normal climber may suddenly develop the initial symptoms upon agreeing to lead a climb.

Symptoms are not unending. Rather the disease appears to run its course as the expedition progresses toward its goal and returns. Upon arrival home the leader will likely quite suddenly revert to his former healthy self and no trace of the dread sickness will be found. However this may not happen immediately and relatives, friends, and climbing partners must treat the sufferer with deference until all responsibilities have been dispensed with, when a complete recovery should take place.

Marv Whitlev

Gangapurna Stories

By the time I reached him James had dug the last three days' snow off the belay and was ready to go. "I'll lead this one" he said with determination. We both had been looking at this pitch — steep water ice leading to the sérac — but this was James' opportunity to show that he would stick to our decision. We were carrying on alone. . . and we were determined to give the south face of Gangapurna our best shot before turning back. We'd been in Nepal a month and a half, spent countless hours of preparation time and every nickel we owned to get here. Now it was time to push. To ride that fine line between control and chaos, safety and recklessness. Here, at the base of the hardest climbing of the expedition and still four days from the summit, we knew that we were riding the line pretty close.

*****

April 16, 18,000 ft. James and I carried two heavy loads up from the cache at the top of the first icefall while Dave and Dwayne explored the second. They reached the bottom of the route, the bergschrund on the righthand side of the ice face and reported the ice to be easier angled than we'd expected - about 50 degrees. As this is the longer side and we may not have enough polyprop to fix it anyway we are talking about trying the face Alpine Style. James and I will go up to have a look to-morrow. Dwayne and Dave will bring up the rest of the cache and we'll decide to-morrow night.

April 17. Snowing fairly steadily. About four inches overnight. Our camp is in a very exposed place - avalanches from Glacier Dome/Gangapurna col could hit us. . . we may have to move camp.

James set off. The ice was steep right off the belay, about 80 degrees. Stopping to struggle in some protection he found himself winded after the first 20 ft. He bridged out to the little ice corner to catch his breath. We were at 22,000 ft. I leaned out on the belay and gazed around; 3 kms below in the Modi Khola valley the daily storm was beginning to rise. Soon we'd be in it. James readied himself and set off from the ice screw. The ice was thin and steepening but he picked his way slowly and delicately through. At the base of the sérac he stopped again. "Looks like I can traverse around the next steep part!" he shouted down and soon disappeared from view. The snow had started to fall lightly as James hauled the packs. I looked out into the mist across the immense rock wall of Gangapurna towards Annapurna III. Should we come down that way? Traverse the peak and descend by A III col? A long way but certainly a lot easier than descending the face! I took out the belay and jumared up into the swirling snow.

*****

April 19. Morning weather much clearer but extremely windy. . . you can hardly stand up outside. GLAD TO BE UNDERGROUND. The snow cave is holding up really well; any snow that builds up in the doorway we shovel into the crevasse down the hall. The

storm has pinned us down in the best of all positions; at maximum acclimatizing altitude and when we were a couple of days ahead of schedule. No problem yet. . . other than boredom. Got some good footage of McNab outside in the wind organizing gear. Looked horrendous! We plan on moving up to the base of the ice face tomorrow. Wind seems to be dying down finally. Have made the decision to go Alpine Style.

*****

"No clouds in the valley!" Hard to believe, but I could feel the warmth of the sun as its first rays crept over our tiny bivouac platform. It was as if the sun was blessing our boldness. . . our puny attempt at reaching beyond ourselves. We got up and set off. James belayed me out the door of our bivy tent. . . no point hurrying; from this point we'd lead out the whole 400 ft of our 9 mm rope. I traversed left across the snow covered slab to gain the main groove. Mixed climbing, not too difficult but enough to keep you honest. After about 180 ft I traversed back right and pulled into a narrow ice gully. Good ice, fine weather and "Look at that!" I pulled out of the gully at the end of the rope length to see Dhaulagiri poking over Glacier Dome col. What a day! Probing the unknown in the sunshine at 22,500 ft!

I rappelled back down to the tent after setting up an anchor and we soon had hauled the packs up. Stopped for a brew on the ledge, soaking up the sunshine and staring out at Annapurna III, Machapuchare, Annapurna South, the Fang, Glacier Dome, Dhaulagiri. . . what an incredible place. I marvel at James' decision to continue with me, after having decided to descend. The change in psyche that he had put himself through amazed me. It had been so hard for him, and yet beside me on this skimpy ledge sat a determined, enthusiastic James. I feel very fortunate to have such a friend. With one hand on the rope I spend the afternoon tilting my head into the sun and clicking photos as James picks his way up the 'Ramp'.

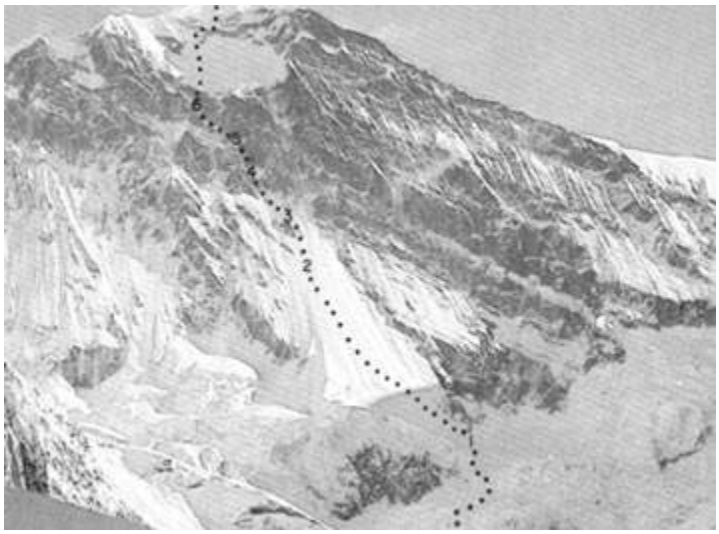
*****

April 23. Bergschrund camp, 19,200ft. Stopped snowing at a reasonable time last night so we'll go on the route today after all. Very clear day -best sunrise in ages. Spindrift all night half buried the tent though; had to get up and dig it out during the night and again for breakfast!

We got underway quickly. Dave and James left first, climbing the ropes they had left the day before. They would lead the whole day, taking turns stringing the ropes for us to follow. While leading they would climb without a pack, leaving it at an anchor point. Dwayne and I left a few minutes later. We would pull the ropes up behind us to supply the leaders with another rope to fix. We would also take turns carrying the extra pack that was left at the bottom of each fixed line. It was an exhausting system but did allow us to move much faster than if we'd climbed in a more conventional style.

The day stretched on; so did the ice face. We were sweating, panting in the thin air, moving slower all the time. The loads bore down heavier and heavier. Ankles strained from constant twisting as crampon points bit into the ice. Arms ached from hanging and pulling on ascenders. Occasionally a crampon would slip out,

Gangapurna south face.
1-bergschrund camp (camp 4. 19.200 ft): alpine style above this point.
4-serac bivy (22,000 ft). John Lauchlan



James Blench on the "ramp" at 22,800 ft on the sixth day of the alpine style push. John Lauchlan

flipping a heavily laden climber onto his face, hanging from a sling — panting.

At our backs, unnoticed at first, a thick bank of cloud rolled up the glacier. I had been glancing left to the Glacier Dome col to gauge our progress. Where the west ridge of Gangapurna meets the jumble of hanging glaciers and feathery snow fluting of our neighbour is the same elevation as the top of our ice face. Somewhere around noon the col disappeared. I lifted my sweating head and, through the steam on my glasses, saw that we were enveloped in

cloud. It began to snow. We were well over half way up the face so retreat was inadvisable. There was no discussion of our dangerous position, just a slight increase in our rate of progress. We were running out of steam. I pulled through the mist to the anchor Dave was hanging from. Although he was frantically swinging his right foot in an effort to increase circulation to his toes, the sticky, wet snow clung to his clothing everywhere. We were all soaked from perspiration and the snow that had been falling steadily for several hours. It was 5 o'clock. Soon it would be dark. We weren't going to make it.

*****

We got up early to jumar the 'Ramp' in hopes of making it to the top of the rock band that day. Juggling the ropes it became obvious that we would have a hard time getting that far. We were both moving a lot slower than usual. The excitement and successes of the previous day had drained our strength, the sitting bivouacs and continuous week in the 'death zone' were conspiring to run us down. The weather looked as though it wanted to make up for yesterday's sun with today's storm. By the time we arrived at the top of yesterday's fixed rope we were being buffetted by driving winds and snow. I attempted to run out my 400 ft lead with the pack on but it proved too much. I left it at a piton and continued up the icy gully which dead ends in a rock wall about one pitch high. As James prepared to jumar up I stared ahead, looking for a line through. We were whited out before I could see one. James was shouting from below, too burned to carry his sac. We'd have to bivy. He left his pack behind and came up the rope. We were in real trouble. A gully, especially one directly below a snow face, is no place to bivy but the storm was too violent; we had no energy to fight our way up a steep rock pitch in its midst. We tensioned across to the rib left of the gully. A skiff of snow over a verglased slab — you take what you get.

After a hasty excavation we got the tent out. To secure it James put a piton above. Not very good placement so we just ran the rope through it, leaving the ice screws back in the couloir to the right as our main anchor. I had just undone my knot in preparation for climbing into the tent when James leaned back on the rope to pull his crampon off. The peg pulled. We both pendulumed, the rope untied but still through my harness. When we came to rest 30 ft to the right I was hanging upside down with my leg wrapped around the rope several times. I don't remember doing it; reflex actions of a drowning rat I guess. James, tied in just above, was splayed out on the ice too. Pulling himself together he looked down. "Whoops," we said in unison and left it at that.

*****

James had soloed ahead to look for a place to cut a tent platform; he returned with bad news. The higher he got the thinner the snow covering the ice. We had neither strength nor time to cut platforms in solid ice; we had to bivouac where we were. "I can't sit still, my feet are freezing. You guys hack a platform and I'll go down to help Dwayne with the packs." David slid down the ropes into the mist and driving snow. I hung my pack from the ice screws and traversed across the ice face with James. Through the cloud we could just see the outline of a rock outcrop sticking through the ice face far above. If we could position our tents directly beneath these rocks there was at least theoretical protection from the avalanches that were sure to come.

We began to hack frantically at the slope — hurrying to get the tent up and out of the wind and snow — hurrying to keep warm — hurrying out of desperation. A ledge began to take shape. On our knees — chopping — chunks of snow, ice chips flying everywhere. Too frantic, I caught my jacket with my ice axe. A cloud of down flew from my shoulder. Who cares? We hit ice. It soon becomes obvious that we will not have time to get two platforms chopped before too many of us are hypothermia Less than two feet wide, the ledge would be the only resting place for all four of us that night. Dave arrived back at the anchor just as the tent went up. Twice the width of the ledge, its corners dangled wildly in the air. We secured the tent to some ice screws above, then Dave and James climbed in to warm Dave's feet. We had modified our tents so that we could tie in to the anchors from inside. At least we wouldn't fall off — unless an avalanche pushed us off. Somewhere in the cloud below Dwayne was slowly grinding his way up the rope. Arriving exhausted and hypothermic, he collapsed into the tent. After ferrying the last pack across I paused for a moment, staring with hollow eyes at the vague outlines of the rocks above. It was almost dark. I turned my back on the driving snow and struggled into the tent.

Tents can be wonderful places on a big mountain, a nylon wall between you and the grim reality outside. Things can suddenly seem calm, controlled again. The inside of a tent on a mountain face looks little different than it does when set up in the back yard. If you can't do anything about the horrors that loom outside, at least you don't have to look at them. The inside of this tent, on this ledge however, held its own little horrors. Four bodies were crammed, roughly in sitting position, across the tent. Steam filled the air with the smell of perspiration and sodden clothes. Dave writhed in agony as feeling gradually returned to his toes. James' feet were in Dave's sleeping bag — his bag had been left outside in the confusion. He seemed warm enough though; Dwayne had passed out on his lap. The 'pit', the part of the tent that hung over the edge, was filled with boots, packs, food bags and other frozen items. A rope which we were all clipped to stretched in one door and out the other — in case the ledge gave way.

*****

April 30. Last night goes in there with the collection of 'worst night of my life' stories. Got up at 5 am to start cooking. I led the pitch out of the rock band and onto the snow bowl to a pleasant surprise. It's smaller than I'd thought and has good hard snow. It's now 9.30 am. I am back in the tent with James. We have decided to go for the top today and rap the route as was plan 'A'; rather than go one more day to the top with loads, and down A III col. This could be it!

6.15 pm, pulse 120, weather snowing. Today James and I reached 24,457 ft, only turned back by lack of mountain. WHAT A DAY. The snow was firm and the sun shining. Instead of breaking left under the rock spur we cut straight for the summit. We found an easy traverse line through the short rock wall that guards this approach and broke onto the ridge no more than 200 ft from the summit. Around the time the rock barrier was crossed though the

Dave McNab at 5500 m level. John Lauch/an

fair weather had given way to our usual afternoon storm. We could barely see the other side and only the rocky ridges descending to the east and north let us easily know we were on top. We paused to take photos of each other then reached for some food. Suddenly our cameras started buzzing. The wire in my Sun-Ice hood started humming and so did all the metal stuff in my pack. For the first few seconds it didn't dawn on us what was happening - electrical storm! I threw the pack on and James and I ran back along the ridge to the spot we'd marked with a prusik and 'biner. I dug my axe in and lowered James down the slope as fast as we could go. I was screaming for him to hurry because I was getting large shocks into my lower back from the gear in the pack. We are now back in the 'Miserable Bivy' preparing for another shitty sitter night before can go home. I'm very frozen in the tootsies but otherwise BUZZZZZZZED!!!!

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April 24. We are all burned out and our gear is soaked. We are now in the process of moving up to a camp on a pronounced rib about 200 ft below the rock band (about 400 ft above last night's epic on the ice face).

4 pm. Dave is quite yucked out from the altitude. He has no energy and feels nauseous. Earlier it looked like he might be coughing blood but closer examination proved it to be coming from his gums - still pretty weird. I am now in the process of trying to cram fluids down his neck.

6 pm. McNab worse. Will be making water for most of the night I think.

April 25. Just had a big talk about what to do. Dave, essentially, wants to go down. Dwayne is bummed - would go on but slowly. James is very non-commital. Will have a rest day while we go up and look at the route some more. Am on the verge of tears.

Noon. The dye is cast. Dwayne and I will take six days food and go for the summit. James will go down with Dave.

April 26. I guess the dye is never really cast. We woke up this morning to a sick Congdon, wanting to go down. I went up and talked with him and James. There ensued one of the longest, most emotional scenes I've ever been through. There are no words to adequately describe how I (and surely he) felt. Eventually we decided to descend with Dwayne and Dave so I went up to pull down the fixed ropes to go home. Suddenly James was behind me saying "let's go".

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May 1. The end of the most intense mountaineering day of my life. Descended the entire rock band today, James very sick, puking. I am physically and mentally blown by the experience but know that I will gain great strength from today - I need so badly to be home.

John Lauchlan

SUMMARY

The first ascent of the south face of Gangapurna (24,457 ft/7454 m) in the Annapurna Himal of Nepal. Expedition members: James Blench, Dwayne Congdon, Dave McNab, and John Lauchlan. The summit was reached 30 April 1981 by James Blench and John Lauchlan.

A Short History of the Climbing around the Queen Bess and Mantle Glaciers

Don Munday published his account of the first ascent of Mt Queen Bess in 1942 in CAJ 1942-1943. No further ascent was recorded until 1955 when a party of four succeeded in reaching the summit via the north ridge. Twenty-five years then elapsed without substantial mention being made of the region in the journals. In 1980 Mike Down took up the story by describing the first climb of the spectacular south-east ridge of Queen Bess which he made with Don Serl (CAJ 1981:2-4). Mike noted that theirs had been the sixth ascent of the peak. What had happened in the interim?

I must admit that this question did not overly concern me, despite the fact that I found myself organizing the ACC Vancouver Section camp for the Mantle Glacier in 1981. I assumed that sooner or later the whole story would come out — probably over a mug of coffee during camp. But then late one afternoon Rob Driscoll and Ken Legg returned from a two day trip up to the head of the Queen Bess Glacier. They were convinced that their climb of Mt Frobisher had been a first ascent for they found no sign of a cairn on any of its three summits.

I became instantly curious. Frobisher was too low to have been named by the early explorers who first ascended the peaks around Chilko Lake and did not seem to lie in the area visited by the first parties to the Homathko Icefield. Rob and Ken had also climbed a peak north of Frobisher on the far side of the Nostetuko Glacier. Might they have been the first mountaineers to cross this particular ice sheet? Suddenly the time seemed right for a historical overview of the climbing activity in these two areas.

I began with Queen Bess and the first ascent by Don and Phyl Munday with Henry Hall Jr. The party named both Essex and the Mantle Glacier, the latter, as Don Munday explained (CAJ 1942-1943:164), ". . . an allusion, of course, to the story of Sir Walter Raleigh having spread his cloak at the feet of Queen Elizabeth".

Dick Culbert (1969, pp 189-90) seems to suggest that the Munday's route went up the south side of Queen Bess but this is incorrect. Culbert was probably misled by the confusing description of the route in the CAJ article but Phyl Munday recently confirmed conclusively that they used a long and steep snow gully (which in 1981 we referred to as the "Munday couloir") on the west face to gain the final snow cap which leads to the summit. Difficulties on this route include a two pitch band of poor rock and ice up to 55 degrees just below the summit snowfield. From this position Don Munday looked down the north ridge which the party had earlier considered. He wrote "A brief appraisal of the arête made me think it would have been practicable throughout its length." (CAJ 1942-1943:166).

Taking this statement as their cue a party consisting of Paddy Sherman, Elfrida Pigou, Denys Lloyd, Don Cowie, and Derek and Janet Fabien made the north ridge their main objective when they came into this area in 1955 (CAJ 1956:25-35). After dispensing with first ascents of Homathko Peak (9866 ft) and Mt Essex (9800 ft) via the north-west ridge they completed their climb of Queen Bess in the last day of good weather they were to see on their expedition. "It was always good climbing," said Derek Fabien of the ridge, "and at its best exceedingly good." Like the Mundays this group approached on foot from Tatlayoko Lake, a trip involving four days of travel to high camp.

Activity around the Mantle picked up starting in 1975; significantly the party which approached Queen Bess in this year used air transport. Martin, Thomas and Esther Kafer, plus Peter Macek landed on the south side of the mountain, whence they climbed three peaks south of Queen Bess above Doran Creek, naming the highest one "Diadem Peak". Although Martin Kafer told me that the central summit of the group is "an insignificant bump not worth a name" it has, as we discovered this summer, a striking relief when seen from the south. On our way across the Doran Creek uplands to the Queen Bess Glacier, Lesley Reid, Fabienne Granges and I dropped everything in order to climb this very peak. The walls on its southern side drop 1600 ft to the glacier below in profiles reminiscent of Yosemite. We called the peak "Marblerib Mtn" (9180 ft) because of a diagonal white dyke which runs obliquely from summit to base. From the south it is arguably the most impressive rock summit in the entire region other than Queen Bess itself. The Kafer party also put up a route on the south face of Queen Bess and made the first ascent of the south peak of Mt Essex via the south ridge, a fairly loose and unstable proposition. This last summit they dubbed, somewhat apologetically, "Sussex".

Next into the area came a party of four: John Bates and companions Thompson, Andrews and De Visser. They flew in the first week of September 1973 and enjoyed excellent weather. In the summit cairn they describe their new route on Queen Bess as the west ridge but a better title might be west rib. Like the Kafers' route this climb was mainly class 3 to 4 with one pitch of 5. The Bates party also repeated the north-west ridge of Essex and made a number of other climbs, including the first ascent of the 9400 ft peak along the western edge of the Mantle, named "Silverswan Mtn" summer 1981.

The next group to appear on the scene were something of a throwback. Paul Stoliker, John Knight, Dave Kareki, and Nick Heath elected in August 1979 to walk into the Mantle Glacier, something which had not been done for over 20 years, despite previous attempts. They experienced some route finding problems because of extensive glacier recession but finally established a camp near the toe of the Mantle. In one long day from this site three of the party completed the first integral ascent of the north ridge of Queen Bess, gaining the route from the col with Mt Essex, rather than from the higher reaches of the Mantle as the 1955 party had done. They found the first third of the route loose and unpleasant but concurred that the upper ridge yielded fine climbing. There remained but the first ascent of the south-east buttress by Serl and Down and the tale was complete.

Thus of the first six parties to actually set foot on Queen Bess

all attained the summit and each by a substantially different route. Both the "Munday couloir" and the original north ridge route were repeated this summer by parties from the ACC camp.

Meanwhile other individuals were accounting for some of the lower summits. First to fall was an 8900 ft peak at the head of the east branch of the Reliance Glacier — the last in a chain of four peaks stretching along the western edge of the Mantle Glacier from Doran Creek to Mt Endeavour. This chain was named "The Madgrigal Group" summer 1981. Its north summit was climbed by H Genshorek and B McLellan, part of the Munday party who scouted Reliance Creek in 1947 "to test the possibility of getting horses to the base of Mt Reliance, which might make the region worth considering as a possible site of some future camp of the Alpine Club of Canada" (CAJ 1948:83-92). The south summit of Mantle Peak was climbed by the same pair plus Ian Kay a couple of days later, as a consolation prize when bad weather forced them to abandon an attempt on Queen Bess.

Mantle Peak's north summit (see Culbert 1969:390), which we christened "Armada Mtn" summer 1981, was climbed in 1967 by the ubiquitous Dick Culbert, accompanied by Mike Warr; Culbert's only contribution in the area. In the same year R Woodsworth and J Simpson recorded a new ascent of Homathko via the south ridge.

Some confusion seems to have existed regarding other peaks in "The Madrigal Group". Culbert credits Ken Kirkland and Bob Keith with the first ascent in 1967 of the most southerly peak in this group (CAJ 1968:197). But in the revised guidebook (Culbert 1969:390) this was changed to the higher central peak (Unnamed 9400) — the summer 1981 "Silver Swan Mtn". Field notes in the possession of Glenn Woodsworth confirm that the CAJ reference is the correct one.

This then was the state of affairs when the ACC took up residence in the meadows above Doran Creek on 2 August 1981. Within a few days the remaining summits around the Mantle had fallen to various parties from the camp, including the two minor summits between Mantle Peak and Queen Bess and the two unclimbed summits of "The Madrigal Group". The south summit of "Madrigal Mtn" was also climbed. Stan and Lyn Paterson with Roland Reader travelled a circuitous route to make the first ascent of "Chisel Peak" (2520 m), the one summit remaining in the group immediately south of Queen Bess; Rob Driscoll and Ken Legg completed the onslaught by dispensing with the last two summits further east along the divide above Doran creek (peaks 2600 and 2608 m).

In addition a number of new routes were put up on previously climbed peaks, notable being first ascents of the north ridge of Armada and the east ridge of "Silver Swan Mtn", both pleasant rock climbs of ten to twelve pitches.

Despite all this activity, it seems that there remains one summit yet untrodden. I have been unable to locate any ascent of Endeavour Mtn. It is indeed, not much of a prize (the rock is very poor) but at 9500 ft is one of the higher unclimbed summits remaining in this area south of the Homathko River. In addition most of the peaks to the east of Queen Bess are also untrodden but, once again, the quality of the rock as seen from the western summits has likely proved a rather discouraging factor.

The exploration of the region surrounding the Queen Bess Glacier has been much more fully documented in the journals; this article can only briefly summarize information to be found in greater detail elsewhere.

In many ways the work of the first party into this area remains the most significant from a mountaineering point of view. The Alph Glacier Expedition: George Cochran and Dick Beatty, associated with Dartmouth; and Alastair Morrison and John Rucklidge from Cambridge; they chose to penetrate an area of extensive glaciation which had remained untrodden until their 1957 visit. Once they had made their way onto the icefields, they went on an absolute orgy of nomenclature, dropping names on no less than 15 peaks, only three of which were climbed however. Interestingly enough, this party established a tradition which seems to have remained unbroken to this day; despite the distances involved they did not use air transport for access.

Being the first however, they suffered from costly mistakes. The first of these was their choice of Deschamps Creek as the avenue of approach. This valley gave them nine days of terrible travel before they escaped its clutches; they had planned on three. "Ravaged time and again by fires and avalanches, the valley was a maze of alderbush jungle, blowdowns, scrub growth, swamps and loosely packed trees, dispersed amid cliffs and steep slippery slopes of rock, moss and unstable scree," was how George Cochran described it (Appalachia, 126, p 9, 1958). They returned from their exhausting pack via Nine Mile Creek, the approach which has been used ever since.

Despite the unfortunate loss of time through this route finding error, the weather favoured the party for most of the rest of the expedition. Leaving Dick Beatty who had problems with his feet at the base of Cloister Peak the other three crossed the Homathko to Nunatak Peak then returned to make the first ascent of Cambridge Peak.

Surprisingly, the articles published by this party did not spur further exploration of the eastern approaches to the Homathko Icefield. It was not until 1968 that the area was revisited. A party of Mazamas led by John Hall and George Cummings placed an airdrop on the upper Cambridge Glacier before being dropped at Chilko Lake. They then made their way up Nine Mile Creek and completed first ascents of St John's, Cloister, and Mist Peaks (see AAJ 1969).

Fred Douglas and a party from the BCMC used logging roads in the Southgate River system to come into this area in 1969. Their line of approach proved to be a reasonable one. The party got as far north as Cambridge Peak and made second ascents of most of the peaks climbed by the previous expeditions, as well as a likely first ascent of Pembroke Peak. This seems to have been the only Canadian group ever to have reached this corner of the Homathko Icefield, an area which has pretty well been left to Americans.

Fred Douglas' party reported their activity in CAJ 1970:63-64. Although their report was not enthusiastic concerning the nature of the climbing on the northern edge of the icefield, some of the

larger peaks had still not been climbed. In 1973 the next party of Americans to come a-calling used canoes to cross Chilko Lake then took five days to establish a base camp at the foot of Cloister Peak. They used the Nine Mile Creek approach. From their base camp they made the first ascent of Walsingham (8500 ft), the centre of a group of five peaks running in an east west line along the southern edge of the Queen Bess Glacier. They also climbed Howard, the next peak to the west. Bad weather then drove them back to Chilko Lake. Their story may be found in CAJ 1974:62-63.

Dick Culbert had meanwhile been into the Dartmouth Group further north and accounted for the ascents of Consort, Regal, and Majestic Peaks, the only unclimbed, named summits in that area. The group took its name from Dartmouth Peak, climbed in 1957. Thus of the 15 peaks named by the Alph Glacier Expedition, only two remained unclimbed by 1975. Again it was Americans who whittled the number down to one.

This next group made the trek up Nine Mile Creek in July 1977. Hoping to completely traverse the Homathko Icefield, they ascended the Alph Glacier and climbed Mt Burghley via the south ridge, describing the route as nine heads on excellent granite. They then continued on to complete the first crossing of the icefield "through to salt water," (CAJ 1978:85).

Canadians finally returned to the area again this summer. The first peak in this region to be climbed from the ACC camp was "Sundial", the 2600 m peak immediately above the toe of the Queen Bess Glacier on the northern edge of the icefield; it was ascended by Irene Goldstone, Bob Stair, John Plimton, and John Lixvar (the latter two being Americans). They traversed the uplands above Doran Creek until able to descend to the toe of the glacier, then ascended the most westerly tributary glacier flowing in from the Homathko Icefield, by-passing a massive icefall on the left. The climb of the north-west ridge was made the following morning, in about two hours from a bivouac.

One Canadian visitor who never quite got this far was John Clarke. He was active on the western reaches of the icefield in the early 1970's, however his climbs above Doran Creek in the Klattasine area did not extend far enough east to fall within the scope of this article.

This is not to say that there may not have been others to visit one or the other of these areas. Not everyone chooses to record their/activities in print, and a compiler of this kind of data must often fall back on random phone calls, hastily scribbled summit records, hearsay from friends, guesswork, rumour, hunches. Not infrequently a chance mention of an early ascent is made in an article concerned with another story altogether. These mentions are apt to be missed by the amateur researcher. It would be surprising if the story was exactly as I have told it. Any reader who can add to it is encouraged to take up the task!

Bruce Fairley

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Oh, Ellesmere!

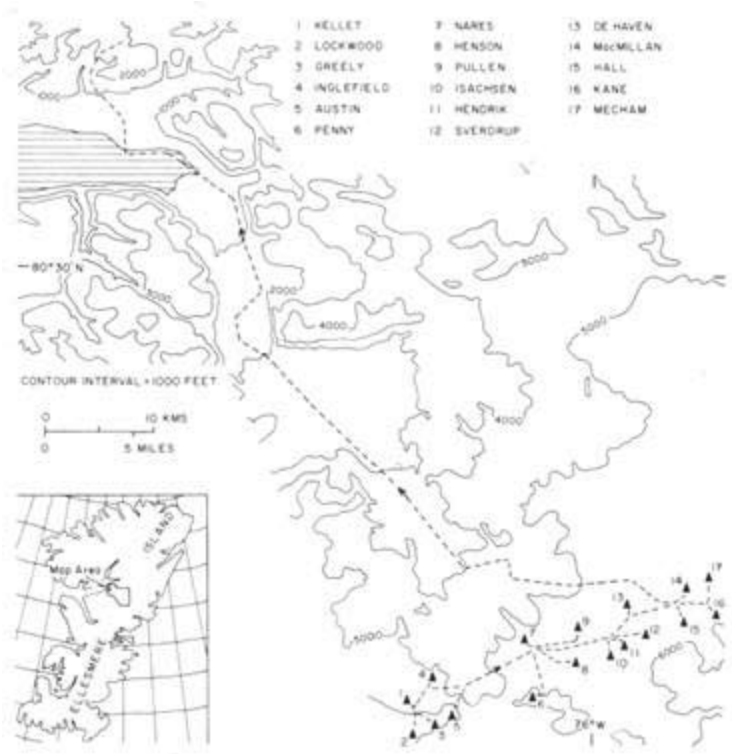
The Twin Otter banked sharply to the right as our cameras captured a few last remembrances. The bank continued with descending 360 after descending 360, like a pea caught in the swirl of a draining kitchen sink. Our equipment was quickly off loaded. Then silence; we were alone.

Ellesmere Island is a land of contrasts. Bleak yet inviting, dead and alive, inhospitable and hospitable. Ellesmere reaches to with 410 nautical miles of the North Pole. Yet even at this extreme latitude Ellesmere is, at certain times of the year, teeming with life. Musk Ox, Arctic Fox, Arctic Hare, over 250 species of insects, and 220 species of flowering plants and mosses. Lake Hazen, the largest fresh water lake at such a latitude, thaws in the summer months (June to August) and is abundant with Arctic char. In contrast the third largest icecaps on Earth lie on northern Ellesmere, places where only the hardiest of lichens can sustain a meagre existence on nunataks (isolated peaks projecting through the ice) that have, over time, succeeded in shedding their sheaths of perennial ice and snow. The caps are a frozen desert where annual precipitation is less than eight inches a year. Yet even the caps, in the summer months, can be hospitable, propitious, and forever silent.

We had intended to start our expedition on the eastern coast of Ellesmere at approximately 78°N, near Cape Sabine where Lieut AW Greely, having waited for relief ships at Fort Conger (81° 45' N) for two years, spent a desperate winter in 1883-84 over which only five of his 28 men survived starvation. From near Greely's camp we had planned to traverse Ellesmere from east to west and be picked up on the west side. However after arrival at Resolute Bay on 15 May 1980 we found that there was persistent ground fog at Cape Sabine created by open water between Ellesmere and Greenland. After waiting in Resolute two days for the fog to break up we decided to fly to an alternate location at the southern edge of the Agassiz Icecap at 80°N latitude.

Our privately chartered Twin Otter left Resolute Bay in brilliant sunshine at 10 pm 17 May, made a refuel stop at Eureka on the western shore of Ellesmere at 12.30 am, and placed us on the silent cap at 1.30 am. The first couple of days were spent trying to determine where we were. The largest scale map available was 1:500,000 with 500 ft contours whose accuracy is easily questioned. The compass was useless due to our proximity to the magnetic pole. During the first few days on the cap peaks were ascended and triangulations made in an attempt to correlate ground features with features on the map. After numerous opinions and almost as numerous arguments we eventually determined we were slightly east of the centre of the island at 80° 12' N, 76° 50' W. Our camp at approx 4900 ft was surrounded by peaks jutting out of the icecap up to 7600 ft. Our map had a general name for these peaks — the

Part of Ellesmere Island. DJ Goodman/M. Irvine



On west ridge of "Mt. Pullen" looking east. Don Goodman

West ridge ' Mt Henson'. Don Goodman

Victoria and Albert Mtns. Research since our visit has shown that we were actually in an unnamed range of peaks.

During our 14 day stay high on the icecap we ascended 17 peaks by 20 different routes. The climbing was almost exclusively on snow and ice although an occasional rock face or ridge was encountered. We were most impressed by the steep, symmetrical snow and ice ridges that flanked many of the peaks like the abrupt corners of a building, and by the incredible hardness of the ice that in some cases completely sheathed the peaks in a dark blue many feet deep. We travelled in an easterly direction from our landing zone, placing camps 5 to 10 miles apart, climbing out of the camp for a few days then moving on. In all five climbing camps were placed on the icecap.

In between climbs our time was spent testing jackets and sleeping bags for Bauer[1] and doing physiological tests of the effects of cold on the human body. One extensive physiological test involved the correlation of oral and rectal temperatures. It was a relief when the "probes" used to obtain the rectal temperatures broke and the study discontinued. We generally skied from camp to where the slope steepened, donned climbing boots and eventually crampons. Summit stays were short as there was almost always a breeze that, although slight, dropped the temperature significantly. Our ski descents back to camp were always enjoyable even though we remained roped while travelling on the cap. On the last summit ascended we built a large cairn and placed in it a record of our expedition.

After 14 days on the cap we were all up for a change of scenery so ski tips and sleds were pointed to the north-west for a 50 mile descent to the Arctic Ocean. There was insidious crevassing on the d'lberville Glacier, which we had hoped would be our "highway to the sea". Fortunately our skiis and sleds prevented anyone from falling in further than their waist. It took five days to reach d'lberville Fiord and the frozen Arctic Ocean, a welcome sight. Our exit off of the glacier proved interesting as it ended abruptly atop a 75 ft high cliff that required us to lower the sleds and ourselves. At the head of the fiord the first signs of man's presence were found in the form of three chemical drums. It was a strange feeling skiing on the ocean and camping amongst giant icebergs, no doubt remnants of the glacier we had descended.

We spent three days wandering the barren foothills of the fiord, our eyes sensitive to anything alive or with colour. Bunches of scrub grass, willows here and there, a veritable forest compared to that of the caps! Nothing grew over three inches above the ground. We saw beautiful willow ptarmigans still dressed in white winter plumage sporting a bright red mask over each eye and black outer tail feathers. Fleeting glimpses of fisher birds were made along with the remains of Musk Ox but no live specimens of this most strange creature of the north.

Probably the most interesting encounter we had was with the Arctic Hare. A fluffy white fur ball with four legs and long ears, he lopes casually along on all fours with a lazy gait similar to a small white bloodhound. When frightened they stand erect — almost three feet tall — on their back legs and run just like a man. This transition from the four legged mode to the upright flat-out run

Ascending “De Haven” looking west. Don Goodman

Sledging east, “Mt Hall” in background. Don Goodman

Camp on Agassiz Icecap. Don Goodman

Skiing on d’Iberville Fiord. Martin Waller

Grave site on Beechy Island. Don Goodman

occurs with explosive suddenness, resulting in a white blur across the rocky landscape.

On our third day at the fiord I had a go at ice fishing. Necessary ingredients included a fishing pole, hook and line, bait and, most important a hole in the ice! My fishing gear was fashioned from repair kit materials. Hand drill and drill bit for a rod and reel, waxed nylon cord for tackle with a hook fashioned from bailing wire. A cherry from our fruitcake provided what I hoped would be the necessary inducement. The hole in the ice didn't come so easily. I started chopping a two by two foot hole with my axe; the dimensions gradually decreased as my chopping became more and more difficult. Eventually I was down to a narrow hole chipped out with a spare six foot aluminum pulling pole from our sleds. Five feet and four hours later the Arctic Ocean gurgled up from its frozen prison. Exhausted yet undaunted I fished for two hours and caught nothing, not even a nibble. Perhaps it was the cherry? In retrospect it was fortunate as I could think of no way of bringing a catch of any worth through a three inch wide hole in five feet of ice.

On 6 June we bade goodbye to northern Ellesmere and started the last leg of our High Arctic adventure; Beechey Island near the southern end of Devon Island (75° N), a two and one half hour flight from Ellesmere. Beechey is a place of extreme historical interest in Arctic exploration. Many of the early explorers wintered over here before proceeding to points north. Some stayed longer than they had intended. Much time was spent reading the wood grave markers dating back to the early 1800's, well preserved in the dry Arctic air. Numerous memorials stand on the beach near the remnants of wood houses that attempted to shelter explorers during the long harsh winter night. The only real bad weather we had on our trip occurred at Beechey when a two day storm with wind and snow pinned us down. After the storm a ski trip around the island was made during which numerous fresh Polar Bear tracks were found. One set came to within 50 ft of our camp. Our visitor probably passed during the storm. With that in mind we radioed Resolute Bay to see about getting flown out; Beechey was a nice place to visit but we didn't want to be some bear's dinner. An half hour before we were picked up our friend returned, gave us a good looking over and continued on his way. For a few tense moments we grouped around our two rifles like new born possums around their mothers. It was a very fitting end to our trip to be able to see, in the wild, the greatest creature of the north. Moments after the bear passed the "silence" was broken with the sound of our Twin Otter from Resolute. Our Arctic adventure had ended, for now.

Donald J Goodman

Expedition members: Dave Adams, Brad Albro, Bill Davis, Allan Errington, Don Goodman. Steve Trafton, Martin Waller.

FOOTNOTE

1. We had agreed to perform cold weather tests for Eddie Bauer Inc, our prime sponsor.

SUMMARY OF ASCENTS

"Kellett", 6680 ft, 18XVD6499. First ascent via south-east ridge. Entire party, 17 May 1980. Sir Henry Kellet was an important British ship commander (Herald, Plover, Resolute) during the search for Franklin. Major arctic expeditions, 1848-50 and 1852-54.

"Lockwood", 7300 ft, 18XVD6596. First ascent via west ridge. Trafton, Errington, Albro, Adams, 17 May 1980. Second ascent via east ridge. Adams, Goodman, Davis, 19 May 1980. Lieut James B

Lockwood was a US Army member of the Greely Expedition (The Lady Franklin Bay Expedition) of 1881-84. He was a tireless hunter, writer, illustrator, sledge explorer of the northern coast of Greenland and Ellesmere Island. He discovered Greely Fiord.

"Greely", 7600 ft, 18XVD6697. First ascent via north-west ridge. Trafton, Errington, 18 May 1980.

Second ascent via west ridge. Adams. Goodman. Waller, 19 May 1980. Major Adolphus W Greely was the US Army leader of 1881-84 expedition to northern Ellesmere Island (Grinell Land) and north-west Greenland. His explorations and books added important knowledge about the northern regions.

"Inglefieid". 6450 ft, 18XVE6601. First ascent via south-west ridge. Trafton, Errington, Goodman, Waller. Davis. 18 May 1980. Second ascent, Adams, Goodman, 19 May 1980. Sir Edward A Inglefield was Captain of British ship Phoenix during the Franklin search, 1853-54. He explored Smith Sound as far north as Kane Basin, the final doorway to far northern exploration. He named Ellesmere Island. He accompanied Lady Franklin's private steamer, Isabel, to the arctic in 1852.

"Austin", 7180 ft, 18XVD6898. First ascent via north-east ridge. Albro, Adams, 18 May 1980.

Second ascent Trafton, Errington, 19 May 1980. Horatio Austin was a prominent British ship captain (Resolute, Assistance, Pioneer, Intrepid) during Franklin search, 1850-51. Searched and explored in Cornwallis Land and Lancaster Sound.

"Penny", 7000 ft, 18XVD7599. First ascent via east ridge. Trafton, Errington, 21 May 1980.

Second ascent Adams, Goodman, Davis, 23 May 1980. William Penny was a famous British whaling captain. Captain of ships Lady Franklin and Sophia during Franklin search, 1850-51. Explored in Lancaster Sound and the Wellington Channel.

"Nares", 6500 ft, 18XVE7504. First ascent via east ridge. Waller, Davis, 21 May 1980.

Second ascent Trafton, Errington, Albro, Adams, Goodman, 23 May 1980. Admiral Sir George S Nares,

Scottish Vice Admiral and Commander of the Challenger during the Franklin search, 1872-74. As Commander of HMS Alert and Discovery he wintered on the edge of the polar sea during the 1875 Great Expedition. His exploration parties reconnoitred the pack ice north of Cape Columbia which was determined to be the most northerly point on Ellesmere Island.

"Henson", 6800 ft, 18XVE7903. First ascent via west ridge. Albro, Adams, Goodman, 21 May 1980. Second ascent Trafton, Errington, 23 May 1980. Mathew Henson was Peary's loyal and indispensable companion on all his polar trips after 1887. He was a rare, non Eskimo master of dog sledging and Eskimo style hunting. He accompanied Peary and four Eskimos to the North Pole in 1909.

"Pullen", 6850 ft, 18XVE7905. First ascent via west ridge. Entire party, 22 May 1980. William SJ Pullen, British Captain of HMS North Star during Franklin search of 1852-54. Established Beechey Island as a major supply depot; built Northumberland House. As a lieutenant he commanded five boats from the Herald, Plover and Nancy on a boat voyage from Bering Strait to the Mackenzie River in an effort to locate the Franklin Expedition.

"Isachsen", 7000 ft, 18XVE8203. First ascent via east ridge. Trafton, Errington, Albro, Adams, Goodman, 25 May 1980. Lieut Isachsen was a Norwegian explorer who, with leader Otto Sverdrup, traversed northern Ellesmere Island, discovering Axel Heiberg Island and the Ringnes Islands, 1898-1902.

"Hendrick", 6850 ft. 18XVE8304. First ascent via south-west ridge. Trafton, Errington, Albro, Adams, Goodman, 25 May 1980. Hans Hendrick was an Eskimo who played a vital role in many northern expeditions. He was employed by Kane as a hunter and was central to Kane's great successes. During a period of 25 years he and his wife Markut rendered great help to explorers Hayes, Hall, and Nares.

"Sverdrup", 6800 ft, 18XVE8505. First ascent via west ridge. Trafton, Errington, Albro, Adams, Goodman. 25 May 1980. Otto Sverdrup, Captain of the Fram (Norwegian) during a very successful expedition to Ellesmere Island, 1898-1902. He accounted for major explorations of northern Ellesmere, Axel Heiberg, and the Ringnes Islands. He was head of an expedition in 1914-15 during search for the lost Russian explorer Brusilov.

"De Haven", 6800 ft, 18XVE8408. First ascent entire party, 27 May 1980. Via west ridge Waller, Davis; via south buttress rest of party. Lieut De Haven was USN Commander of ships (Advance, Rescue) during Franklin search of Lancaster Sound and Wellington Channel, 1850-51. Discovered and named Grinnell Land.

"MacMillan", 7150 ft, 18XVE8909. First ascent via south-west ridge. Trafton, Errington, 29 May 1980. Donald MacMillan was American leader of the MacMillan Crocker Land Expedition, 1913-17. He aimed to explore the land structure north-west of Ellesmere which was reported by Peary in 1906 (determined that it did not exist).

"Hall", 6900 ft, 18XVEB906. First ascent via south-west ridge. Trafton. Errington, Adams, Goodman. 28 May 1980. Second ascent Albro, Davis, 29 May 1980. Charles Francis Hall was an American explorer who travelled northern Ellesmere and Greenland coasts on board USN ship Polaris in 1871. He was

prominent in Franklin search expeditions of 1860-62 and 1864-69.

"Kane", 6900 ft, 18XVE9207. First ascent via south ridge. Trafton, Errington, 29 May 1980. Dr Elisha Kent Kane was an American explorer, surgeon, and writer who explored north to Smith Sound, the Kane Basin. Greenland's Humbolt Glacier, and Grinnell Land (Ellesmere) during Franklin searches of 1850-51 and 1853-55.

"Mecham". 6750 ft, 18XVE9110. First ascent via west ridge. Trafton, Errington, Adams, Goodman, Waller, 29 May 1980. Lieut Frederick Mecham, during Franklin search of 1852-54 under Commander Leopold McClintock, added much to the store of knowledge of islands west of Melville Island.

The above names were submitted to the Canadian Permanent Committee of Geographical Names in December 1980. All names were rejected.

Climbing in the Canadian Shield of North-West Ontario

Crags, knolls and mounds, confusedly hurled, The fragments of an ancient world. Anon

The Canadian Shield is a rock wilderness that covers half of Canada. It is a fractured and eroded flatland — the remains of mountain ranges that were born when the Earth was young. North-western Ontario, the area between Lake Superior and Lake Winnipeg, is classic Shield landscape. During the last ice age it was covered by a continental ice sheet up to two miles thick. It scraped the surface clean and exposed some of the oldest rock on the Earth (2 to 3 billion years). With the exception of a few open fractures the bedrock is watertight and there are lakes everywhere. From a distance it is a forbidding wilderness of spruce and pine forest, broken here and there by bare bedrock knolls and steep cliffs. But from close up it is like a vast Japanese garden — full of hidden niches where rock, water and forest meet. The cliffs are places where its charm is most apparent. They usually occur as abrupt drop offs at the ends of gently sloping bedrock knolls. This form is common in areas that have been eroded down to bedrock by an ice sheet. It is produced by the movement of ice over a resistant lump of sparsely fractured crystalline rock. A fault or other structural weakness gives the ice a toehold and it plucks out boulders from the downstream side leaving the upstream side smoothly rounded. Geologists call these shaped rocks "roche moutonnée", a fanciful 18th century term derived from their resemblance to the ripples and undulations of the highly styled wigs of the French court which were treated with mutton tallow.

Cliffs that are produced by ice sheet erosion are modest in size (up to 200 ft high in the Kenora, Ontario area). They are frequently spectacular and can provide good climbing. The Gooseneck Rocks (20 miles north-northwest of Kenora) are the most climbed cliffs in the Winnipeg area with more than 50 routes (CAJ 1978, 1981). Another interesting place in the same general area is centred 30 miles east-south-east of Kenora. Here a batholith of unmetamorphosed pink granodiorite outcrops over an area of about 200 square miles. The rock is very uniform and fractured in huge blocks. Impressive cliffs abound. Access times from the road to some of these cliffs are as little as 20 minutes but canoe travel and short portages are usually necessary. Getting to the more remote sites requires wilderness skills, some of which are uniquely Canadian. A climber, of course, is more committed under these circumstances and it is not a good place to learn to lead. But for a competent team the attraction is great; there are many untouched granite gems scattered over an accessible wilderness of boreal forest, precambrian granite and oligotrophic lakes.

I came to know this area when I worked at a limnological research station called the Experimental Lakes Area (ELA), located at the centre of the batholith. Two students from New York working at the camp had climbed in the Shawangunks and they introduced me to the sport. With a rope, some slings, and one locking carabiner we did top roped climbing between 1972 and 1976. In 1977 I started to lead climb but accomplished little because of inexperience. The pace quickened in 1979 when a strong Winnipeg team (Peter Aitchison, Bob France, Janet Gough, Peter Gough and Richard Tilley) climbed five routes ranging in difficulty from 5.6 to 5.8 on cliffs at the north-east corner of Teggau Lake and the south shore of Hillock Lake (see CAJ 1981:98-101). During the past season Winnipeg climbers visited the sites described below. These are only a few of at least a dozen cliffs with good climbing potential in the area.

Directions to the Teggau and Hillock Lake cliffs in the 1981 CAJ were based on descriptions of prominent landmarks. The new sites reported below are more remote and it would be wordy and confusing to give directions to them in this way. Instead we use grid co-ordinates on the 1:50,000 topographic maps Dryberry Lake (52/F12) and Feist Lake (52/F13). The six digit grid co-ordinates give locations to within 100 yards. The maps are also helpful for locating new cliffs but be prepared for surprises; many fine cliffs are not prominent on them and most "hot prospects" have been disappointing.

Lakes are highways through this wilderness and they are continually referred to when giving directions. However there are more than one thousand lakes in the ELA, less than 5% of which have recognized names. When the ELA was selected in 1967 as the site for limnological research all of the lakes were visited by helicopter and assigned arbitrary survey numbers. These lake numbers are invaluable for any kind of work in the area and will be used here both to name sites and to give directions.[1]

ELA is 180 miles (about a three and a half hour drive) east of Winnipeg. A logging road (314 Road) branches off Ontario Highway 71 twelve miles south of the Trans Canada highway to penetrate into the heart of the region. At mile 11.4 it branches at the north-east corner of Hillock Lake (370041); beyond this point it is wise to proceed cautiously. Roads marked all weather on the map are passable but rough and dry weather roads may be washed out at any time. On the other hand, several unmarked roads exist which are in good condition if they have been used recently for logging.

Ice disappears from the lakes around the first of May and reforms at the end of October. Spring and autumn are the best climbing seasons. From early June through the middle of August it can be hot and biting insects are a nuisance. Black bear and moose are the only hazardous mammals, though they avoid people if given a chance. Wasps nest in crevices in the rock and are sometimes aggressive in the autumn.

Directions are given as when facing the cliff. Artificial chockstones and natural runners provide good protection for all

Main cliff at Lake 123
Prominent left trending line on left of cliff is Solid Geometry, equally obvious route on right is Beaver Toe. Everett Fee

climbs reported here. However a hammer and a selection of thin pitons are usually carried on first ascents of serious new routes. Only a few of the routes have had second ascents. The grades are therefore preliminary but they should be comparable to those at the Gooseneck Rocks at Minaki. C1, C2, etc refer to aid using nuts instead of pitons. In case of an emergency there is helicopter service from Kenora. The ELA camp at 474008 is staffed year-round and has a radio telephone. If the gate at 432006 is locked it is a one hour walk to the camp.

Lake 123

This fascinating place, one of the most accessible cliffs at ELA, is located one mile east of the south end of Hillock Lake on the edge of a tiny seven acre lake (375990). It is possible to hike into the cliff in 20 minutes by following the more or less bare granite ridges which intersect the road at 384998 (trail marked with red flags). However, it is faster and much more pleasant to go in by canoe. A short portage which starts at the bottom of a hill immediately opposite a parking spot on the north side of the road at 378998 leads to Lake 122. The water level in this lake has dropped about 10 ft in the last few years and there is much exposed shoreline, giving it a peculiar, somewhat desolate atmosphere. Canoe across this lake to another short portage at 376993. The climbs described below are from left to right on the cliff at the far end of Lake 123. The rock on this cliff is unusually homogeneous and most routes involve opposition or jamming. The two which are prominent from the lake, Solid Geometry and Beaver Toe, are superb. Of the shorter routes, Suzy, Under the Sword, and Full Moon Coming are especially worthwhile. Large boulders at lake level below the huge overhang on the main face provide easy access to the climbs and are also a convenient place to enter the lake for a swim. A 15 ft high flake of rock leaning against the face about 150 ft right of these boulders is an important feature for locating climbs which are not visible from the lake. There is an exit route near the left end of the cliff which can be hard to find from the top and tricky even when you are on route. The right end of the cliff is even more awkward but it is fun to poke around there as there are some fascinating chimneys and caves. Generally it is most expedient to rappel from the large tree on the left edge of the terrace above and slightly to the right of the big flake. Access time 20 minutes.

JAMMING 101, 5.5, 50 FT

A straightforward and recommended introduction to the rock on this cliff. Start at the left end of the cliff at the point where the cliff meets the lake. Follow the crack.

Everett Fee and Casey Shaw. 7 October 1981.

SUZY, 5.9 C1, 85 FT

An attractive meat grinder, 30 ft right of the exit route near the left end of the cliff.

55 ft. Climb the left leaning off width crack using an aid move to enter the pulpit, an inverted triangle. Exit directly over the roof on hand jams (crux).

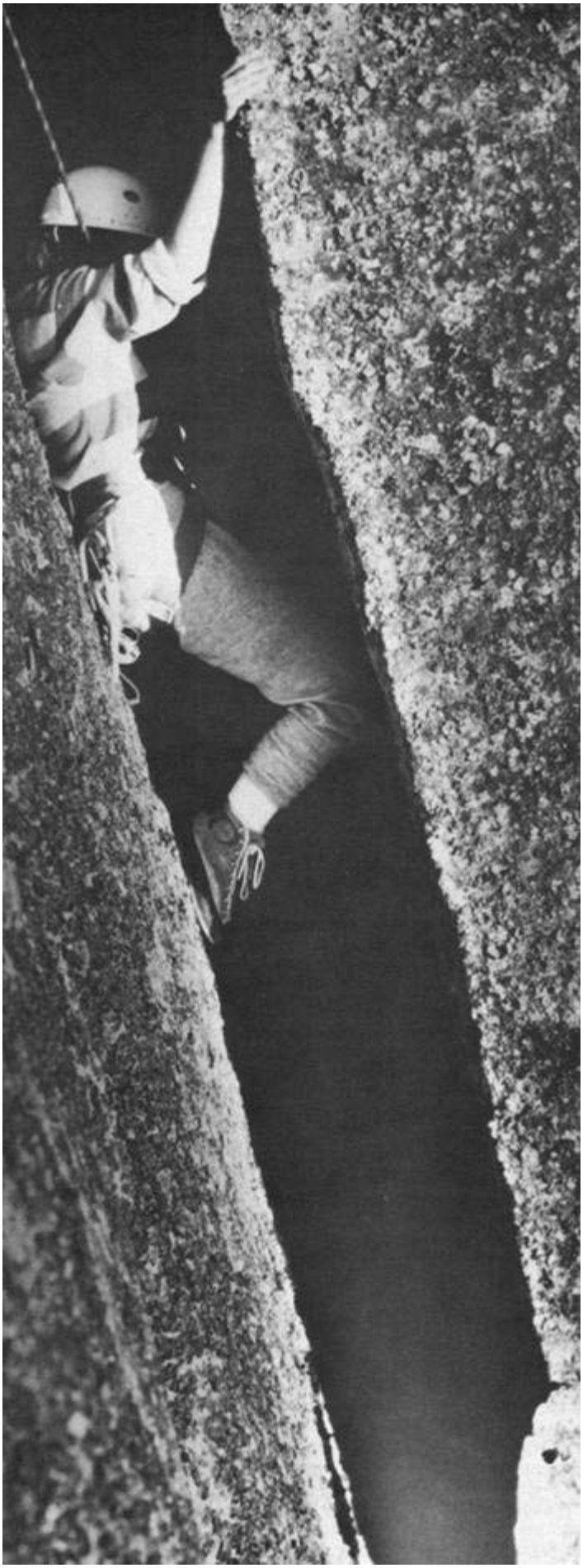
30 ft. Continue up the narrow chimney to a tree belay.

E. Fee and C. Shaw. 7 October 1981

UNDER THE SWORD, 5.8, 80 FT

Exceptionally classy. Starts 60 ft right of the exit route on the

Lucille Doucette on the second pitch of Beaver Toe. Tibor Bodi



left end of the cliff below a detached finger of granite.

20 ft. Climb the granite finger and step onto a large terrace.

60 ft. Layback the right side of the huge flake in the corner of the terrace directly under the precarious looking block (quite solid). An awkward 12 ft crack above the block leads to the top.

E Fee and C Shaw. 9 September 1981.

EARLY MORNING MADNESS, 5.6, 50 FT

A curious unsustained route. Goes up the left inside corner of the big square alcove behind the big boulders at lake level. This alcove is 70 ft to the left of the cracks beneath the overhangs on the main face of the cliff. Veer to the left at the top. The direct finish up the overhanging jam crack is 5.8.

C Shaw and E Fee. 9 September 1981.

AUTUMN GLOW, 5.5, 50 FT

Notable mainly for some fine positions. It starts below the overhangs on the main face. Climb the low angled slabs which trend to the left. The crux is the last slab move at the top.

E Fee and C Shaw. 8 September 1981.

SOLID GEOMETRY, 5.8, 110 FT

An elegant line of great character. The obvious line of weakness through the overhangs on the main face. Follow the inside corner of the left trending ramp at the tallest part of the cliff.

60 ft. Using varied techniques climb cracks to the top of a chest high flake 10 ft beneath the overhang. Traverse under this obstacle (crux) and belay (hanging) at a small stance just above the overhang.

50 ft. Continue up the cracks to the top.

E Fee. 19 July 1981.

Climbed in one pitch by using two ropes and abandoning the rope that was used below the overhang once above it.

BEAVER TOE, 5.6, 105 FT

A joyous climb; highly recommended. It follows the crack and chimney system at the centre of the cliff. The chimney at the top is prominent from the lake but is not visible from the bottom.

55 ft. Climb the crack, narrow chimney and the steep sharp edged flakes to the belay stance below the chimney.

50 ft. Climb the chimney and continue on through the boulders to the top. Break the climb above the chimney to avoid rope drag.

E Fee and Lucille Doucette. 16 May 1981.

EVERETT'S ERROR, 5.7, 100 FT

An interesting off width problem. It can be hard on the knees and forearms so wear suitable clothing.

The first pitch is the same as Beaver Toe.

45 ft. The parallel vertical cracks at the left of the belay are a challenging crux.

E Fee. 16 May 1981.

THE BITTER END, 5.9, 90 FT

An innocent looking chimney which turns into a flared overhanging horror.

It starts 30 ft left of the 15 ft high flake.

E Fee. 1 August 1981.

MY GO NOW, 5.7 C2, 70 FT

One of the cleanest lines on the cliff. It will go free at a very

high standard but has rejected many suitors. Start behind the big flake and either jam up the crack in the corner or climb the flake and traverse across to the right trending crack under the roof. A tantalizing problem.

E Fee and C Shaw. 7 October 1981.

FULL MOON COMING, 5.7, 60 FT

An excellent sustained route. It starts 10 ft right of the 15 ft high flake and follows the thin left trending crack. Only strong fingers need apply.

C Shaw and E Fee. 9 September 1981.

KUKU AFRICA, 5.5, 65 FT

Twenty feet to the right of the 15 ft high flake is a corner covered with lush moss at the bottom. The chimney in this corner is enjoyable if your legs span the gap.

E Fee. 16 May 1981.

BEGINNER'S CHIMNEY, 5.4, 80 FT

A good route. About 150 ft right of the 15 ft high flake the area beneath the cliff becomes broken up into an extensive boulder field. Just at the start of this boulder field is a cleft that goes up to a chimney which is hard to see from below.

30 ft. Climb the cleft to a ledge and go up and left to an alcove.

50 ft. Scramble to the base of the chimney and continue to the top.

E Fee and C Shaw. 8 September 1981.

COMPOSURE, 5.6, 40 FT

A fine short route with sustained interest. It is the inside corner full of chockstones just to the right of an impressive overhang about 60 ft from the right end of the cliff.

C Shaw and E Fee. 8 September 1981.

Dryberry Lake Boulders

Enormous rectangular blocks of flawless granite are located on the top of a peninsula at 343965 on the north-west corner of Upper Dryberry Lake (Lake 466). Quickest access to Upper Dryberry is by an old logging road suitable only for 4 wheel drive vehicles which starts at 389986. A safer route is via Maddog Lake (Lake 465). A good portage is on the right just as you reach the outflow stream at 392948. Do not portage down the creek. The best route to the boulders starts below the north-west facing cliff at 341965. An extensive boulder field rises from lake level to a steep face. There is an easy path between the overhangs on the brow of this cliff to the boulders on top. These boulders have very steep sides and flat tops. The largest is about 40 by 30 by 30 ft and is unclimbed. A rare spot worth visiting. Access time two hours.

Lakes 739 and 750

Several cliffs are located on these very remote lakes. They are noted here for the information of those who might like a long canoe trip and a little easy climbing. The cliff on Lake 739 which is so prominent on the topographic map (632079) is an amazingly smooth lump of granite 100 ft high and 400 ft long with very little climbing potential. It has, however, one very unusual feature. The entire exterior face is a single flake and a huge chimney has been formed which is 10 ft wide at the top and 100 ft deep.

Like the exterior face, the walls of this chimney are unfractured and no access route to the bottom could be found. It would be interesting to rappel into it. From the top of this cliff several interesting cliffs were seen on Lake 750. Cliffs with unclimbed routes exist at 599037, 618048 and 606043. The route that was climbed is on the latter cliff. Access is from Eagle Lake.

Put in at 613176 and take portages at 617132, 648125, 634108, 625076, and 625065. Access time one day.

SOLO FLIGHT, 5.3, 100 FT

A good route with sustained interest. It follows the obvious left trending line located at the centre of the cliff.

E Fee. 2 September 1981.

Lake 259

Cliffs at 433052 on the north-west side of Lake 259, which is 2 miles south-west of the south tip of Winnange Lake, have excellent short routes. An unmarked logging road which leaves the marked road at 413050 leads in 1.3 miles to a camp site at the washout in the road. A portage to the right (south) beyond the washout leads to the lake. Cross the lake to a granite shelf at lake level below the cliff and scramble up the boulders to the face. Access time 3/4 hour.

CAVE CORNER, 5.4, 70 FT

This grand route follows the inside corner which leads to the caves at the top of the tallest part of the cliff. The caves are clearly visible from the lake. Climb the corner using bridging and jamming and enter the chimney on the left. Exit from the top of this chimney by stepping across the void to holds on the right.

E Fee and Peter Whiteford. 1977.

LOW OVERHEAD, 5.6, 70 FT

An interesting route with varied problems. It follows the vertical cleft which starts 10 ft right of Cave Corner. Jam and chimney to a ledge halfway up the cliff. Go up and left under the first overhang to an alcove. Finish to the right under the second and third overhangs.

E Fee. 18 July 1981.

ATHLETE'S DELIGHT, 5.8, 65 FT

A fine climb 40 ft to the right of Cave Corner where the cliff turns to the west. The thin crack at the right of a steep slab is the start. Layback the overhanging edge until footholds appear on the slab. Continue on to a good ledge. The moves up to another good ledge are the crux. The final section is a steep face climb.

E Fee. 17 May 1981.

Lake 262

Magnificent cliffs on the west shore of Lake 262 (497068) run for over a mile and are perhaps the most extensive in the region. Follow access Directions for the Lake 259 cliffs to the camp site. Go left (north) down a good trail to Lake 379. Short portages at 434076, 446078 and 458083 give access to Winnange Lake. A final portage at 503073 leads to Lake 262. Crossing Winnange in a canoe can be dangerous if there is a strong wind. Access time one day.

PRELUDE, 5.4, 110 FT

A good place to begin. Start above some big jumbled boulders on the south-west side of the terrace with the large red pines at lake level on the north-west side of the lake.

70 ft. Climb the dihedral and follow the right trending cracks and roofs to a belay stance by the juniper bushes.

40 ft. Trend to the left finishing with a short steep section.

E Fee. Doug Leonard and P Whiteford. 17 September 1978.

Everett Fee

Footnotes

1 A map showing the lake numbers together with a paper containing map co-ordinates of the lakes is available from the Librarian, Freshwater Institute. 501 University Crescent, Winnipeg, Manitoba R3T 2N6 for $3. Request the Experimental Lakes Area Map The lake number co-ordinates given in this map are in the format of two letters and do not coincide with those of the topographic maps. The ELA map is also very useful for canoeing as it is at 1:80.000 and has less unnecessary detail. Access times are for a party of experienced paddlers who are familiar with the route.

Two (More) High Level Ski Tours

The first 12 days of May 1980 Allan Derbyshire, Tony Daffern, Alf Skrastins and I traversed the Premier Range of the Caribou Mtns from north to south. We began from the sawmill at Tête Jaune Cache and bushwhacked two days up Tête Creek. This brought us to the Gilmour Glacier and easy access to the heart of the Premiers. Our route now took us west over a high col in Penny Mtn toward David Pass. From here we traversed south under the imposing east face of Mt Sir John Thompson to the Raush Glacier. Crossing this we followed a long ridge system leading to McAndrew Lake and our only food dump. The terrain from McAndrew Lake south is gentler than the high profile relief of the Premiers and makes for excellent Nordic touring. For five days we enjoyed a daily pattern of steady climbing in the morning up iron hard north facing slopes to a usual lunch stop at the high point. By one o'clock the snow had softened enough to make our descents on the south facing slopes a nordic dream of a lifetime. We had excellent conditions once on the icefields and ten out of twelve days of good weather. We came out on the Kamloops-Valemount highway about 15 miles north of Blue River.

Spurred on by our success in the Caribous, Al Derbyshire and I teamed up with Wayne Lamphier and Bob Saunders in May 1981 to traverse the Juneau Icecap along the Alaska panhandle. A peaceful boatride up the Inside Passage from Prince Rupert brought us to Skagway, Alaska. The trip began right off the main street of Skagway, walking a few blocks, crossing the tracks, and poof — into the Alaskan rain forest. A trail to Dewey lakes helped gain a couple of thousand feet. Another 2000 and we gained the Denver Glacier, the key to the north south ice sheets straddling the Alaska-BC border. After six days of superb weather we crossed the north-westerly corner of the massive Llewellyn Glacier and joined the sprawling system of interconnected glaciers which comprise the Juneau Icefield. Another four days of circuitous route finding took us past the impressive granite walls of the Taku and Mendenhall Towers. The tenth day after leaving Skagway we wound down the heavily crevassed Mendenhall Glacier snout and arrived in Juneau's outskirts. A superb trip through very BIG country with only one day of inclement weather.

Murray Toft

Exploring Strathcona Park, Vancouver Island

Further records from the diaries of Geoff Capes[1]

Part V - The Second[2] Ascent of Mt Elkhorn, 2 to 4 September 1979

Charley Nash picked me up in Courtenay at 5 pm Friday. We proceeded up the highway through Campbell River to Camp 8 of the Elk River Timber Company where we waited for Phil Wolstenholmes of Campbell River and Bill and Mallory Lash from Victoria. When the others arrived Charley and I drove on to Upper Campbell Lake to arrange with Sutherland to have a boat at Camp 9 at 7 pm Tuesday for three of us (the Lashs were staying in till Thursday). That done we waited for the speeder from Camp 8, which came bringing the rest and pushing a flat car bearing the Lashs' car.

Charley and I piled on. At Camp 9, where we got off, there was a station wagon belonging to an American family who had started up the road to Drum Lakes for fishing. Seven miles up the road the piles under a bridge had collapsed and their car had suffered serious damage. Their bad luck saved us from this catastrophe. Camp 9 was deserted but most of the doors were open. As it was too dark to go on we each got a cot and a mattress and slept very comfortably in our sleeping bags.

The weather was superb as we set off next morning up the road in the Lashs' overloaded car, five men with five packs. We carried two narrow planks eight feet long and with these were able to get across the broken gap at the beginning of the bridge. Driving on 13 miles to beyond the logged off area, we parked the car on a wide bridge over the Elk River. It was 9.50 as, groaning, we lifted on our packs weighing variously from 48 to 58 Ibs. Proceeding through the woods we climbed steadily, the going not too bad. We rested frequently. At two we reached the only accessible water on this route. The mountain is steeper here but we made good progress. We rested at our campsite of a year ago, when fog finished our trip. We were all getting tired as we made our way up steep bluff after steep bluff, the rhododendron bushes helping us in the steeper spots. At last we reached the top of the ridge where the heather grew and could walk in the open. At 6.20 we found a fairly level camping spot above a small snow bank with a tiny pool of running water. Soup and hot tea was the favoured menu.

It was a breezy dawn but the sky was clear. We got away at 8.30 and traversed around King's Peak, continually climbing over a series of terraces. The views were superb under the cloudless sky. Mt Waddington was visible, its terrific mass rising above the other mountains of the Coast Mtns. In the other direction we could see the Pacific. At lunch cups of snow which we hoped would melt in the sun had to suffice for drink. Elkhorn was now in view but the route to it was still not clear.

From here we descended over long, gentle slopes. At last at 2 o'clock we were able to gaze on the majesty of Elkhorn, rising from a green circular basin 1500 ft below. We could see a fair sized creek running to one side of a beautiful camp site. Our ridge was at an end, blocked by a mass of rock we named The Thumb. The Lashs' plan was clear; below lay the camping spot for the advance on Elkhorn. To Phil, Charley, and me the issue was clear too; we could not climb Elkhorn and return to the boat rendezvous by 7 Tuesday evening.

It was a bitter disappointment to have carried 50 Ib packs over miles of tough country to no avail, and this the second attempt. Persuaded however, by the attractiveness of the scene below, we decided to go down with the Lashs to camp. It was not an enjoyable descent. For about 1000 ft we slid down heavy and light scree, then into gulches. At last we struck the remains of a snow slide and at the bottom flung down our packs. We could go no farther even had we wanted. This basin was the end of the valley, blocked by Elkhorn.

We contemplated the mountain. It was a tough looking climb but did not seem to be more than 3000 ft. We just wondered; normally one descends from a mountain faster than one ascends. Could we possibly make the climb tomorrow and start on our return after getting down? My own calculation was that we could do the climb and be back by 3. The decision was changed; the five of us would attempt the climb. Now there was nothing to do but rest, a glorious feeling! I walked down to a small pool, bathed, and sunned on a rock.

We woke to another day of superb weather. The climb started with a walk up rock slabs to a snowfield. It was not difficult up the snow to a col. At this point we could see something of our route and it did not look like an easy walk. In fact from here on, except for one spot near the top, there is no place one could say is easy climbing. The mountain is composed of loose rock and we had to watch our handholds. Phil soon decided it would be better if he did not accompany us; he had not had much experience.

The rest of us went on. There was no lack of hand and foot holds but one had to be continually watchful about knocking rocks down on the man below. Mallory led the party magnificently. The Lashs had luckily brought a 60 ft rope; a longer one would have been better. We could not have made the climb without it.

There was no way we could see to by-pass our first real difficulty, a 25 ft chimney with practically no holds and the two walls at a wide angle. Mallory got up and belayed each one of us separately. Just above was a nasty spot, about 100 ft of sloping rock with no handholds. The slope was not excessive but it was covered with a thin layer of light, slippery scree. Mallory got up and belayed the others. I managed to find a little safer going, more to the right. This brought us to the base of the gendarme. Around a buttress of this, where one could not see, was another tricky spot. It was only a few feet but there were no hand or foot holds on either the buttress or the sloping rock on which we stood. We belayed each other around.

We had arrived at a steep snow slope. We roped up, four of us on a 60 ft rope. The two Lashs had ice axes. The snow was very firm and it was not difficult cutting steps. The top of the snowfield brought us to the biggest area of flat space on the mountain. The final peak was now ahead of us. The ice axes were left here.

The climbing continued to be very steep, in some spots very exposed, but there was only one more spot where the rope was used. We had a breather before tackling what looked to be the last of the worst of the climb; another chimney, though not as bad as the lower one. While being belayed a small stone hit Bill on the head. One trouble with this mountain is that when belaying there are hardly any spots where one can get out of the way. Once up the chimney the slope grew less steep. Near the top of the mountain about six small grey coloured birds flew past, they looked something like swallows. A bee was buzzing around. We reached the summit at 1 pm (I had estimated noon).

An hour on the top taking photos and admiring the view passed very quickly. We roped down the chimney near the summit; Mallory coming last, rappelled. On the rope down the snow slope the two Lashs, having ice axes, brought up the rear. We belayed each other around the buttress. Then came the tricky part over the light scree on the sloping rock. Mallory belayed us down this. At the bottom there was little space to dodge rocks; Bill and I, waiting there, were lucky that a big rock that was dislodged stopped before reaching us.

The most difficult part of the whole descent came last. This was the first chimney we had tackled. Mallory had only one place he could stand from which to belay us; he kept his head down as low as he could behind a boulder while each man lowered himself to where he could tie on the rope. This chimney took a lot of time. I was first down and got the full benefit of the sun shining against me and the mountain behind. It was a beautiful sight to see the Pacific shimmering miles away in the sunlight.

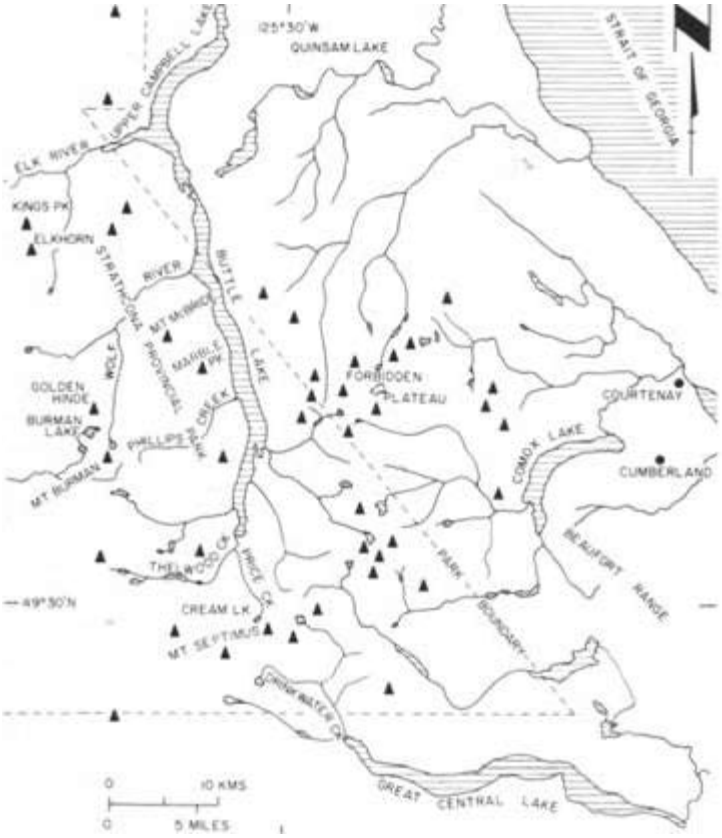
After Mallory had rappelled down we did not use the rope again. We followed the rocks to a scree slope which took us down easily to the snowfield below. Phil was waiting for us at the col. According to taste, we proceeded down the rocks or the snow. We reached camp at 6.40. There was no argument; it was impossible to pull out that evening.

I wakened Phil and Charley at 6.10. It was barely light. I glanced back at Elkhorn and in a notch half way up the summit gleamed a blue morning star. We breakfasted, packed up, and the three of us were away at 7.25. Another wonderful day. We were able to travel mostly in the shade up the 1500 ft rise. The route picked was good but it took 2 1/4 hours before we began the descent. First we quickly disposed of a tin of tomato juice, leaving the tin on a rock to guide the Lashs.

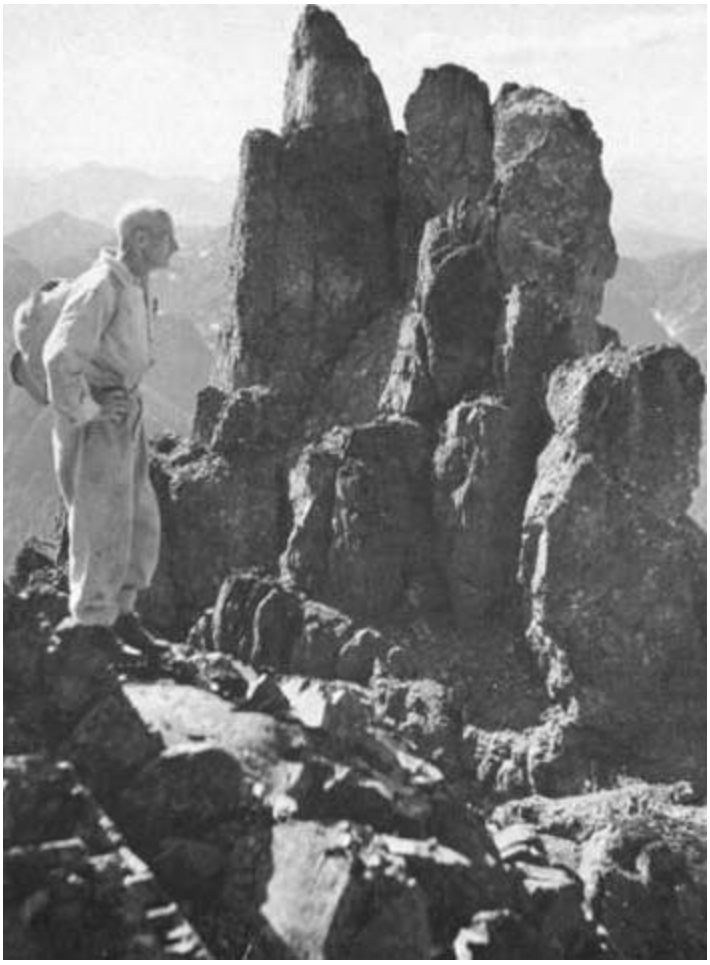
We hit our previous camp right on the nose at 11.35, had a good lunch of bacon, sausages, and tea and, starting again at 12.50 were soon on the steep bluffs. We made good progress hanging on to the bushes. We were lucky and struck the only pool of water at 2.15, drank quite a lot of it, ate some chocolate, took off our boots and socks, and bathed our feet.

For the rest of the way we kept to the open bluffs as far as

Strathcona Park. M. Irvine



The gendarme on Elkhorn.



possible. Twice we had difficulty finding our way down and had to retrace our steps. The last hour was the worst, we thought the land was never going to flatten; it was an effort to put one foot before the other. Just before we reached the road we came upon a garter snake, 24 to 30 inches long, crawling backwards, the hind end of a huge toad in its jaws; the toad appeared dead. A long, conveniently felled tree at last took us to the road, within 100 yards of the car at 5.10.

After cooling off in the river we drove to upper Campbell Lake. We left Phil there to arrange our transportation with Sutherland while Charley and I took the car back for the Lashs. I went as far as the broken bridge to guide Charley across then started the seven mile return walk. Charley drove on the other three miles; it was decided he would walk back quicker than I.

I tried to make three miles an hour. It was 6.40. Although the sun was behind the mountains the still air felt very close. Occasionally from the open logged off land a delicious perfume was wafted on the air. At this time of day there should have been deer, elk, and bear, but I saw only signs along the road. Through the low lying wooded area near Camp 9 the mosquitoes were bad. A deer fly buzzed around my head for a mile. I reached Camp 9 at 8.50 and saw smoke coming from one of the buildings. Phil and Walter Sutherland were waiting. They had soup and tea ready. Charley came along half an hour later.

We had trouble with the outboard motor but at last proceeded down the lake, a full moon lighting up the landscape. It was after 11 when we got into the car. We left Phil at his place in Campbell River. Going down the highway we noticed a bush fire blazing near Cumberland. We reached Courtenay at 1 am.

Part VI - The Golden Hinde Area, 6 to 15 August 1950

Pilot Robert Langdon looked at our packs, Ted Greig's and mine, and gazed at the mountains hidden by the clouds. He had thought our Destination was Phillips Arm, not Phillips Creek on Buttle Lake. He said if he could get off the water it would be all right and that he would chance the ceiling. We became airborne over the waves of Comox Harbour in the small piper plane at 3.45 pm, followed the power line to about Quinsam Lake, turned west, and came over the lower end of Buttle Lake through a gap in the mountains. Following straight up the lake, we landed at Phillips Creek.

At 4.50 we shouldered our packs and, keeping on the south side of the creek, crossed the flats and soon climbed high up the ridge which we followed up and down until we reached a draw. We skirted the adjoining ridge, descended to a flat place under the trees, and made camp at 7.25. We put our cooking fire on a large rock.

We broke camp at 8.15, found two convenient logs to cross Phillips Creek and, climbing on to a more or less bare ridge, reached the creek entering from the north at 8.50, crossing it on another log. Then began hours of climbing a steep mountain through the timber, luckily with little underbrush. This mountain is an exception; not a drop of water. At 10.10 we stopped for a rest. We had managed to follow the odd blaze made by Ted and Bill

Bell eleven months ago. At 12.40 we scrambled up a dangerous gully from which we moved on to the bluffs, still going up.

I had promised to observe birds for Theed Pearse. At about 3000 ft we saw three chickadees. Later we observed some birds about three inches long with white lines along each side and white on top of head; the upper part of the body was black, the under part reddish brown; they ran up and down tree trunks. At 4000 ft we glimpsed a bird that called "chip, chip, chip".

By now we were at the level of occasional snowfields and at 3.30 melted snow for a cup of mountaineer's nectar, hot tea. It was unusual to find snowfields and snow banks with no melting water. We started again at 4.50 and in half an hour we reached the summit, about 5000 ft.

We were on an open ridge, surrounded by a ring of mountains. A short Descent took us to a very beautiful unnamed lake (since named Greig). On one side of the lake was a small island; three quarters of the lake was covered with last winter's snow. At 5.40 we found a lovely camping spot just above the stream that drains the lake.

The sun shone brilliantly. We took a quick dip in the ice cold water and came out exhilarated. A little nip of Rye whisky preceded supper of Lipton's alphabet soup, Kraft macaroni and cheese dinner, and Jello, jelled in a snow bank. We turned in almost immediately.

When we got up at 6.30 the open water of the lake was a sheet of ice. We breakfasted on prunes, cereal with Klim for milk, bacon and powdered egg omelet, and coffee. At 9 we started up a fairly steep bit, over bare rock and snow. The views all around were magnificent — Mt McBride and Marble Peak to the north; the Golden Hinde and others to the west; Myra, Septimus, and The wood to the south. We saw a bird about as big as a thrush at about 5000 ft; it flew in dips. We travelled alternately over bare rocks and big snowfields, the snow hard and easy to walk on. The ridge was anything but level, constantly dropping 100 ft or so and rising again. I saw the Silver Leaf Lupin for the first time; large patches were in full blossom. Bear signs were numerous and we saw a large number of deer in splendid condition. There were two bucks together, each with a wonderful set of antlers. We came across other bucks, one spikes, and does; sometimes in pairs, in threes, and occasionally in groups of four; and lots of singles. We noticed a curious rock formation on Marble Peak across the valley east of us. A wide, long, parallel band stretched diagonally up the mountain, as if cut by a giant machine.

At 11.45 we stopped for lunch, tried the orange sherbet mixed with water; it was good but required some of our strictly rationed sugar. Continuing, we passed a family of ptarmigan. At 3, after a long descent, we paused for a look round and a cup of hot tea. Heavy clouds were forming on the mountain tops. We had a long, steep pull after that to the summit of the ridge at 5748 ft, really a mountain peak, unnamed, which we reached at 4.45.

We gazed down on a steep descent of about 1700 ft to a lake where we proposed to make a base camp. Some parts of the descent were easy; in other parts we had to search for a route. Towards the bottom we came on a rock bluff about 15 ft high which we got around after lowering our packs by rope. We at last emerged onto level going through bush. There must have been a terrific storm because everywhere there were small wrecked trees and scattered branches. At 6.30 we reached the lake, source of Wolf River, elevation about 4200 ft, half covered with last winter's snow. We crossed at the end on ancient logs drifted to the outlet, found a suitable camp site with a perfect fireplace and boards for a seat and a table, and for supper had our usual alphabet soup, followed by sausages with powdered instant potato, which we found excellent. We got into our sleeping bags soon after.

The sky was cloudy when we got up so we spent an hour or so making a wood framework shelter covered with Ted's plastic cloth. We set off without heavy packs at 10.45, travelling west up the ridge overlooking Burman Lake, skirting the lower ends of steep snowfields as we went. On the ridge we turned north towards the Golden Hinde. We tried to catch a ptarmigan but it eluded us. We had a little trouble finding a route in one place on the long descent to Burman Lake, which we reached at 1.05.

We began climbing again up bluffs and through steep, wooded areas. At 1.30 we were on the bare ridge once more and had lunch at a small pool, then continued upwards in large steps until at 3.10 we reached the last ridge, from which the Golden Hinde rose another 2000 ft. It was a bleak wintry scene, a vast snowfield filling the basin, the peak shrouded in clouds. Visibility was about 500 ft. There were patches of very red snow. A smooth, massive rock of peculiar formation stood by itself, looking as if put together in pieces by a stone mason. We found the remains of the surveyors' camp from which we had climbed the mountain in 1937. Close by a small stream flowed from a little lake which had thawed to the extent of a small pond of light blue water.

We had reached the level of the scree where a rare plant had been accidentally discovered in 1937. Ted was anxious to get a specimen. He faced quite a task as a lot of scree which was bare then was now covered in snow. Ted searched and searched, climbing another 700 ft almost to the base of the clouds. I helped. The scree slope was a garden of flowers — masses of phlox, red, white, and pink; and blue and yellow violets. We were unsuccessful. The air darkened, some rain fell, and at 4.25 we decided to pull out. We ate a section of chocolate and started off. Instead of following the ridge back we decided to try another route and were sorry as we ran into tough going. Wearily we reached camp at 8.05.

There was fresh ice on the lake in the morning. We settled for an easy day and moved off leisurely in the sun at 9.45. We followed much the same route as yesterday until we were up on Burman Lake ridge. Then instead of going north we climbed a snowfield and edged south around the base of Mt Burman. We watched a ptarmigan with seven chicks, then continued angling up.

We reached the top of this end of the ridge at 12.15 and lunched by a little pool. Then the question came up as to whether to climb Mt Burman. Ted decided no. It took some time for me to make up my mind as there was first a 300 ft descent which was discouraging. The peak looked about a mile away. At last I told Ted that I would try it and be back by four, whether I had climbed the peak or not.

I started at 12.40, made the descent to the snowfield, then began climbing. The top part of the snow was very steep for a few feet and I wished for an ice axe but the snow was in excellent condition. From then on it was mostly snowfields of easy grade, with patches of rock. At last I reached the base of the peak but when I looked for a route up found myself gazing at a far higher peak, 500 to 1000 ft to the south. The real peak had been hidden by the one I was on.

It would have to be approached from another direction for before me was a sheer drop of 100 ft. This led to a flat floor of rock, blocked on the far side by an enormous snow bank. The wall of this tremendous arête of snow perhaps 20 ft thick at its highest point, was absolutely vertical, as if cut by a giant knife. I descended to the right onto a large snowfield, up which I climbed in a half right direction. Stuck for a few minutes trying to climb a wall only a few feet high, I circumnavigated it by climbing some steep snow. There were some 200 or 300 ft to go, alternate patches of snow and rock. It was interesting climbing and I think I found the only possible route. I emerged on to a short ridge then reached the summit, 5760 ft, at 1.45.

The top was quite small. The surveyors had built a 3 ft four sided cairn; I could find no names in it and did not put mine in. I stayed only ten minutes, time to enjoy a smoke and the view, then managed to follow exactly the route down by which I had come up and, making good time, was back at our lunch spot at 2.40.

We had some difficulty getting down as we missed the way we had come up. A series of gullies filled with snow, too steep to walk on without ice axes and rope, kept driving us to the left, away from where we wanted to go. At last we got down to where the ridge turned north. We reached camp at 4.05. After an invigorating dip, followed by a lengthy and luxurious supper, we took a leisurely walk in the dusk. A grouse hooted all evening.

We left our pleasant camp at 9.10 am. Once again laden with heavy packs, we followed the west side of the lake, going partly through woods and partly over steep snow, in one place having to kick steps. We reached the south end of the lake at 10.55; stopped to admire the view of the Golden Hinde and the colours in the brilliant sunshine. Continuing we climbed the ridge separating this lake from one immediately south. It was 11.40 when we descended to the second lake. Making our way along this lake, partly in bush, partly over rocks, we reached the lower end at 12.10. After lunch we faced east for a steep 800 ft climb. We saw two grouse. Reaching the top of the ridge at 3.05, we had a long rest, then picked our way down 1500 ft, hoping to hit the 13 year old surveyors' trail to Phillips Creek. We did find it once but not to stay with. The bush was thick on the damp mountainside. The going was a misery, countless bluffs covered with slide alder frequently forcing us to climb back. Our objective was a big snowfield below. We finally got down to find it steep and slippery.

Another obstacle. Thirteen years ago the whole basin had been covered by an avalanche. Now, through the tangled remains of the trees swept down by the snow, grew the inevitable alder. It was like going through a barbed wire entanglement, minus the barbs. It took us a long, long time to go less than half a mile to noisy Phillips Creek. We crossed the creek to find the same thick bush. At last we found a clear spot under a tree, put our sleeping bags on soft earth, and made our cooking fire on the stones of a narrow creek. The time was 7.35.

We broke camp at 8.40, estimating it was 12 miles to Buttle Lake. For the next two hours it was up and down gullies, under and over many windfalls. We made barely a mile in just over two hours. At 10.55 we had a rest and after that the going improved. At 12.10 we lunched beside Phillips Creek. Here we saw a spike and buck and a doe. The travelling continued to be mostly bad, our route varying from near the creek to going along ridges. We stopped for a smoke at 3.10 and at 4.15 had a snack by a large creek going into Phillips. We were on the south side of the main creek.

On we went. The travelling did not improve. We began to hit Devil's Club as well as windfalls. Up steep ridges, into gullies, on and on. Twice Ted got stung by hornets. At 7.10 we made for a flat spot under the trees near a stony beach and flung down our packs. A dip in the creek revived us. Our rations were getting short, we had soup and butterscotch pudding. It was not long before we were in our sleeping bags.

There was a drop or two of rain at breakfast. We set off at 8 with a long pull up. For a while the going was a repetition of yesterday then we climbed high up on a ridge which we followed for quite a time. At length we descended rapidly, struck the flats, and at 11.30 emerged at the mouth of Phillips Creek.

A camp of three tents was on the beach but no one around. The pilot had been instructed to call for us at 6 pm. Clouds began covering the mountain tops. About 5 an outboard motor boat pulled in with the campers, people named Jones from Victoria. They told us a plane had been in for us Friday, Saturday, and this morning; that we were supposed to be lost; also that the plane would not come in again for another two days. In spite of what they said we hoped the plane would come at six, as arranged.

We were packed, waiting, when suddenly we heard a plane coming, A Seabee came in and pushed its nose up the beach. It was not ours. Will Reid who owns the old Titus place had come to visit the Jones; he stepped casually out of the plane as if it were a car. He is a Californian, president of an oil company. We laid our sleeping bags under a tree. Suddenly there was the sound of another plane. We hurriedly flung our belongings into the packs but again it wasn't for us. We waited up till dark then sought our bags.

In the morning the low ceiling made it obvious that no plane would land. We had no food but the Jones very kindly fed us. The lake was dead calm; no sign that on the coast a very strong south-easter had grounded all planes.

The weather improved next morning. We stayed on the beach all day, ready packed. At 4.15 the plane banked. It was the same Piper plane but a different pilot. He looked doubtfully at our packs and said he didn't think he could get off the water. We left our heavy boots on the beach, hoping the Jones would take them out for us.

We squeezed in and taxied out on the lake. The pilot pumped out the pontoons then we started. It must have taken a mile run to

get off, going south. The plane banked, came round. We waved at the Jones on the beach.

Edited by Katherine Capes

FOOTNOTES
1. See CAJ 1969:40-50 and CAJ 1981:19-21.
2. First ascent was in 1912. See CAJ 1913:44-48.

On summit of Elkhorn: left to right Mallory Lash, Geoff Capes, Bill Lash.

About Annual Meetings

Time was one went to summer camp for two weeks. The Sunday between the two followed the tradition of climbing in Europe where the guides did not lead parties on Sunday. Leisurely breakfast an hour later than usual; a few unscheduled hours when a group of shiny nosed, woolly headed choristers hastily rehearsed. An assembly place was prepared with rows of logs and some kind of lectern. Plenty of church wardens, frequently a clergyman in camp to conduct a church service, and we meditated looking unto the hills around. Then everyone in camp enjoyed a memorable Sunday dinner. After we convened for the Annual Meeting, sitting in rows on the campfire logs. So we knew our national officers — Syd Vallance, Sir Oliver Wheeler, Harry Green, Rex Gibson, Eric Brooks; and our Club Managers — Jimmy Wilson who came to camp I am sure into his eighties, Cam Ledingham, later Pat Boswell.

I remember in particular three well attended Annual Meetings. The Mt Robson Camp in 1955 was a rainy camp. The church service was held in one of the old CPR cabins then standing on the way to Adolphus Lake; it reeked of musk from the porcupines who had used it for a bivouac place. It cleared partially after lunch and we had a big turnout out of doors for the meeting — glaciers overhanging in all directions.

And an even bigger meeting the next year at Glacier. This was a very special gathering for the Golden Jubilee Camp. The TransCanada Highway had not yet been built through Rogers Pass and we all arrived by train. As many of the Club's original members as could be reached were invited to come to the camp for the anniversary. They could ride up to camp in a truck and they slept in the relative comfort, for camp, of the Wheeler Hut. We sat in hot sun for the meeting, the Illecillewaet Glacier, in earlier days close by, now 3000 ft above on the skyline.

And the Meeting at the 1962 Maligne Lake Camp. By Sunday noon there were over 200 people in camp. They had come for the second week; first week campers had stayed for the meeting; they had hiked in over the passes with small tents. First week had been stormy but we sat in bright sunshine for our meeting — under Monkhead, Llysyfran, and Julian — the lake a shining jewel beyond.

Such memories go through one's mind when one meets again the friends of these camps and years at an Annual Meeting today in a big city setting. Another memory returned at the Vancouver meeting. At the French Military Group Camp in 1964, four of us on a non climbing day thought we would hike up to the Aosta col. We set out casually across from camp, came out of the trees on to a great rock pile where the going was very awkward. Dave Molson spotted a snow slope coming down from the col, led onto it and started up, Gil Jones behind and me following. Katherine Capes was just coming out of the trees when we all heard a noise. A young but adult grizzly had come over the col above; it heard the noise we made and took off in great bounces down about 500 ft of scree. We held our breaths until we saw that Katherine was not in its way as it bounded off in the opposite direction.

And why did I remember that experience in Vancouver? Because all four of the people on that walk were at the 1981 Annual Meeting in Vancouver.

Mary Fallis

AGM at Glacier Lake in 1956. M. Fallis

The Pillar of Pi

Have you ever wakened in the middle of the night and not known where you were? For that brief moment of ascending consciousness your senses fail to recognize your surroundings and you either bolt upright and take appropriate action or just roll over and go back to sleep. If it happens when you're tied to a tiny ledge 400 ft off the ground the bolting upright part can be very taxing on the nerves. The resulting adrenalin rush ensures that you won't be getting back to sleep for a while so you're left to your thoughts and the beauty of an alpine bivouac.

Sitting there I couldn't think of a better place to be and not be able to get to sleep. Joe, one of my Squamish soft core cohorts, lay

asleep 20 ft below looking as comfortable as a guy in a mattress advert. Below him the route dropped away into the dark; to either side the walls of the cirque rose into the star filled sky and down in the valley I imagined seeing the van and thought of its comforts. Above our ropes disappeared into the night, anchored to a station 250 ft away.

I remembered first seeing the route almost a year ago when Blake and I did the south-east ridge. I'd spent more time studying Dave's picture of it than studying for some of my courses. We had followed almost exactly the route decided on from the photograph. The first day's climbing had been good; we were roughly where we thought we'd get to though did wish we were higher. The first pitches had gone awkwardly slow but by late afternoon our systems were working well. The foreshortening had been incredible; every 160 ft lead took forever and got us nowhere. The climbing had been relatively easy, almost boring, as we nailed, nutted, and Friended our way up the Al cracks and corners. After five pitches we reached the top of the initial pillar and ledge system we decided to spend the night on. The two pitches we had fixed above our bivy ended in a blank section that Joe had informed me would require some "funky" pendulums to reach the corner system that would take us to the snow patch.

When sleep finally came it was annoyingly short-lived. By first light we were packing the haul bags and jumaring our fixed lines. As I began the sequence of pendulums out left the weather started to deteriorate and by the time I finished the pitch the peaks were completely enshrouded in clouds. I spent hours trying to get a good station in and finally had to put in a bolt. My enthusiasm for the climb was strained by this delay and Joe's was almost gone when, while cleaning the pendulum, he left most of his knuckles fixed to the rock. The next pitch looked a tad thin but by the time Joe was working on his first placement the weather took a turn for the better and we never again thought of retreat. Our only concern was whether or not we'd have to spend another night out.

The Pillar of Pi: an aerial view
Route marked is slightly to left of line taken; bivouac is marked: the Pi Pillar is visible in upper righthand corner. John Howe

Once we got established in the upper corner system things began to move a lot quicker. The climbing was again very straightforward with a little more free climbing thrown in the higher we got. By late afternoon we emerged from the corners onto a beautiful spacious ledge, below and to the left of the snow patch we could now see. After spending an entire day in hanging stations a ledge can do wonders for morale. At this point Joe was determined to make it off that day. As he prepared me a light free rack I munched on his Fruits Bears. He told me they were a kind of healthy junk food and I laughed at the irony. As I prepared to lead the pitch above the ledge he stressed to me that if I used much aid we'd be spending another night out. I agreed and then stepped into my aider.

Luckily only a few moves above the ledge the climb took on a completely new character. Suddenly the angle kicked way back and soon we were moving together towards the snow patch. Above the patch the wall reared back up again but was broken enough to allow us to free climb. Mid fifth class pitch followed mid fifth class pitch as we angled up and right. We basically followed our noses, avoiding anything that looked hard and managed to top out just as the sun dipped below the horizon. From our vantage point on the east ridge we marvelled at the amazing, almost man-made structure of the Pi Pillar, very picturesquely lit by the orange sunset. But the proverbial storm was brewing in the distance so we hurriedly began our descent down the "open basin" to the south-east.

I still wonder how we made it down safely that night. With one head lamp between us we stumbled, fell and fluked our way past cliff band after cliff band, finally arriving back at the van at 2 next morning. It wasn't until a few people began asking what we had done that weekend that we decided to name our route. Tired of the obscure sounding north-east buttress of Mt Rexford's south peak we opted for the Pillar of Pi since our route had ended close to the infamous feature.

John Howe

First ascent, Pillar of Pi, Mt Rexford South Peak. YDS grade V 5.8 A2. 19 pitches (some short). Joe Buszowski and John Howe, 1 to 2 August 1981.

Pin list: 4 each of KB. Bugaboos, short and long lost arrows, 1/2, 5/8, 3/4 Chocks: general selection. Friends: double set.

Muztagata on Skiis — China 1981

To the expeditionary mountaineer the opportunity to climb in China has long been a major goal. In large part this is due to the fact that the northern approaches to the Himalaya, Karakoram and Pamir ranges all lie within that country, whose borders have been closed to western mountaineers since the Chinese revolution of

1949. But it is also due to the vast cultural heritage of China, which boasts some 55 minority nationality groups within its borders.

For Canadians this opportunity did not become a reality until 1981 when the Canadian Mount Everest Society (established to organize and fund Canada's first attempt on Everest in autumn 1982) received permission from the Chinese Mountaineering Association (CMA) to climb Mt Muztagata a 7546 m/24.757 ft peak in the Xinjiang region of western China. The Canadian Muztagata Expedition 1981 was organized with two objectives in mind: first to make the ascent of this high altitude mountain as part of the training and equipment testing programme for the Everest climb: second and perhaps more important, to initiate contact with Chinese mountaineers and to open up the doors to China for future Canadian groups wishing to climb in that country.

At one time believed to be the highest mountain in the world (hence its name which means Father of the Ice Mountains) Muztagata is one of the highest peaks in the Pamirs which straddle the border between China and Russia. Although explored in 1894 by the Swedish explorer Sven Hedin, who rode yaks to 20,000 ft, it was not seriously attempted until 1947. In that year Bill Tilman and Eric Shipton only retreated from just below the summit dome after long hours of struggle against its featureless terrain. They contracted severe frostbite from the extreme cold. Upon his return Shipton commented that he had never experienced such cold, even on his several expeditions to the north side of Everest in the years before the Second World War.

The mountain was subsequently climbed by a large Sino-Russian expedition in 1956, and again in 1959 by another Chinese team, who used its easy availability to altitude as preparation for their 1960 attempt to climb Everest by its north-east ridge. In both cases large numbers of climbers reached tine summit in climbs spread over several weeks. The mountain was not attempted again until 1980 when the American Friendship expedition skied to the summit in a single light weight push.

In attempting to make the fourth ascent of Muztagata, our expedition had purposely chosen to climb the mountain during the colder months of September and October, when more extreme conditions of temperature and wind were to be expected. The Pamirs lie some ten degrees to the north of the more moderate climates of India and Nepal; the area is renowned for some of the coldest weather in the higher ranges of the world and we reasoned that this would more than ever be the case outside of the traditional Pamir climbing season of June, July and August. Shipton had already described the cold during his 1947 attempt but we were only to find out later that a British expedition (Bonington, Boardman, Tasker and Rouse) which made the first ascent of nearby Kongur experienced winds of what they described as "polar intensity".

On 24 August the expedition left Canada, flying by way of Los Angeles and Tokyo, where we arrived on 26 August. The group was met at the airport in Beijing by representatives of the CMA who were most efficient in supervising all the arrangements for the expedition while in China. After three days in Beijing, during which final negotiations for the expedition were concluded, the group flew 4000 kms by jet to Urumqi, the capital of the Xinjiang Uygur Autonomous Region. On 31 August we flew to Kashi. In each city we had been hosted by local officials of the CMA who proved most hospitable in arranging visits to local sites of interest.

On 2 September the expedition left Kashi by rented bus for the 200 km drive to the village of Subashi at the foot of Muztagata, arriving 12 hours and several breakdowns later as darkness was beginning to fall. Throughout the day we had travelled through the rock strewn desert of the Taklimakan, into the precipitous gorge of the Gez Defile, and out into the high mountain pastures of the Sarikol valley, where we were confronted by the majesty of Muztagata, Kongur and unclimbed Chakragil. We had choked continuously on dust, passed a camel pulling a road grader, and been stopped by guards of the Peoples' Liberation Army at a border checkpost. It was therefore with some relief that we climbed down from the bus and established our first camp at the upper end of the valley at approximately 12,600 ft.

For the following two days of changeable weather it snowed in the valley and the long plume of snow blowing from Muztagata's summit told of high winds on the peak. Willingly accepting this opportunity to acclimatize, we spent time in reconnaissance and visiting the circular yurts (felt tents) of the Kirghiz people, accepting their welcoming gifts of sour yogurt and nan (unleavened bread). The cultural barrier was soon broken as we struggled to communicated by whatever means possible; our interpreter could not speak the Kirghiz minority language of the area.

By 5 September Mr Song had arranged for the arrival of ten camels and three camel drivers from the village of Subashi and we moved up in style, riding majestically atop of gear, to establish base camp at 14,300 ft. Three camels and one driver were retained and the following day our loads were carried a further 750 ft up the mountain, much lower than reached by camels during the American expedition in 1980 when camels carried to 17,000 ft. Later that afternoon we carried loads to the foot of the permanent snows on Muztagata, where camp 1 was established at 17,225 ft. Further carries on the following two days permitted us to occupy camp 1 permanently on 8 September.

The route that we had chosen to follow from base camp was that climbed by the first ascent Sino-Russian expedition of 1956. This route differed from that of the American Friendship Expedition of 1980, originally pioneered by Shipton and Tilman in 1947. Their route lay to the north of the Chal Tumak Glacier while the Canadian (and Chinese) route lay immediately to the south of this glacier. From camp 1 the entire mountain was ascended on skiis.

On 9 September a dump of equipment was established in a whiteout at 18,500 ft, followed by an exciting descent to camp 1 in the developing storm. The storm continued and the following day, though lost to climbing, provided valuable acclimatization time. Due to the rapid rate of the ascent the expedition had not had sufficient time for adequate acclimatization and we were all suffering from headaches and experiencing difficulty sleeping. On 11 September the storm cleared and Steve and Pat descended to base for more food while Lloyd and I broke trail through new snow to the site of camp 2 at 18,635 ft. For the first time the weather was very clear but the warm temperatures and the previous day's snowfall had created significant avalanche hazard.

Next day we all left camp 1 with five days food and one tent, intending to move continuously over the remaining 7500 ft until the summit was reached. That night camp 2 was occupied and the following day camp 3 established at 20,650 ft. Only in two places was it necessary to rope up as we crossed through small crevassed areas on the wide open slopes. On 14 September camp 4 was established at 22,000 ft, where we all suffered greatly from the altitude with severe headaches and dizziness.

Thus, despite the excellent weather a rest day was declared for the following day, leaving 16 September for the summit climb. After an early start in the freezing cold (-30°C) the summit was reached by Lloyd, Pat and Steve in the early evening. I retreated in mid-morning, suffering from stomach sickness and the onset of frostbite in my hands. When the three returned to camp 4 it was obvious that the unacclimatized summit climb had taken a great deal out of them. It was all they could do to accept the warm drinks I'd melted for them throughout my day of solitude.

On 17 September everyone skied down to camp 1, collecting dumps of equipment on the way which made for heavy packs. Camp 1 was cleared by noon on 18 September, with everyone back in base camp that evening for a celebration banquet cooked by our Chinese friends. For two days we relaxed at base camp, making only one return journey up the mountain to retrieve equipment before a team of eight yaks and two drivers arrived on 21 September with Mr Song, who had left to secure them a couple of days earlier. A long descent brought the expedition to its final camp site at 12,400 ft by the Karakol Lakes, before what Eric Shipton described as "one of the finest views in central Asia" — the unique panorama of Muztagata, Kongur, and Kongur Tiube.

The following week was spent meeting the Kirghiz of the Subashi region, skiing nearby 1000 ft high sand dunes, and being entertained by a dramatic olagh tartish (a traditional Kirghiz festive sport on horseback) while we waited for the bus to return us to Kashi. Another week of travelling back through Urumqi and Beijing, with celebration banquets hosted by local CMA officials in each city, returned the expedition to Canada on 6 October after an absence of six weeks.

Looking back, it is evident that the expedition was a success in many ways. The ascent of Muztagata, completed entirely on skiis from 17,225 to 24,757 ft, was one of the fastest that has ever been achieved of a summit of equivalent height. From leaving the valley on 5 September the summit was reached some 11 days later, one day less than the 1980 American ascent. In addition the successful ascent in September has proven that the climbing season in the Pamirs need not be restricted to the summer months as previously believed.

As the first Canadian mountaineering group to visit China the expedition enjoyed a unique opportunity to discuss future projects with the senior officials of the Chinese Mountaineering Association. At the final celebration banquet in Beijing, hosted for us in the Great Hall of the People, we were able to discuss the possibility of an exchange visit of Chinese mountaineers to Canada in 1983 with the Vice President of the CMA, Mr Shi Zhan Chun. He expressed a strong interest in seeing this visit take place. In addition, confirmation was issued on the permit for a Canadian expedition to attempt Qomolangma (Everest) in spring 1985 via the west ridge from Tibet.

Perhaps most significantly the expedition left a legacy of friendship in China which will pave the way for future Canadian expeditions to that country. Canadians are held in high regard in China and it is anticipated that mountaineering groups will receive a warm reception from the CMA. One can only hope that these relationships will be further enhanced by others who are lucky enough to be able to climb there.

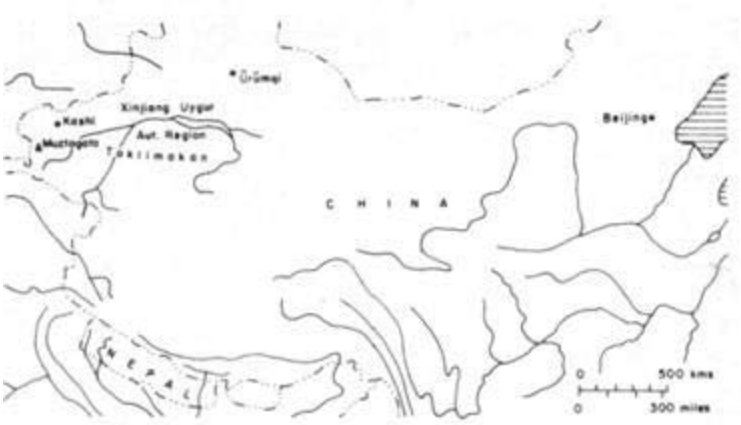
John Amatt

Leader of the four man expedition was John Amatt, one of the chief organizers of The 1982 Canadian Mount Everest Expedition (sponsored by Air Canada), who visited Beijing in May 1981 to negotiate permission for the climb. Other members were Lloyd Gallagher, who climbed Pumori in 1977, Dr Stephen Bezruchka, fresh from a successful ascent of Logan's east ridge, and photographer Pat Morrow, who reached the summit of Aconcagua in February. All are members of the climbing team for Everest in 1982.

The expedition was accompanied by Peggy Amatt and Fran Gallagher who returned to Canada after having reached the foot of the mountain in early September. Under the regulations imposed by the CMA we were also accompanied by Mr Song Zhi-Yi (liaison officer) and Mr Tien Sheny-Yuan (interpreter). Both proved excellent companions and did their utmost to ensure the success of the venture.

The first ski ascent of Muztagata was achieved by the Americans in 1980 (Galen Rowell, Jan Reynolds, Ned Gillette), who duly recorded their ascent in the National Geographic Magazine of February 1981. They were also successful in establishing the mountain as the highest to have been ascended and descended entirely on skiis. The Canadian Muztagata Expedition duplicated this feat, but by a different route.

Muztagata on Skiffs. John Amatt/M. Irvine



A History of Mount Stephen House, Yoho National Park

The opening of the Canadian Pacific Railway through the Rockies in 1885 led to an influx of tourists seeking food, accommodation and services. Accordingly the CPR quickly built a number of hotels at Banff, Field and Glacier to capitalise on this demand. Each hotel became a popular focus for tourism and was subsequently expanded. Despite similarities in the

character, clientele and use, each has had a different history. The story of the Banff Springs continues today and has been well told by Bart Robinson. Glacier House reached a peak in popularity in 1915, closed in 1925 and was demolished in 1929, its history being related in a booklet published by the present author. The development and decline of Mt Stephen House in Yoho National Park, from 1886 to 1953, has yet to be fully documented. Hence this brief summary of its history.

Mount Stephen House was the initial focus of tourism activity in Yoho National Park. As the name implies this hotel, constructed by the CPR in 1886, was located in the Kicking Horse valley at the foot of Mt Stephen. Set back a little way from the railway it became part of what is now the town of Field. In design it resembled Glacier House, having three stories in the centre, two on one side, and a one story wing on the other. However the plan for Mt Stephen House was reversed and the building given two dining rooms instead of one. An English tourist, Edward Roper, described the place in 1891, as follows:

The hotel itself is a most picturesque building, designed very appropriately, and quite in keeping with its surroundings, by Mr. Thos. C. Sorby, an English architect, who is now living in Victoria, Vancouver's (sic) Island. It somewhat resembles a Swiss chalet in style, which, added to its position, makes it one of the most strikingly handsome hotels in Canada. The dining room is especially convenient, and in design very original, displaying no ornament but what is obtained from the contrasting beauties of the various timbers with which it is lined, beamed, and bracketed. It is some sixty feet square; and the food served in it, the cooking, and attention also, are excellent.

On his return east Roper again stopped at Field and noted:

The Field Hotel we found, on more intimate acquaintance to be even better than we thought. It possesses every provision for comfort and enjoyment, except a sitting-room. None of the three mountain hotels have one, which seemed to us an absurdity. The beautiful position of Field makes it one of the best places to stay at in the mountains.

While the hotel gained in popularity with the public, one visitor suggested that its location below Mt Stephen made a different impact on the staff. In his book On the Cars and Off published in 1895 Sladen commented:

It is said that neither hotel manager nor servants ever stay long, fearful of going melancholy mad, so depressing is the personality of the mountain. The manager when we were there had stayed longer than usual; he said he wasn't afraid of the blue devils', perhaps this was because he was a very active man accustomed to beard (sic) the mountain in pursuit of the bearded white Rocky Mountain goats which are as large as antelopes.

Perhaps it was the setting of the place, poor management, or just cumulative resentment of tourists that resulted in the poor service noted by a few visitors. Edward Roper was one, observing a couple who, having failed to obtain a meal in the dining room, were then charged for one! Jean Habel the mountaineer likewise included the following aside in an article he published in 1898.

The station at Field is soon reached, where the railway company manages a little hotel and tries to make the traveller as comfortable as possible, an endeavour which, during my stay, was not always seconded by the persons employed in the house.

Mount Stephen House, station, and train from the north
Photograph of painting made "during Duke of Sutherland's visit to Canada, 1904". Yoho National Park Files

CPR "Pacific Express"
With engine 395 at Field in 1898 showing train, passengers. station and front of original hotel. Yoho National Park Files

Fortunately for the company and guests the management of the hotel by a Miss Mollison seems to have been much better for guest comments during her time at Mount Stephen House were distinctly favourable.

And come the tourists did, necessitating an expansion of the facility in 1901-2. The additions to the hotel were designed in a "pseudo half-timbered manner" by FM Rattenbury who also designed the Legislative Buildings and Empress Hotel in Victoria. The larger establishment was more luxurious and impressive, and a dominant feature in the valley landscape.

Only sporadic records of visitation to the hotel are available but those for 1912 indicate that 8443 people registered at the hotel that year. Of these, 3978 were from western Canada, 3048 from the United States and 550 from eastern Canada, mainly Ontario. Some 457 guests came from beyond North America, from places as diverse as Cuba, India, New Zealand and Norway.

After the First World War tourism behaviour changed,

automobile vacations being preferred to rail tours. The CPR also appears to have changed its policy on hotels. As a result Mount Stephen House was operated after 1918 by the railway organization of the YMCA. Thereafter the accommodation was largely used by railway workers, and tourists seeking accommodation were usually obliged to go elsewhere. The Superintendent of Yoho Park described the situation in 1919 as follows:

The Mount Stephen Hotel, which up to this year has been run as a first-class hotel under the able management of the Canadian Pacific Railway Company was recently turned over to the management of the railway workers, who completely occupy this large building. This left us almost without accommodation for the travelling public in Field and made it necessary for all persons wishing to stop off, to drive out either to the Emerald Lake Chalet or to the Yoho Camp immediately upon arrival, and as the accommodation at both these places was fairly limited, many were disappointed who wished to stay over.

Presumably the CPR considered that the old hotel was becoming outdated, was fire prone and not suitable in character or location to cater to the new style of automobile tourist. The closure of Glacier House in Glacier National Park in 1925 also resulted from this reasoning. Whereas Glacier Park was then left without accommodation, in Yoho National Park the CPR maintained its interests in the accommodation business by expanding the Chalet at Emerald Lake and by constructing Wapta Lodge near Kickinghorse Pass.

Mount Stephen House was torn down in 1953 and the site cleared before 1963 when a much smaller bunkhouse was built on the site to serve the needs of railway workers. The structure survives to the present day but contrasts remarkably in appearance and function with the Canadian Pacific Railway hotel that over a period of more than 30 years catered to a clientele ranging from mountain climbers to royalty drawn from around the world.

Mount Stephen House is a thing of the past, an important element in the history of Yoho National Park but one that only survives in the fading memories of old timers, in historic photographs, and in the published diaries and reminiscences of yesterday's tourists.

John Marsh

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OTHER PHOTOGRAPHS OF MT STEPHEN HOUSE

Mt Stephen House from station in late 1890's. Donated by Mr and Mrs J McArthur. Yoho National Park files. Faded sepia unsuitable for reproduction.

Mt Stephen House from station. Undated photograph of the enlarged hotel. Yoho National Park files. Excellent quality.

Baldwin locomotive and train at Field in winter. Undated but shows original hotel building. In Levallee, Van Home's Road, p 294. Probably available from CPR Archives, Montreal. Reasonable quality.

37 Days to Mt Kennedy

Mt Kennedy (13,905 ft) sits near the Yukon/Alaska border about 25 miles from Disenchantment Bay in the St Elias Mtns; mountains on a scale difficult to comprehend even after spending 37 days among them. I'd thought of climbing Mt Kennedy ever since Bradford Washburn's photograph of the magnificent north ridge in the AAJ 1968. I could not imagine a more beautiful mountain but have never felt comfortable or very adept on difficult technical climbs. One short look at the north ridge convinced me that I needed to find another way to reach the summit. I have always enjoyed the approaches to these routes and felt that just getting to the far side of this isolated mountain would be as challenging and rewarding as the actual climbing. My plans for a Yukon expedition had begun.

I had thought about the trip for 12 years and the last minute preparations seemed endless. At last on 2 June 1981 the car was loaded with packs, five plastic trash cans full of food, and the four of us — on our way from Estes Park, Colorado to the Yukon. Being the first trip of such magnitude that I had led, this step seemed a major achievement.

Our winding route would take us more than 110 miles from Kluane Lake. We planned to hike and ski the entire distance and return in 40 days, travelling on seven different glaciers and skiing over two 8000 ft passes. We thought we might climb Mts Hubbard and Alverstone as well but it did not take long to realize that this was not for us. Although it looked reasonable on the map we soon learned about travelling in the St Elias. Sometimes in the morning we could see where we thought to be that evening. Three or four days later, we would arrive. We narrowed our plan to just trying the west ridge of Mt Kennedy, still hoping to ski most of the route. We went as light as possible: cross country skiis, 3 pin bindings, very little climbing equipment and, as it turned out, not much food. We travelled from Prince Rupert to Haines on the Malispina. The prices charged for food on the Malispina were high for us. We were glad to find a market in Haines, since we had eaten about 10

days of our expedition food in two meals on the ferry. After re-stocking ourselves with pilot biscuits, we drove north toward the Alaska Highway.

Soon after we got into the Yukon we encountered difficult, steep climbing. Better prepared with ropes, ice axes, and crampons, we would have been all right. As it was our car had trouble making it up some sections. After one particularly rough spot we came to the border. The number of cars going through made an abandoned mine look like a major shopping mall. Andy asked the customs officer how long the road went on like this. When he said "Like what?" we knew we were getting close.

At Haines we received excellent help and information from the Kluane wardens, particularly Lloyd Freese. We planned air drops of food and fuel at two spots along the proposed route and met our pilots, Andy Williams and Phil Upton of Alkan Air that same day at Kluane Lake. We had great luck with the weather as Phil was able to fly the drops in the following evening. We were committed.

On 12 June we drove our gear down the Alaska Highway to a three mile dirt road paralleling the Slims River and unloaded our packs near the end of the road. I drove back to park at the airstrip, then hitch-hiked back to the trailhead. We wanted to do this trip without flying in but did not even question this. So much trouble to not carry the packs eight miles.

The first part of the route followed the Slims for about 18 miles to its source, the Kaskawulsh Glacier. Our skiis seemed out of place strapped to our packs in the 70°F weather as we bushwhacked our way through the trees along the shore of the Slims. I think my vocabulary doubled in the first half mile, trying to get me and my monster pack through the trees. We alternated fighting the trees with walking in the marshes and mud. The mud flats often resembled knee deep quicksand, sucking our running shoes right off. We spent an hour trying to get through ten feet of this material. All the ropes and climbing equipment did not help. There we were, about six miles from the Alaska Highway, trying to act like we knew what we were doing. Mt Kennedy was 105 miles away and it was taking an hour to go ten feet on the first day. The first air drop at 7500 ft was an eternity away.

Even when we found easy places to walk the weight of our packs was getting us down. About seven miles from the highway we decided to make our first camp, divide the loads in half, and make two carries until we got to the Kaskawulsh. This meant walking many extra miles but seemed much better — we could look more than three feet ahead. Camp 1 was nearly swept away by a newly formed river as soon as it was left unattended. This problem was solved by making a second camp about 30 m farther on. We were making real progress.

We spent three rainy days getting ourselves and our equipment onto the Kaskawulsh. The end of the glacier was guarded by a mile of rock piles, gravel, and mud; tiring hills that took a lot of time.

Once on the ice we made much better progress, despite having to meander back and forth around endless crevasses. It rained every day. Staying even semi-dry seemed impossible. What would it be like higher up? Our first camp on the ice was marked by more water and more learning. We bent all our tent stakes beyond recognition trying to get them into the rock hard ice. After finally getting the tent set up we found ourselves camped in a small lake. At least it was easier to get water for soup that night. We got so tired of the rain that we set up our tent for lunch just to have a short break from the cold wet outdoors.

We began to reach snow at 5000 ft on the fifth evening. We roped up in groups of two for the first of 29 consecutive days. We figured it must take about 30 days to learn to travel at the same speed.

We had allowed five light days of food to reach the first air drop, still about 20 miles away and 2500 ft up. When we put on skiis the sixth morning our packs were quite light. In two hours skiing we covered more ground than the entire previous day. We finally were on the white area of the map and moving well.

We skied two long days in fog, sleet, and snow, much of the time learning how to use the compass. We slowly adjusted to the daily storms, broken once by a near perfect rainbow over the south arm of the Kaskawulsh. Brilliant colours in a blue and white world of ice. That night we watched the full moon make its short arc across a deep blue sky. It was a day bordering on fantasy in spectacular glacial terrain. Whichever way I looked I felt I was missing something behind. The discomfort of constant storms and lack of food seemed insignificant.

We found that first air drop on the seventh night, a dark speck in a white ocean, two days after running out of real food; probably the greatest single moment of the expedition. We could hardly contain ourselves. We had actually found an air drop. For the first time I thought we really might complete the climb. Up to this point it had just been a distant dream. The eighth day we ate, enjoyed our first clear weather, had an unbelievable view of the north-east side of Pinnacle Peak towering 5000 ft above. After leaving four days of food for the return trip and spending a day of fun skiing without packs, we began to move toward our second air drop.

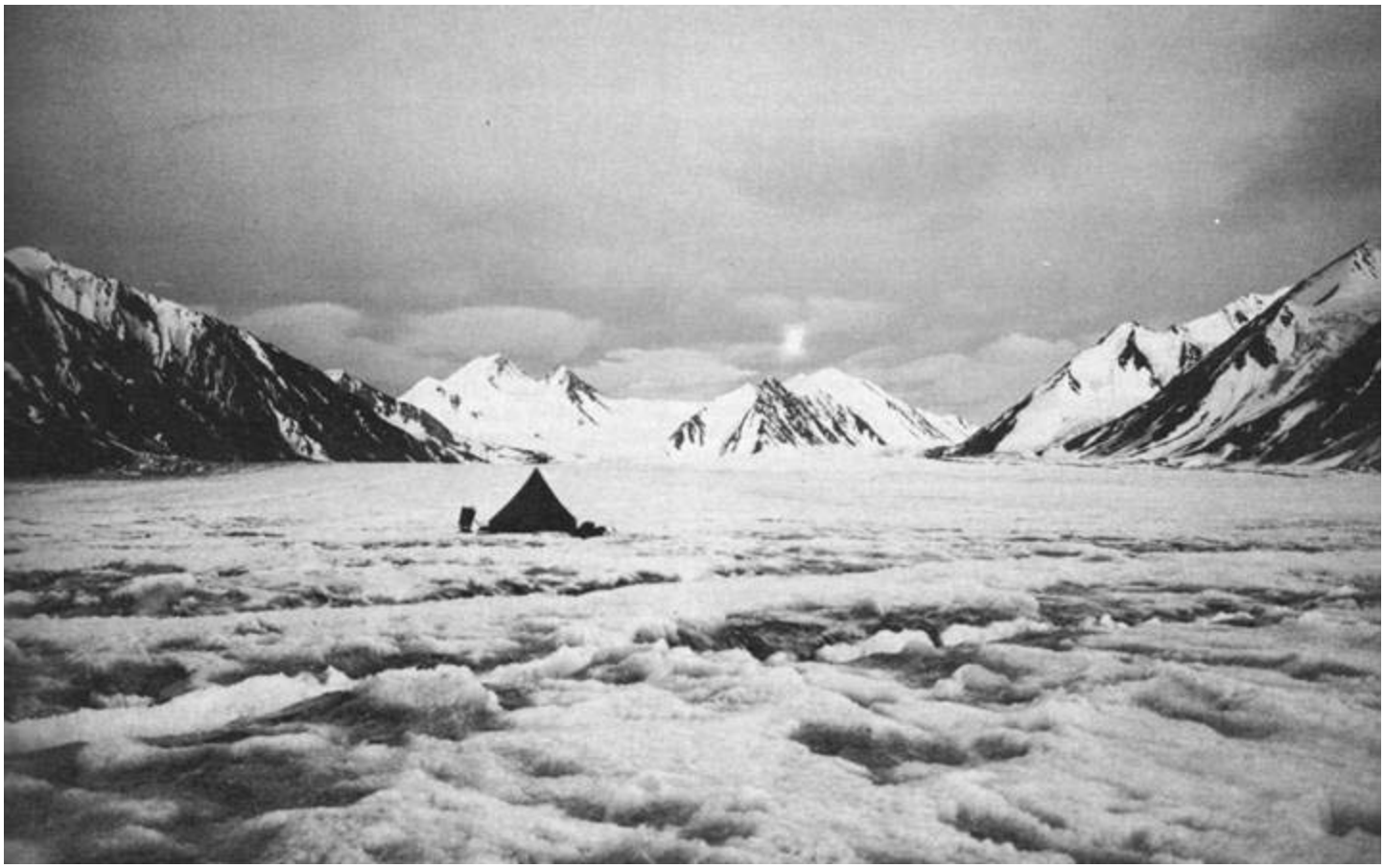
The route from our camp beneath Pinnacle Peak took us over an 8000 ft pass and down the Lowell Glacier. We were now dragging part of our loads in duffel bags wrapped with plastic tube tents. I talked with my drag sack often as it tried to find its way into every open crevasse down the pass. The 7000 ft north ridge of Mt Kennedy came into view for the first time, the small summit silhouetted against a clear blue sky. We skied on down the Lowell away from Mt Kennedy.

The days fell into a traveller's routine — light the stove, melt snow, make breakfast, put on frozen wet boots, break camp, rope up, ski, stop for lunch, ski again, stamp out a new camp site, set up the wet red tent, light the stove, melt snow, prepare dinner. A typical meal consisted of freeze dried chicken soup, hot chocolate which tasted like chicken soup, quick and tender chicken noodles, followed by pudding with bits of chicken. On special nights we might make apple cider after dinner with just the right amount of chicken flavour.

Each camp site often looked just like the last one as we turned off the Lowell back toward Mt Kennedy and the Pacific Ocean.

The icefall on the Cathedral Glacier at about 6500 ft, Mt Hubbard (15,015 ft) in background; our route went to the right of Hubbard. Bob Jamieson

Looking south to the moon over the South Arm of the Kaskawalsh and our camp on the 33rd day of the expedition. Bob Jamieson



We were greeted with continuous cold, wet, wind, and fog. After crossing the South Lowell Glacier we arrived at our second air drop at 5000 ft near the edge of the Cathedral Glacier on 26 June. We built snow walls around the tent as the wind was gusting upwards to 50 mph (we got tired trying to find where our tent went each night so learned to build these walls).

It seemed much colder on this side of the mountain. Fog layers would roll in for a complete whiteout. It would clear for a short while so we could watch the next layer come in. Only brief glimpses of the mountains. We rested for a day, sorted out remaining food, and determined we had just seven days of food to go to the summit and back to the air drop (about 25 miles), and still have enough food to make it out the 90 miles to the highway. Not quite as much as hoped but we were still learning.

An early start on 28 June took us onto the Cathedral Glacier. The wind had stopped after four days without a break; snow conditions were perfect. As we turned onto the Cathedral, Mt Hubbard (15, 015 ft) rose more than 10,000 ft in front of us. We stopped for lunch, enjoying our fourth clear day. After 16 days on ice and snow we had all learned how to sit comfortably on our packs without taking off our skiis or twisting our legs into an unrecognizable form. As we became more accustomed to travelling on the glaciers, little steps to conserve energy took on a magnified importance. The day to day tasks of just living were often more difficult than the skiing or climbing.

The lower section of our route slowly began to reveal itself as we skied up the Cathedral. An icefall at 6500 ft gathered most of our attention. After one of our best days with heavy packs we put our 12th camp at the base of the icefall, hoping to get an early start the next morning when the ice was frozen.

Despite an early start we spent an interesting, nerve wracking day creeping over weak snow bridges and around crevasses looking for a safe way through, forced to backtrack a great deal. At one point we were confronted with 30 ft wide crevasses in each direction. We had neither the equipment nor the mental toughness to cross them and ended up retreating all the way back down to the base of the icefall before we could start uphill again (about 700 ft). I am not sure why they are designed like this.

By noon everything was shifting around considerably. We were about in the middle of the icefall during the warmest part of the day and did not feel we could continue until it got cold again. We set up the tent in the safest place possible until things froze up and spent a very nervous afternoon waiting for sundown. It took about 43 hours for this to happen.

The constant feeling of imminent disaster made our sleep light at best. When the sun finally did go down I kept going outside to check the conditions. I think it was close to December by the time anything froze. A storm had moved in and we could not see more than 25 ft through the falling and blowing snow. We were really getting used to this view as it rained or snowed parts of 24 of the first 28 days of the trip. As we debated whether or not to go on the icefall shifted again, very close by. Nervous energy took us through the icefall in fast time; skiing on in the blinding snow until we could not distinguish sky from snow. At about 9000 ft thunderous avalanches started to come down at three to four minute intervals due to the heavy new snow. They were not really close but near enough to hold our attention. Since we had no idea where the sides of the canyon were this was a definite concern. We found a giant crevasse to camp beside, hoping that it might catch any avalanches that came down that side. We figured we could see where our camp was in the morning.

The snow continued through the next day. . . and the next. For five and a half days. With our usual forethought we had gone light on this part of the trip and not brought any books, not anticipating a monsoon. We found just one piece of reading material, the manual for the stove. By the end of the storm we had cleaned that stove about 85 times. The camp turned out to be in a pretty safe place but the tent was a depressing scene. What started out on level snow turned into a five foot deep pit by day four. We had to dig out the tent about every two hours to keep it from collapsing. Just another day at the high camp while we rationed food and waited. We had trouble keeping track of the days during the constant whiteout; the change in light from day to night was almost imperceptible. We spent a lot of time looking through our packs for food that was not there. By what we thought was the fifth day we were playing 20 questions to divide out our remaining M&M's.

I still hoped to have one day to try for the summit. Mike disagreed and this created the only real conflict of the entire trip. He felt we should descend when the storm cleared, thinking that we had perhaps already pushed too far. We were 110 miles from the Alaska Highway with enough food for three light meals. We had one five day set of food about 20 miles down below the icefall near the Cathedral Glacier, another four day set near Pinnacle Peak, and the conditions were terrible. He had a point. I thought we could try for the top with a reasonable margin of safety. We had hoped to make another camp 2000 to 3000 ft higher but the length of the storm had eliminated that possibility. Basically I felt to try for the top meant an extra day without any food and I thought we could handle that. We had plenty of fuel. We definitely had time to look outside and think about it. In the end we decided to give it a go if the storm cleared on the sixth morning (our eighth since leaving the second air drop).

It cleared and we saw where we were for the first time. There was six feet of fresh snow. It was like a semi-technical climb just to get out of the eight foot hole we had dug around the tent. Even with skiis on and hardly anything in our packs we sank up to our knees. It was difficult even going downhill. Our route seemed pretty safe from avalanches but we skied with a constant high level of anxiety as we watched entire mountainsides come crashing down around us. It took many tiring hours of slogging through the wet snow and scattered clouds to reach a plateau at about 11,500 ft. First views down the Cathedral came at about 12,000 ft. Words and pictures cannot describe how beautiful these mountains are. We were not to enjoy this scene for long however, as the wind picked up again, the temperature dropped, and we found ourselves in another whiteout almost without warning.

We went on another 200 m in the worst wind and blowing snow we had seen the entire trip, fighting what seemed like impossible skiing conditions. I was feeling terrible, exhausted by the time we reached 12,500 ft. It seemed to be about midnight. We had been

toiling upward for almost 18 hours. Lee had lost all feeling in both hands. We stopped to rest about 500 m down and less than a mile away from the summit. After three or four minutes it was apparent that we could not go on. It was not at any spot in particular, just a place on the slope.

The conditions were just too much for us. I think the realization of our isolation contributed to this feeling. I sensed almost instant relief when I mentioned that I thought we should consider going down. Our tracks were already being covered by blowing snow. Visibility was terrible; it was semi-dark. We narrowed our objective to just getting back. A photograph and we began the descent. Though tired, we actually made good time on some stretches. Skiing back and forth we only fell occasionally, each time hoping our cross country ski boots would stay in the bindings. On some pretty steep pitches at about 10,000 ft the binding ripped off my ski. With Lee's help I made it back to high camp on foot without falling into any large crevasses. We arrived totally spent. The weather had begun to clear, the sun was coming up. It had been a long day.

I had never thought of high camp as that great a place but now it seemed like home. After a day of sleeping and ski repair we ate one of our two remaining meals and began the descent down the Cathedral that night, hoping to go back through the icefall during the cold morning hours. The morning sun was striking the tops of the far mountains above the ever present fog layer on the glacier. I felt sick and weak but a rapid descent through the icefall, spectacular scenery, and excellent skiing made being sick easier to handle. It was maybe the best day of the trip.

Once below the icefall all felt better. One dinner and 24 hours later we arrived at our second air drop site late on 8 July and quite hungry. Next day we ate and prepared for the trip back. We left a cache of fuel containers, miscellaneous climbing equipment, and garbage to be flown out, and left the next night in the fog. We were able to follow our old tracks all the way past the South Lowell.

Much snow had melted since we had skied in and there were many new lakes and rivers on the ice and snow. Going back around the turn toward the Lowell (4500 ft) we came out of the fog and found a small patch of grass, just large enough for a tent. We could not help but camp. We were travelling at night now when the snow conditions were best and camping during the warmest part of the day, quite a pleasant change. We spent the day cooking outdoors in perfect weather with our toes in the grass, a wonderful feeling after so many camps on the glaciers. We still had five more days of skiing ahead of us but really enjoyed that camp. All around was nothing but ice, rock, and snow yet we were sitting on real grass. We saw two birds and wondered how they could survive up here all the time. We felt pretty good about living here for five weeks (with air drops and freeze dried food from California). Each day on the glacier was an education.

We set out to ski across the Lowell to the upper end of the Dusty Glacier for our return to the first air drop site. With about 30 miles of snow in front of us, more than half of it uphill, one of my skiis broke. After two hours remounting the binding on the front of the ski, this broke in half after about 10 to 12 minutes of excellent skiing. Another three hour rest stop. With part of the stove, an extra ski tip, and 16 screws off other people's equipment I built a new ski which worked well. In two days we skied up the Dusty in perfect weather, over a gentle 8000 ft pass and came out below Pinnacle Peak again. We found our first air drop and made our last camp on snow.

We made good time splashing through the slush zone back down to the ice next day. My three foot ski did really well going downhill. We skied until we were on rough, hard ice. Even then we tried to find a way to ski just a while longer. We eventually took the skiis off, unroped, and each walked alone for the first time since getting to the snow on the fifth day. At once we were about two miles from each other. We witnessed another spectacular moon rise over the South Arm and camped on the ice two more times amidst the unnerving sounds of shifting crevasses.

A long, tiring walk through another endless maze of crevasses brought us back to the Kaskawulsh. The first green colours on Observation Mtn and the Slims River were a dramatic change after our long time in a blue and white world. Down the Kaskawulsh and back to rock piles, gravel, and mud at the foot of the glacier and our 23rd camp.

It felt good to camp on ground that was not slowly moving somewhere. The always present anxiety when among the crevasses was over. We had not seen a soul since Andy Williams flew over our camp on the seventh morning, 29 days ago. The first sounds to break the solitude came from a Helicopter flying over camp next morning. It landed 30 yards from our tent; something from another planet. Lloyd Freese stepped out to ask how we were doing. We had a hard time thinking of things to say until after he left but it was good to see a person.

Despite being in good condition after a month of skiing we were all as sore as we had ever been when we tried to walk around that morning. We had not walked more than 100 yards total in 30 days. We had skied everywhere until the last 5 miles over the ice. The last two days were more difficult than anticipated, packs laden with empty fuel cans, broken skiis, and trash cans. Typically we had more strapped on outside than was inside. Our little expedition looked like a commercial for duct tape.

We followed the Slims down toward the Alaska Highway. The river was much higher than when we first walked in and we spent as much time in it as beside it. Its sounds were good to hear again; the colours of the Slims valley brilliant. We set up our tent and ate our last meal about six miles from the highway.

The last problem came on the 37th morning, with no food left at all. What had been a very simple stream crossing on the approach was a raging, silt filled, glacial river; Vulcan Creek. We walked back and forth looking for a possible route and finally found a partly fallen tree that looked long enough to reach the other side. We could not push it over so everyone got the idea that if I climbed up my weight might help bring it over. It did break but not in the right place. I landed right in the middle of the 33° rushing water. There is not a lot to think about during such times. I managed to keep my head above water enough to make it across. I was roped and two hours later everyone but Lee was over. He got to know the river well, even some of the rocks scattered on the bottom. He gave the river two ski poles and part of his leg. In return the

river let a substantial part of itself stay in his camera. Each picture from that camera now looks much like Vulcan Creek. We hiked back to the dirt road near the Alaska Highway and dropped our packs. Our car was at the airstrip, about eight miles away. I hitch-hiked the entire distance without getting a ride, a fitting way to end an excellent trip. We spent another ten days getting ourselves back to Colorado, a gradual transition into a world of cities and modern hassles. Back in our traditional lives I did not rejoice in the comforts of civilization. I missed more what I had left behind on the glaciers.

Even with the frustrations of running out of food (we figured we had about 31 days of food), breaking a ski, losing equipment, not reaching the top, and assorted other problems, my primary hope is to return again to that spectacular world of ice and snow.

Mt Kennedy was first climbed in 1965. It took us almost three weeks to get to where that group started. The west ridge is not difficult by modern standards. For 37 days we gave it our best — to try it from the Alaska Highway. Mountaineering is not just first ascents. As long as the glaciers and mountains go unchanged by us we can enjoy them many times over, each in our own way.

Bob Jamieson

Participants: Bob Jamieson, Lee Jamieson, Mike Price, Andy Thamert.

Aggressive Treatment

"How can you break both front posts with one kick?" "I don't know, but I just did. I'll send them a letter, maybe they can explain it." "Do you want to bag it?" "Naw, I'll just lash 'em on and keep going." Dwayne and I soloed on while James fiddled with his crampons. It seemed a bit presumptuous, carrying on. We were attempting a new route in winter on the east face of Snowdome. We were on the next gully system left of 'Slipstream' but the character of the two lines couldn't have been more different. While the ice of Slipstream shone blue and inviting to our right; the smear above us was malnourished and anaemic. In fact, a lot of the ice above us was rock. Oh well, we're supposed to know what we're doing. . . I read it on an Everest poster.

Picking our way through the rolling water ice steps of the lower benches we finally broke out onto the alpine ice that leads to the bottom of the 'real' climbing. James catches us just as we arrive at the base of the first pillar. We don't pay a lot of attention to it. It's quite steep but only about 30 ft high before it kicks back. We've all spent the winter teaching ice climbing and have gotten pretty cocky about soloing around on the steep stuff.

"Want a rope for this?" "Why don't you drag one up for me. . . just to see how my crampon stays on." I grab the end on the rope and clip it onto the back of my harness. I mean, it's not like I could actually fall off something like this. . . I'm not so used to having this hulking great pack on my back, but then. . . it's only 30 ft.

I start off. James fiddles with his crampons, Dwayne stares out at the valley as he feeds out the rope on automatic pilot. No problem here. . . up a short fan, around onto the steep stuff, up alongside a little rock corner, tools over the top and we're. . . AAAAaaahhh!!! I drop about half a metre as both tools and both feet cut through the ice simultaneously. As I fall I dart my foot out to the right and catch myself in a precarious bridging position. "THIS IS VERTICAL SNOW!!!!" Having broken through the surface of the ice my left foot and hand tool are pushed through into the rotten depth hoar behind. I am just able to hold myself in position.. . every time I move slightly the skin of ice that supports me breaks off.

Below there is frantic activity. James hurriedly buries his ice axe while Dwayne tries to decide whether to belay me or untie and watch. "If he comes off, really let him run a long ways before you try to stop him dead." "If he falls that far he probably will be, but better him than all of us." Battling off panic, I try to calm down. I've got to find a way to take the weight off one of my arms so that I can move up. I lean slightly onto my left hand tool. I'm slipping through!! I regain my bridging position just in time. My pack is pulling me over. . . sapping my strength. . . better do something. I slowly lean the other way. The rock is slightly overhung and devoid of mitt sized holds but if I can press my forearm against it the prickly rock might give me just enough friction. . . I lean. It holds. . . a little. Very, very carefully I pull out my Chakal and grope for a shaft placement. I manage to fiddle the axe in sideways behind the skin of ice and, after a series of swimming and bridging manoeuvres, pull over the bulge.

"Had a little problem down there guys." "We hadn't noticed." My heart still racing, I climb up to the base of the next steep section and bang in three ice screws. No more foolin' around. The others, clued into the technique, make short work of the pillar. Much to my disappointment neither of them falls off. The pitch above looks like the real thing, finally. . . beautiful blue pillar, nice and steep, the better part of a pitch high.

"I'd like to do this one." "Thought you were worried about your crampons." "They seemed just fine on that last bit. Besides, I've never had a chance to lead something steep like this with a big pack on." Dwayne and I look at each other. "OK James but we've got to make a pact. No more fiascos... right?" We all agree so James takes the rack and sets off. Thirty feet off the belay, just into the steep part, he stops to set his second ice screw. "Look at this guy. Just because I told him that I had to rest on my tools on Slipstream he's gotta do without." "Well I just thought I'd try... it's not that bad actually."

After struggling to get the screw in before his pack gets him, James yells "I'm in," and proceeds upwards. After making about two moves he drives his terrors deep into the ice and hangs back on his umbilical cords. "I'm totalled." "Good" we say, thankful not to have to follow his ethical lead. Fifteen feet higher James stops suddenly and bangs in a snarg. "Guess what. . . more vertical snow." He explains that just above him the ice changes suddenly. With no rock corner to bridge to, there is no way to continue up safely. Leaving his pack at the snarg, he traverses right into a small groove in the rock. The ice is only an inch or so thick there, but at least he might be able to protect it with rock pegs. Half rock climbing, half ice climbing, and extremely slowly James pieces together the groove as we watch expectantly from below. He disappears over the top.

"Got it" he finally yells down. A good thing too, the sun's going

down. Manhandling the packs up the pitch we soon find ourselves searching the ledge system for suitable accommodation. Failing to find a berth we are forced to fight for a seat in 'Coach'. Good thing we're all little folk, or the three of us never would have kept our buns on that glorified foothold, let alone got the tent up on it.

Anyway the next morning is cloudy, as winter mornings tend to be on faces that catch the early morning sun. I run out the rope from the tent to get a look at the continuation of our gully system. In the hurry of impending blackness the night before I hadn't gotten a look at it. It doesn't look too appetising. The breakfast menu consists of a choice between vertical porridge on the left, or thin ice on the rocks to the right. Now it is rumoured that unreasonably thin ice has been climbed by comic book heroes and the criminally insane. . . but even Albi can't put a belay in verglas. We opt for the ugly looking rock corner on the left.

The climbing turns out to be surprisingly good. . . for a couple of pitches. Dwayne and I swap leads up thin ice runnels tucked into a corner. Very reminiscent of the north face of les Droites. Of course this can't last forever. . . this is the Rockies we're talkin' about here.

East face Snowdome
Blench/Congdon/Lauchlan route, first ascent March 1981; B indicates bivy site. Gap at top is route inside crevasse. John Lauchlan

"My turn!" James forwards as we look up at a grotty corner of rock. "Well OK, but I get next try," I say, thankful he's been aware of his place in the rotation. James does his fingernails-on-the-blackboard imitation for the better part of an hour while we make jokes about the belay. He's forced out to the right of the corner and soon yells down a cheery, "No belay. No cracks." Fortunately we have carried our courage in my rucksack so I send him up the 'Bold' kit on the haul line.

Actually it wasn't James' fault about the bolt. The kit was kind of buggered up and he'd only used it once before... and Rockies rock being what it is.. . I'm sure none of us could have put it in any better. It is unfortunate that it had to break though, the handle I mean. . . before he could try a second one. I follow slowly up the awkward rock, crampons flailing, to arrive at James' island of insecurity. This belay is even funnier than the last one.. . except this time it's my turn. We decide to leave Dwayne down below. If I come off maybe one of these belays will hold!

The next pitch was extremely frightening and I'd rather not talk about it. I will hint however, that it goes straight sideways, features a thin crust over crud rock, two tied-off blades, and three terrified climbers. It ends, finally, with a buried axe belay. James and Dwayne whimper across the traverse and we crawl neurotically up towards the final fiasco. . . the sérac. We hadn't actually formed a plan for getting through this thing. Yesterday we were brilliant alpinists, you remember — capable, competent, all that stuff. Now we just want to go home.

Arriving at the end of the ice section of the sérac, we put in all our remaining ice screws to hang back and look at the 12 metres of overhanging snow that loom over us. I gather together all the ice tools in anticipation of aiding over the stupid thing on axe shafts. "Jeeze, this is going to take all bloody night." Have you ever noticed what amazing things fear can do for creativity? Since it turns out to be my lead, I look frantically for an easy way out. To our right a crevasse cuts into the sérac — maybe I can bridge up that thing! I crawl onto the wind roll below the overhang and pick my way over to it. No way... the thing's just as overhung as anywhere else... but what about... I chimney back into the crevasse, five, eight, ten metres. . . ALRIGHT! A pale blue light shines through the snow above me. . . we can burrow our way out!

An hour later, in the pitch dark, three soaked and shivering figures pop out of the Snowdome Glacier and bumble off home. Like hypothermia, swollen heads respond only to aggressive treatment.

John Lauchlan

Silvertip Mtn North Face

Funny how one's perspective changes over time. I remember hiking into the upper Depot Creek valley with Harold Redekop. He had climbed the standard on Redoubt early on in his climbing career. "Now you look at that north-west face," he said, "and it seems like the obvious route."

It was the same way with Silvertip. We had long thought that

the peak would make a good winter climb because access into the Sumallo River area is excellent. Harold had already made one try at the west ridge when we approached the mountain in January 1980. We drove the road in the dark and were on our way by 7 am. It wasn't early enough. At 2 pm we finally topped out of the access gully onto the west ridge and the summit seemed a long, long way off. It wasn't really that far as we later discovered but we weren't up to a bivouac and only regained the car an hour after darkness fell.

That attempt was probably a legacy from Harold's first encounter with the peak but it was the last time we ever thought of the west ridge. The north face was clearly the quickest route to the top; in winter there's no time for detours. Harold took two cracks at the face, one with me, one with another, but both attempts were stormed out. We finally climbed it on 21 March 1981 in a 13 hour round trip from the car.

By the map the north face is 4000 ft from base to summit and we were a bit worried by its awesome size. As it turned out the climb was quite easy. We found some ice to about 45 degrees in the lower third of the climb — a steep wall of buttresses cut by narrow gullies. The most westerly gully is the easiest and gives quick access to the large snowfield which spreads across the centre of the face. This easy snow took us to the top third of the climb, great tiers of rock dissected by numerous gullies and ramps. We took a line to the right and exited onto the west ridge about 200 yards short of the summit.

It would likely be best to return the same way. Instead we struck off down the north-east ridge, then belayed about eight pitches down the far side of the north face through an intricate and tricky series of icy gullies before gaining the snowfield again and continuing the descent via the massive couloir on the east flank of the mountain.

This is probably one of the larger alpine faces around within reach of the moderate climber but it does make for a long day. Also in winter it is subject to high avalanche danger, making it suitable only following long periods of stable weather.

Bruce Fairley

Ellesmere Island 1976-80: Makinson Inlet, Bowman Island, and the Inglefield Mountains

Locked in the vast spaces of the high Arctic are many superb and virtually untapped areas for ski mountaineering. While getting to them can be more than half the battle, the Arctic scene never fails to provide an unparalleled experience. It is hoped that this account of new territory will inspire others to discover its attractions.

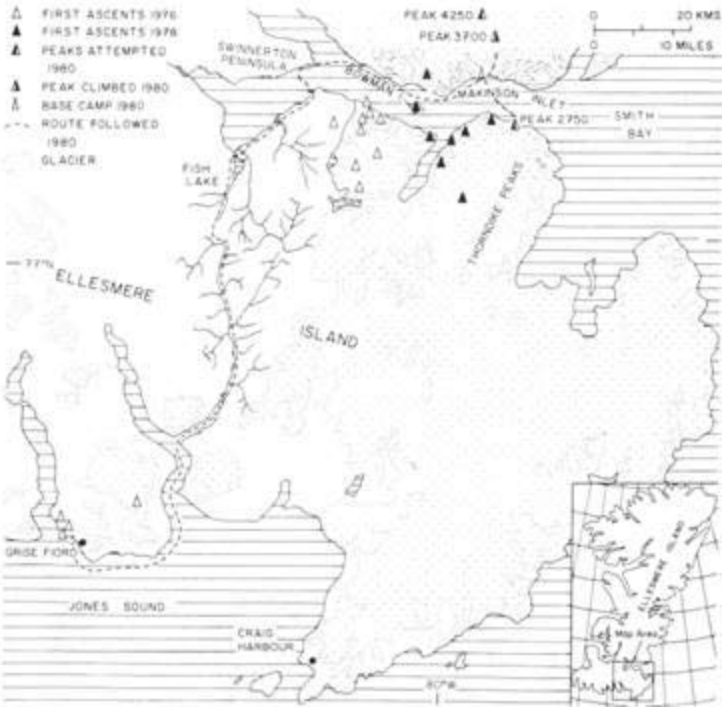
This story began in 1975 when I spotted on a map of Ellesmere Island an island in high relief (Bowman Island) in the middle of Makinson Inlet, a large fiord indenting the east coast of Ellesmere about 78°N. Described in the Pilot of Arctic Canada as a "sharp spectacular spire", it eventually proved to be over 1800 ft high. During one of his Arctic voyages Admiral Donald MacMillan[1] had seen the Island and oddly enough named it after his fellow Explorers Club member, Isqiah Bowman, an explorer known for his exploits in South America! Appropriately, all three of the recent expeditions carried one of the Club's traditional, numbered flags.[2]

With Bowman Island as a worthy climbing objective the 1976 Makinson Inlet expedition was on its way. This first attempt followed the pattern of my prior expeditions to Baffin Island: fly to an Eskimo settlement then continue by boat to the objective. We arrived in Grise Fiord, the only settlement on Ellesmere, via Kenn Borek Air from Resolute in late July and spent ten days getting acquainted with this unusual community and doing some local climbs. The Canadian contingent led by Ted Whalley arrived to join our group from the USA and together we chartered a Twin Otter to Makinson Inlet. After an exciting flight, which included dropping through a hole in the clouds over the peaks and flying up the Inlet in a rainstorm, we landed on our target beach at the edge of the mountains, seven miles west of Bowman Island.

While the sea ice had cleared off Grise Fiord, it was near solid in Makinson Inlet and stayed that way throughout August. We had brought Avon inflatable boats with motors but they never got far in the pack ice. We had to content ourselves with climbs of accessible shore peaks and the high points on a 4000 ft ice plateau east of camp. From this vantage point we spotted fine peaks further east and resolved to return (CAJ 1977:11-12; Explorers Journal vol 56:16-19, March 1978).

In late April 1978 the Bowman Island expedition was back with a new plan: reach the Island and points east by skidoo and komatik (sledge). Now the close relations we had developed with

Ellesmere Island 1976-80. C. W. Cochran/M. Irvine



Unclimbed Thorndike Peaks; looking south from shoulder of Peak 2750. GVB Cochran

Unclimbed peaks in the Ingefield Mtns. GVB Cochran

Ascending unnamed glacier into Inglefield Mtns; unnamed peak NR333730 expedition is in left background on south shore. GVB Cochran

Unclimbed Thorndike Peaks; looking south from shoulder of Peak 2750. GVB Cochran

the Inuit in 1976 proved invaluable in organizing the manpower and machines for a difficult trip of over 100 miles. After days of negotiations and organization and two days of very cold komatik riding our advance party from the USA reached a base camp in Bentham Fiord, south east of Bowman Island. It was a lonely and spectacular spot where our first visitors after the departure of the Inuit were two polar bears. A couple of days later the whine of skidoo engines announced the arrival of our second party including my wife and another Canadian contingent led by Ted Whalley. Despite considerable snow and bad weather a successful string of climbs followed, including Bowman Island, and ski climbs of the highest summit on the south-east shore and the highest inland summit on the peninsula to the east (Peak 4250). From there Whalley and his companions were the first to get a good view of the Thorndike Peaks (CAJ 1979:22-25, see map; Explorers Journal vol 57:2-7, March 1979).

The success of spring travel and ski mountaineering in 1978 led to the launching of the Inglefield Mountains Expedition in May 1980. Aimed at a major penetration of the range on the north side of eastern Makinson Inlet as well as the Thorndike Peaks on the south, the expedition was made up of six New Yorkers, Brian Carey, William Mayo-Smith, Carl Schuster, Eric Rosenfeld, Nancy Van Deren and the author. We restricted the numbers because we planned to improve our mobility by bringing our own Bombardier skidoos and homemade komatiks. With a longer trip than 1978 in prospect it did not seem practical to try and repeat our imposition on the people of Grise Fiord.

Once again, with the aid of Kenn Borek, we got everything to Grise Fiord, a major feat in itself. It then took two days of finger breaking lashings to assemble the nearly 50 slats for our two komatiks. In the end even the Inuit were fairly impressed by the result, though they did regard the three-quarter inch marine plywood slats with considerable distrust (the customary material being oak from Nordair cargo pallets).

On 4 May we set off for "Fish Lake" 60 miles away. Three Inuit came along to help in this first part of the journey which included the steep overland passage from Starnes Fiord. While not the best route to learn to drive a skidoo towing a komatik loaded with a thousand pounds of gear and people, all survived despite a couple of complete flips of the sledge carrying a 450 Ib fuel drum. The snow was deeper and softer than ever seen by the Inuit so the trip turned into a two day struggle instead of the normal 8 to 12 hour run. On some hills four snowmobiles had to be used to haul one sledge; in other places we dug roads for hundreds of feet. But the worst was yet to come.

Fish Lake, on the shore of upper Makinson Inlet, was thought to be the promised land with a run of 4 to 6 hours over smooth ice to base camp. Unfortunately this was not to be. The upper 20 miles of the inlet were a jumble of piled ice floes — virtually impassable. After a short reconnaissance our Inuit friends had to return home. They left us to battle this new problem with some apprehension — the last comment from our friend Pijamini was, "No watch out, die".

There followed a week of route finding and monumental efforts to haul the komatiks through the maze of ice. We finally broke clear east of the Swinnerton Peninsula several miles short of Bowman Island and, after an exciting encounter with a polar bear, arrived at base camp at 6 am on 13 May. Our log records that we had a celebration on arrival, got up with hangovers at 6 pm, had breakfast and went back to bed at 9 pm.

Now our climbing time was severely curtailed. We had arrived a week late and had to allow extra days for the return trip. Deciding there was no time for a real foray into the Thorndikes, we headed out on 16 May for Peak 2750 on the south shore. The climb went well on skiis and skins up to a shoulder at about 2400 ft from where a steeper passage led past an exposed ridge to the summit. After an examination on crampons the summit team called off the attempt because of questionable snow. Perhaps we were gun shy but one problem encountered in 78 had been extreme danger of windslab avalanche. In any event from our airy plateau we had exceptional views of the Thorndike Peaks, easily accessible from a broad glacier to the east of Peak 2750. Skiing down on hard, fluted snow with mountaineering boots was definitely not like helicopter skiing in the Bugaboos but our Ramer bindings and Head Alpinist skiis proved good for the task.

The next foray took us into the Inglefield Mtns via a large glacier east of base camp. Using small fiberglass sledges to tow our gear, we made rapid progress to a camp about four miles inland. The glacier was exceptionally crevassed and was pushing ice far out into the fiord, suggesting the possibility of a "surge" in progress. On the following day half the group went for Peak 4250, the main prize in the local area but several miles distant. Unfortunately this attempt also proved unsuccessful due to time and technical difficulty. Meanwhile the rest of us (Cochran, Rosenfeld, Schuster) finally got to a summit, making a ski ascent of a massive 3700 ft mountain (77° 22' 20" N, 70° 46' W) nearer camp. On this highly satisfying climb we were rewarded by striking views of the vast unclimbed and virtually unexplored Inglefield range. This time skiing down was a joy with even some powder in sheltered spots. Soon after we departed for Grise Fiord and, since our trail had survived in the good weather, it took only two days. By now the Inuit had come to admire our komatiks and even purchased one. That is how a komatik made in New York came to Ellesmere Island.

Thus a ski mountaineering expedition with hopes for many first ascents turned into an unusual Arctic journey, culminated in a

few superb days on skiis, and completed a triad of explorations to open up a huge new region for Arctic climbers. The Inglefields and Thorndikes wait all those attracted by untouched rock and snow. For the future, an approach by sea is probably impractical without the aid of an icebreaker or unusual luck. Those who choose a spring sledge trip will come to know this beautiful land in the way it deserves but may encounter a few difficulties. A more luxurious approach is possible by chartering a ski equipped Twin-Otter direct from Resolute. Unfortunately this is expensive and can be chancy as it is impossible to be sure of the weather beyond Grise Fiord. Even on clear days ground fogs are common around Makinson Inlet. The spring offers the possibility of landing on either sea ice or a glacier but in summer there is only the more uncertain glacier option.

CBV Cochran

First ascent 1980 of unnamed peak, ca 3700 ft (aneroid estimate). NR302886 on 1:250.000 Talbot Inlet 39 C & D.

Kenn Borek offers the most economical air service to Grise Fiord. For a direct flight to Makinson Inlet Bradley Air Service would probably be the better choice.

Peak altitudes refer to 1:500,000 Craig Harbour and Smith Bay NTS sheets. Altitudes on the 1:250,000 maps are often lower and probably less accurate, as suggested by our aneroid measurements in 1978 and 1980.

FOOTNOTES

1. Admiral Donald MacMillan. A US Naval officer who made 28 voyages of exploration to the beginning with Peary in 1908-9 and ending in 1949. He was the leader of the 1913-17 expedition which proved Peary's ''Crockerland" (north-west of Ellesmere) to be non-existent.

2. 1976 Ellesmere Makinson Expedition, Explorers Club Flag 192.1978 Bowman Island Expedition, Flag 189. 1980 Inglefield Mountains Expedition. Flag 189.

Munday's North Face

The steepness of the ice is 70 to 80 degrees. Séracs are breaking off on either side as we continue up the blue ice section beneath the central bulge. Then comes the nerve shattering crack from above as we stop petrified on our precarious stances. Too stunned to move in a hopeless situation, we stare at the approaching avalanche that will prematurely end our lives... I tug at the zipper and peer out the door. Sleep eludes me with restless nightmares. Reality in this situation is more reassuring than fantasy. Mt Munday's classic north face still draws my attention as it did when I helicoptered to the base of Rainy Knob eight days ago. I repeat to myself the facts: the angle of the slope is never more than 60 degrees, the total vertical appears to be 700 m, the face has not avalanched in six days. This reality is preferable to nightmares (omens?) of a fatal climb. Still I wonder whether this climb is necessary. Waddington was the trip objective. Unbelievably I almost curse the perfect weather which allows this dilemma to exist. Up and down Waddington in a week just leaves too much time to rest, read, and relax. Joe files his crampons in a tranquil mood. His casualness contrasts sharply with my jitters. Too many events in the recent past prevent me from feeling such youthful naivety in preparation for this adventure. So why do it? No explanations need be given to the remainder of the group. Besides, Joe would understand. The explanation must be acceptable to me. That's the crux of the matter but I cannot legitimize the excuses.

Mt Munday's north face has the lines of a classic Chamonix ice route. Two exposed aprons lead to the blue ice under an immense central sérac which can be passed on the right. Halfway up the face becomes fluted in an aesthetic design that lures climbers to the high slopes. Most importantly, it is unclimbed! Sure the risks are present, any ice route has those features. Will the 'schrunds be passable? Will the snow avalanche? Will those deadly séracs thunder down?

The afternoon lingers on with Scotch as we pack our gear while our friends idly relax. An early dinner before we hoist our loads and depart from quiet goodbyes. Over Rainy Knob we trudge before descending the gentle slopes leading into the ominous cirque below the Arabesque Peaks. Evening has a special feeling of tranquility for us as the day draws to its peaceful end. Bivy sacs are our castles tonight as a million stars twinkle. Amazingly, I sleep.

3 am we crunch granola in the cold. An hour later we stumble through the avalanche debris on the approach. With first light I overcome the second 'schrund as well as my fears. Then the race is on much to Joe's dismay. The first 1000 ft with eight screws while the sun rises spectacularly over the fog on the Tiedemann Glacier. At 7.30 we are on the flutings and out of immediate danger. Five and a half hours from the start we are on the top. The descent is no picnic (it never is) as we run, and I mean RUN, between crevasses and ice blocks while ice cliffs melt above us in the stifling heat. Finally the bivy sacs are reached, the climb is over.

Mt. Munday's north face. 700 m, ascent went just right of centre ice bulge. Bob Kandiko

Why did we do it? The bottom line was the opportunity to attempt a beautiful unclimbed north face. It is a wonderful feeling to overcome such anxieties. What bothers me now are plans to return for another such adventure.

Bob Kandiko

Mt Munday north face, 700 m, new route, 4 August 1981. Bob Kandiko and Joe Catellani. Descent via the north-west glacier.

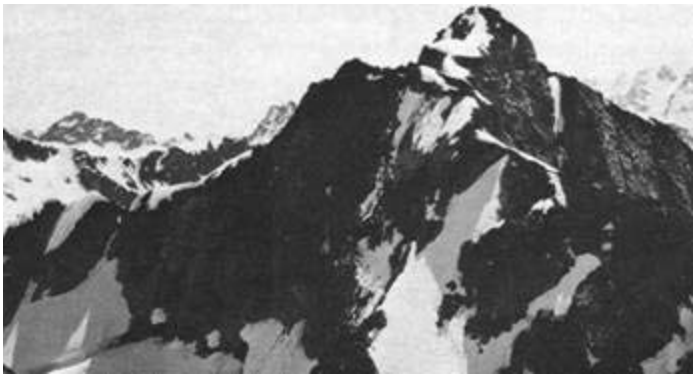
The Western Pantheon Range

While climbing in the Pantheon Range in 1980 (CAJ 1981:67-69) we were intrigued by views of the rugged range of peaks lying to the west of the Thor/Fenris/Cyclops divide and north-east of Frontier Creek. As far as we knew these peaks had not been visited by climbers. We had neither the time nor the energy to move our camp from Ragnarok Creek to explore these peaks on that trip and so we made plans to return the following year. On 12 July 1981 we landed at a high col (6700 ft) near the middle of the first range west of Mt Fenris. Our base camp was idyllic — heather benches, nearly free of mosquitoes, and spectacular views including Mt Waddington and the peaks of the Klinaklini Icefield. This col proved to be a dividing point between solid rock on the peaks to the north and generally loose rock to the south. Several of the peaks to the south were climbed, primarily third class routes on loose rock and on snow.

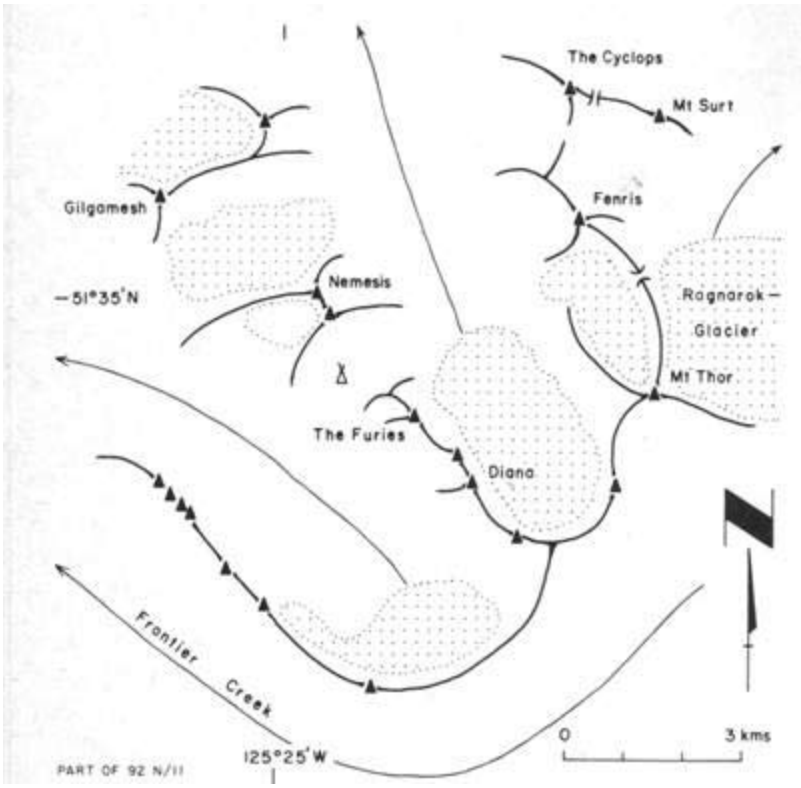
The peak north of our camp site became our major objective. This peak, later named "Nemesis", has two major summits separated by two notches and a smaller middle summit. From the helicopter and the view near camp it seemed that the east ridge of Nemesis would give an easy approach to the summits. The ridge proved rather harder than expected. From a distance we had been unable to see that the upper 800 ft of the ridge narrowed to only a few feet wide with cornice remnants. While never difficult the climbing required constant attention with numerous class 5 pitches. The east ridge terminates at the middle summit and the main (south) summit was climbed via the connecting ridge.

Later in the trip the north peak of Nemesis was climbed by several routes and the main peak was reclimbed from a camp located on the snowfield west of Nemesis. We had planned to move camp to the glacier col north of Nemesis. However the ridges of

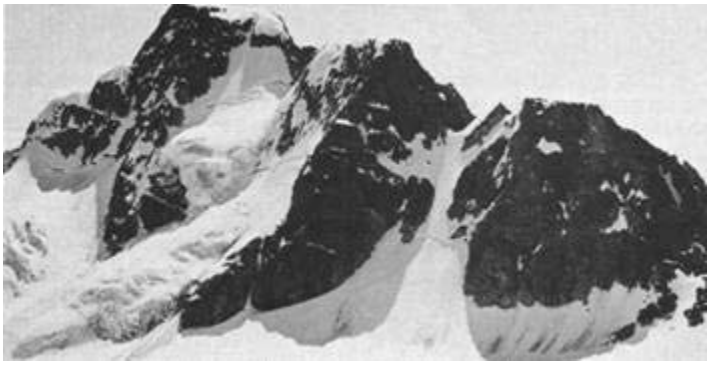
East ridge and south peak of "Nemesis" from the north peak. David Knudson



The Western Pantheon Range. David Knudson/M. Irvine



North face of the north peak of "Nemesis"; west ridge was climbed from the snow col. David Knudson



Peaks on the unclimbed ridge north-east of Frontier Creek. David Knudson

Nemesis quite effectively block easy travel along the range. The easiest routes by-passing the peak are either class 5 or involve descending several thousand feet to avoid steep sided gullies and buttresses. We contented ourselves with a day trip to the easier of the two peaks north of Nemesis.

There remain many unclimbed objectives in the western Pantheons for the exploratory mountaineer. In addition to an imposing outpost peak to the north of Nemesis there are several spectacular rock towers at the head of the valley just west of Mt Thor. Furthermore there is an extremely steep ridge of peaks and towers lying south-west of Nemesis and north-east of Frontier Creek. The terrain is generally steeper than that around Nirvana Pass and the Ragnarok Glacier. Future climbing parties are likely to discover as many climbing problems reaching the base of the peaks as problems climbing the peaks themselves.

David Knudson

Participants: Carla Firey, Joe Firey, David Knudson, Michael Martin, Jim McCarthy, Irene Meulemans, Peter Renz, Frank deSaussure, Mickey Schurr.

SUMMARY OF ASCENTS

The following peaks were climbed during the period 12 to 25 July 1981.

"Nemesis", south peak, 2650 m. The east ridge was climbed to the middle summit and then the

connecting ridge to the south peak. The south peak was also climbed from the notch between the

north peak and the middle summit. Class 5.

"Nemesis", north peak, 2640 m. The west ridge was climbed from the prominent snow col, class 5;

the south ridge was climbed from the notch between the peaks, class 4.

"Gilgamesh", 2600 m. The prominent snow gully on the south face was climbed with one class 5

pitch around a chockstone.

"The Furies", 2570 m. Several summits were climbed via snow gullies on the west and class 3 scrambling on loose rock with one class 5 pitch on the main summit.

"Diana", 2630 m. The west ridge is an easy scramble.

In addition, a peak between Diana and The Furies and the lowest rock tower on the south-west ridge of Nemesis were climbed. Class 5.

On Friends, Epics, and High Places

You never conquer a mountain. You stand on the summit a few minutes. Then the wind blows your footprints away.

It was early May 1981. Deep late winter snows still lingered. Four people at 6500 ft on the Cathedral Glacier momentarily watched Andy Williams' Helio Courier ski plane disappear from sight. And then silence. I found myself amid a panorama of snowy mountains that could never have been painted or described in any book or related in any fairy tale. It was an expanse of world where huge glaciers fell from the flanks of peaks, covering hundreds of square miles with ice. Mts Hubbard, Alverstone and Kennedy, the purpose of the expedition, appeared from where we stood to be heavily guarded by collapsing icefalls, treacherous cornices, and steep snow and ice walls. If we were lucky, a beneficent nature would lower her guard. . . .

All this was the start of a new adventure for me. I had never seen a full scale avalanche. "This is really far out," I remember thinking. It stopped barely short of our tent, blocking out the sun with ice crystals. There was a certain craziness in it all. Yet as I watched the golden evening light invade the subarctic tundra and finally dissolve to an incandescent hue on the summits, watched shadows linger on the vigorous arêtes that sprang upwards towards the moon, I could justify any risk.

We were a motley crew. Back at home Brian was one who was generally seen at the start of a climb, to reappear cool and rested as one wearily plodded up the last hundred. I found too, a sort of calm resignation about him when in the face of difficulties, which almost had an eloquence about it. Peter's cheerfulness enlivened the troops' morale. His persistence in reaching his goal was admirable. Len's patience and tenacity were as important a quality in the mountains that any climber can bring with him. He could move enormous loads and perform miscellaneous rescues of pulmonary oedema victims.

The first few days provided spells of painful disillusionment. We found sun tormented afternoons and wet blizzards. We humped enormous packs, quite absurdly heavy. Len's enthusiasm for heavy loads was quite congenial and not infectious!

Two days of load ferrying and a base camp was established at 10,500 ft. The third day, summit day, Len and I toiled up the glacier, dodging the yawning crevasses towards Hubbard's south-east face. Hubbard floated on a shoal of clouds. I momentarily sank up to my nose in white stuff. Then, crampons on, muffled mumblings filtering up and down the rope, we kicked steps for the final summit push. It was easy climbing with a few awkward moves over bergschrunds, a few steep pitches — and many rest stops. The wind on the ice encrusted dome was devastating to the morale. Our breath was short, already laboured from the altitude, but the vision was only momentarily delayed. . . suddenly I saw the whole world before us, shrouded in an unsullied whiteness. We lingered.

10 pm. Twilight dimmed. It was still a long way to base camp. Chasms yawned on both sides and an eerie mist engulfed all; all but a few derisive stars. My mind raced the approaching darkness but there was no alternative. We dug an austere hole in a snow bank and thrust our feet into our packs. Another epic. The unthinkable was happening again. The schizophrenic jubilation of being the third Canadians to reach Hubbard's 15,015 ft summit cooled as Len and I patiently bore the cold of a subarctic night at 13,000 ft. The hours passed intolerably slowly. Yet dawn came as predicted. Now the mist had lifted it was an easy task finding our way back to camp.

I did not escape the mountains' wrath quite so easily though. Twelve hours later I awoke with a great rumbling, rasping cough, a biting migraine headache, and multiplying minor agonies. I found it hard to convince myself that I had caught a slight cold from my night out. . . maybe pulmonary oedema? Lower altitude was the simple remedy.

Well I found out that day that man never "conquers" a mountain. I had had a good try. The four of us had made attempts at Mt Kennedy and the Weisshorn (the weather gods had different ideas). We had stood on Mt Hubbard's dome and had cramponed up Mt

Alverstone's east face to a corniced summit. Two splendid weeks!

However I have since found that one must strive for an awareness of climbing that includes more than just summits. One must develop an instinct for the right feelings, times and people. After any trip into the mountains there will survive above all, the memory of the laughter, the grandeur and the ethereal notion that although the adventure is over, it has really only just begun. Life is forever altered by an adventure that few can ever begin to understand. Let alone myself. Yet however your life is altered may you, like Antaeus, return from the mountains stronger to wrestle with the difficulties of life and quicker to catch the sunshine. As Bob Dylan prescribed, "May you build a ladder to the stars and climb on every rung. May you stay forever young."

Jane Weller

Mt Hubbard. 15,015 ft. Second Canadian ascent via south-east face.
Mt Alverstone, 14,565 ft. First Canadian ascent via east face.
Brian Vezina, Peter Steiner, Len Soet. Jane Weller. 10 to 23 May 1981.

"One of Canada's Most Unique Movie Events"

That is how one reviewer has described the Banff Festival of Mountain Films. Today it is recognized as one of a half dozen internationally known adventure film festivals and receives entries from mountaineers and film makers the world over. All a far cry from that day in 1975 when the ACC Banff Section executive decided to organize a film event for the enjoyment of the mountain people of the Banff area.

That first year our goals were to gather together, on an annual basis, the best mountain and mountaineering films available, and to identify and record the sources of such films so that others might acquire them for later use. Our primary objective, then as now, was to develop an event for the entertainment of outdoor enthusiasts, not to provide a forum solely for film makers. It is this distinction of focus that still makes the Banff Festival of Mountain Films so unique.

The first one day event in October 1976 was much more of a success than we ever imagined. Reviewing the Festival in the Banff Crag and Canyon local critic Jon Whyte wrote, "I can scarce think of a film orgy that developed in the audience a better communal feeling. . . If (they) can manage to gather a programme half as good as this next year, (they'll) have to hire security to handle the mobs." Looking back it is interesting to speculate just how close to the truth that prediction has become.

In 1977 the Festival became competitive for the first time. In total 19 films were entered, primarily from Canada and Britain. Overall the quality of films was lower than the previous year and we became aware of the obligation we held towards our viewing faithful — that of maintaining (or even improving) the very high standards that we had inadvertently set for ourselves the previous year. Aware that very few high quality mountaineering films exist we purposely opened the event to films showing other mountain sports.

The 3rd Festival in 1978 was noteworthy for two reasons. For the first time the Festival was expanded to cover two days. Since then the first weekend in November has become the traditional time for the event. Also the legendary Canadian film maker FR (Budge) Crawley of Ottawa accepted the role as Chairman of the Judging Panel. Budge Crawley won an Oscar for producing the feature documentary The Man Who Skied Down Everest. Joining Budge on the panel was Bill Mason, a National Film Board producer who is best known for his Path of the Paddle canoeing films. Both Budge and Bill have been fixtures ever since, making an annual pilgrimage to Banff in mid October to select the award winning entries. Some would say it is the films that bring them here but the good time we give them is just as important!

The Festival's growth over the first three years and our desire to maintain the high standards set forced us in 1979, for the first time, to search for outside funding in order to support more extensive international promotion. Funds were obtained from the federal Department of the Secretary of State and from Alberta Culture. Although these grants have since been terminated and the Festival is once again largely supported by ticket sales, they did facilitate the development of a higher level of international awareness, a major cause of the event's recent success.

In 1979 the 4th Festival received entries from Holland, West Germany, India, Britain, the United States and Canada, with total numbers jumping to 25 for the first time. This year the number of competitive categories was expanded.

No one really knows what happened in 1980 but I think it is fair to say the Festival exploded. In total 58 entries were received from New Zealand, Japan, Britain, Spain, France, Switzerland, the United States, and Canada. People were now coming from considerable distances to see the films. The Festival was described as "One of Canada's most unique movie events," a considerable tour de force for an event operating on a budget of less than $5000.

In 1981 Patsy Murphy took over the legwork of running the Festival and put into place some new ideas that we had been discussing for some time. Once again the event was a vast success. An estimated house count of 5800 was recorded in the two theatres which now housed the event. Over 50 film entries were received from Poland, Britain, New Zealand, United States, France, Italy and Canada. Financial support was solicited and received from Air Canada and many local Banff and Calgary businesses. The 1981 Festival included a Multi-Image Slide Presentation Workshop attended by 41 people, and several multi-image slide presentations as examples of this rapidly growing dimension of mountain photography. The Festival was expanded to incorporate the Best of the Mountain Film Festival, an across Canada tour featuring some of the award winning films, sponsored in major cities by the several Sections of the ACC.

Despite the recent growth of the Festival into these new areas, none involved sees it changing much in the years to come. The main event will continue to take place over the first weekend of November in Banff, and it will remain under the co-sponsorship

of The Banff Centre for Continuing Education and the Banff Section of the ACC. Overall we see the Banff Festival of Mountain Films remaining as a 'jewel', catering to the specific interests and enthusiasms of the mountain lovers of this country.

John Amatt

Festival Chairman, Banff Festival of Mountain Films

Obituaries

Franck H Britton

ACC member from 1951 to 1976. Died on 12 August 1981.

Sterling Hendricks

Life member since 1929. Died on 4 January 1981.

DR Sharpe

Life member since 1918. Silver rope. Died October 1981.

Kenneth M Winters

ACC member since 1978. Died 24 May 1981.

Léo Bilodeau 1951 to 1981

On 14 September Léo Bilodeau fell and was killed while descending Mt Freshfield. He had been an ACC member since 1981. Leo was a mountaineer in the traditions of the founders of the ACC. His tremendous physical endurance and joie de vivre made him an enthusiastic companion for back country trips, and the history, geology, and life of the Rockies interested him as much as the challenge of climbing. He had worked for Parks Canada since 1971 and was senior interpretive planner in the Calgary regional office at the time of his death. Through his work in the mountain parks he introduced thousands of visitors to the stories and traditions of the high country. His most recent achievement was the production of the new Swiss style map of the Columbia Icefield, the place he loved most.

Leslie Taylor

Christopher John Elms 1945 to 1981

Chris Elms, an Associate Member of the ACC and a member of the Calgary Section, died in an avalanche at the south end of Bourgeau Lake on Sunday 22 February.

Chris was born in Ottawa, attended Shawnigan school on Vancouver Island, and graduated in Engineering Physics at the University of British Columbia in 1968. He married Corine Mah Poy in Ponoka in 1970. Chris was employed as a geophysicist with Shell Canada Resources until 1979 when he joined the geophysical consulting firm of Pezarro and Associates as a partner.

After his introduction to sports at Shawnigan school Chris became an avid outdoor enthusiast. At UBC he competed on the cross country ski team and later in Calgary he entered the Club Telemark races, rarely finishing below the top twenty. He skied, hiked, backpacked and climbed in his favourite areas in the Kananaskis and Banff National Park and participated in climbing trips with the Calgary section.

Chris was a fine companion, always enthusiastic, cheerful and proficient. He will be missed by his companions and friends.

Ron Bade and Bob Jordan

Edward Feuz 1884 to 1981

Edward Feuz, pioneer mountain guide, died 13 April in Golden. With his passing an era comes to an end. Ed had guided and climbed in Canada from 1903 to 1980, his last climb being made on the Tower of Babel in the summer of 1980.

Ed was born in Interlaken, Switzerland. His first major climb was the Jungfrau at age 13 with his father as guide. He was destined for the hotel business but preferred to follow in his father's footsteps. Edward Senior was Chief Guide in the Interlaken district and was hired by the CPR in 1898 to guide climbing parties in the Rockies. Edward Jr first came to Canada at the age of 19. He already had his Swiss porter's licence and after several seasons shared between Canada and Switzerland, received his Swiss guide's licence in 1908. In 1909 he married Martha Heiman who had been a neighbour in Interlaken for a number of years.

By this time Ed was well established as a guide in Canada, with a number of first ascents to his credit. By 1930 he had made first ascents of more than 50 peaks of over 10,000 ft and had many regular clients such as Roy Thorington, Howard Palmer, Lillian Gest, JW Hickson, and Kate Gardiner. His association with the ACC began at the Club's annual camp in 1906 and continued for the rest of his life. He was awarded Life Membership on his retirement in 1948 and Honorary Membership in 1980.

Retirement did not mean an end to climbing for Ed. By 1948 he had made over 70 first ascents of peaks over 10,000 ft. He didn't count the lesser peaks! First ascents were perhaps no longer possible but he continued climbing, ascending Mt Temple at age 80 and at age 86 appearing in a TV show climbing in the Moraine Lake region.

Among Ed's more important first ascents are Pinnacle Mtn, St Bride, Sir Sandford, Adamant, North and South Twins, Outram and Amery. Ed and the other guides were very proud of their record of safety. With all the vast number of climbs they did, their safety record was perfect.

Mrs Fuez died in 1974 and since then Ed lived alone in his house in Golden, surrounded by mementos of his great career and filling in his time with wood working and gardening. His married daughter who lived next door kept an eye on him but he looked after himself very well. Ed was an important factor in Canadian mountain history and a chat with him was always of great interest to a mountaineer. I count myself lucky to have known Ed and to have climbed with him. We spent a week together at high camp on the Columbia Icefield in 1938 and I was greatly impressed by his skill and personality during that time. To watch him cutting steps up frozen snow, as fast as the party could walk, was an education.

Guides now are a different breed and we shall not see Ed's like again. Respected and admired by all who knew him, he has left his mark for all time on the Canadian mountain scene.

RCH

Ed Gernassnig 1955 to 1981

On 22 February Ed was killed in an avalanche while skiing on the Peyto Glacier. Those of us who knew him well, while mourning his passing, are thankful that his last moments were spent in the mountains that he loved so keenly. Ed was born in LaSalle, Quebec. He came to Calgary in 1978 where he joined Texaco Canada Inc. Virtually all his non working days were spent in the mountains

Andrew Shepherd. Peter Charkiw

climbing and skiing, often with the Calgary Section. Friends and co-workers at Texaco collected funds in his memory and donated them to the ACC to be used through the newly created safety fund. His many friends will miss Ed. His quick grin, his intensity, his enthusiasm for life, have touched all of us.

Andrew Peter Shepherd 1953 to 1981

The one thing Andy was not was an armchair mountaineer. He was a participant in the sport of life and climbing, a sport which brought pleasure to his goals and stole them as easily. Mysteriously Andy rose above the social frenzy and egocentric strata of the climbing scene, finding the spiritual and bizarre contrasts between green valley and ice encrusted north face more to his liking.

I can recall while the two of us were off duty from the guidebooks and valley floor, wandering side by side up the steepest ice we could find on Stanley's north face. He with his camera positioned, clicking away like some cosmopolitan photographer. He never even cried when I attempted to take a "picture" and watched his love bounce to the glacier below. Andy was natural, at times foolish while others cynical, happy that he could escape to and from the mountains and be as sensual as he wanted in either. But above all he was a beautiful rogue who will be missed by all the friends he left for now.

Andrew Shepherd and Greg Rudel died while descending Mt Stephen above Field, BC, 2 April 1981.

Peter Charkiw

Corrigendum

In the Lawrence Grassi obituary (CAJ 1981:44) the 1925 first ascent party of NE Peak Three Sisters was AW Drinnan, MD Geddes, Ernest Ward (not TB Moffat), and L Grassi.

Nan BD Drinnan

Reviews

Outdoor Recreation Maps Of British Columbia: 1 - 100 Mile House Region; 2 - Windermere Lake Region; 3 -Whistler/Garibaldi Region

Outdoor Recreation Council of British Columbia, 1981. 1:100,000, 50 m contour interval. $3.95 each.

Maps illustrating the total recreational picture of any given area in western Canada have been few and far between. As the Outdoor Recreation Council of British Columbia developed in the 1970's, along with councils or 'federations of other sports, it became apparent from many meetings with special interest groups, clubs, industry and several government departments, that the inventory of recreational opportunities in this province lay mainly in the unpublished files of a few government agencies. With recreation playing a major role in tourism, EC's number three industry, the need for inventory maps on outdoor opportunities became glaringly apparent. The Council obtained $50,000 "seed" grant from the Canada/ British Columbia Travel Industry Development Subsidiary Agreement TIDSA), a joint federal/provincial funding scheme of which outdoor groups in other provinces should be cognizant. So far three maps have been generated. Sales have been brisk (over 4000 of each in the first six months), which will go a long way to financing future productions which must be self supporting henceforth.

The maps are metric contoured 1:100,000 renditions which were machine contoured by interpolation of older maps in the other units. The contour interval is a comfortable 50 m which gives a fair portrayal of slope. The cultural aspects of the map have been updated to 1981 for many items including trails and usable logging roads shown are within a year or two of their projected extent. The maps are invaluable for the plotting of such items as campgrounds (private or public), telephone, first aid, garage, grocery store, etc, though perhaps oversized international symbols are used. Other important information includes historic monuments, viewpoints, other interesting features, beaches, public water access, boat launches, ski areas (nordic and alpine), marinas, and accommodation centres (including alpine huts). As well there is the usual array of features found on standard contour maps, such as trig stations, airstrips, post office, powerlines, railway, various standards of roads and legal boundaries. The last item has been expanded to show various forms of land tenure including public domain special reserves, wildlife management boundaries, various tenures of forest land, and water supply watersheds. In the reviewer's eye it is the almost 100% complete update of newly recognized and forgotten (but resurrected) geographic names that makes the maps so worthwhile. Only a few names have escaped the maps produced to date. On the back side of each map there is a gold mine of reasonably accurate information — area description, history, access, climate table, topography and geology, flora and fauna, and description of the various kinds of crown lands including those elusive UREP (Use, Recreation and Enjoyment of the Public) reserves, unfortunately not shown on the map because of the politics of their existence. The text describes the chief activities that characterize the map area, eg hiking (best trips outlined) with a table of their characteristics (length, elevation gain, chief use — including winter nordic), boating and canoeing (including kayaking and rafting), camping with table of their characteristics (tent or RV use, season of use, sports serviced — including climbing),

nature observation, fishing and hunting, climbing (including notes on best climbs and huts), skiing (all forms), snowmobiling (unfortunately), features of interest (in table format), outdoor sport services (climbing schools, helicopters, ski schools, etc), a list of reference guide books and maps, a list of those elusive hard-to-find agencies (BCFS, Highways, Info Centres, etc) and unfortunately — a metric conversion table! (Why do our first totally metric maps have to revert to this nonsense?) The back side of the map also has the ethics code of access spelled out (which varies from region to region), a note on acknowledgements (excellent interagency co-operation is shown — but was it a tussle?) and an attractive title picture in colour which characterizes the region.

As for overall blanket criticism of the series, the reviewer could find few faults. The contours are not up to the standards of the USGS 1:100,000 scale North Cascades National Park map but they are usable. Where geographic features are crowded, perhaps the lesser features could have used smaller and finer lettering to eliminate the blotting effect. Wildlife Management Units are indicated by oversized numerals which if reduced to even half of the present size would be overly obvious. Special inset maps of 1:50,000 scale on two of these maps have glaring omissions of names and/or features, and the Windermere map should have produced inset maps for the Radium Hot Springs, Invermere-Windermere, and Fairmont areas. Some trails have been overlooked, or slightly misplotted in other cases on the Whistler/Garibaldi map, but the writer is too unfamiliar with the other map sheets to pass judgement on this score. Glaciers on two of the map sheets are based on what vintage of aerial photography? I ask because the snout positions on the Garibaldi map are quite removed from their present day position. Any other comments on the maps have to be map specific and perhaps a few notes here on each would help the sale as well as make the buyer beware of the map's limitations. Map 1 (100 Mile House) obviously caters to the nordic skier and fisherman or boatman. Thus one would have expected the very popular and well known 50 Kilometre Cariboo Marathon nordic circuit to have been highlighted on the map. Unfortunately it is buried in the myriad of other nordic trails but we are assured that once at Watson Lake it is easy to find and well signed so that you can't lose it. However, where are we on the map? The description on how to use the UTM location system (on all maps) is printed on this one with a very faint ink, so the buyer had better learn the system before using the map in that hot cariboo summer as it will fade into final obscurity on the first exposure. Boat restrictions are a useful notation on the back side of the map but unfortunately there aren't any listed for snowmobiles. However the all-terrain vehicle concept is not played up on this map and we should be grateful.

Map 2 (Windermere) is of high interest to the Rocky Mtn mountaineer. Because of the 30 by 60 minute size format the spatial co-ordinates would not allow the map to quite reach the Bugaboos though the east half of the Horsethief Creek area is on the west boundary, as is the now popular Sally Serena group to the north. Invermere is the logical central focus of the map and the Kootenay Ranges and western fringe of the Park Range are well shown with all those sneaky access roads we hear about but seldom find on maps. The few trails have also been included. Even the prime hang gliding site is shown. As for the open pit mines the reviewer would have preferred to have seen the Windermere Creek operation labelled as a gypsum quarry (in fact one of the largest in North America) and the one on Toby Creek indicated as a reclaimed mine dump — it adds a bit of much needed finesse in this province. River and white water travel is very popular in this part of the world and hence the international classification of stream reaches would have been a useful addition. There are however descriptions on the back side. Other than the fact that the text has a 300 (should be 3000) metre typographic error (with respect to peak elevations) this map has the best supportive description of the three produced to date. Heli-skiing is described in glowing terms but does not note the hazards and the heli-ski symbols have been inadvertently left off. Consequently the map user will have trouble finding the Shangri-la Wilderness Camp, which caters to this sport according to the table of recreational services shown on the back side of the map.

The third map of the series (Whistler/Garibaldi) is probably the most important, requiring quite frequent updates as the Whistler Resort Centre continues to expand. A casual scan of the map shows a proliferation of geographic names on the east half of the map (in Garibaldi Park) which even includes the names noted in CAJ 1981. What happened on the west half? Alas, this reviewer is the culprit. Dr Neal Carter was working on the names of this region just before his death and the file wound up on my desk for final research and resolution; my inactivity on this score is the reason for the hiatus and why popular "Gin and Tonic Lakes" remain in obscurity. In fact so much so, that one of these two alpine basins is not shown at all. There are however some other geographic oversights: Darling Peak (after an ancient Alpine Clubber) has again escaped placement to the north-west of Mamquam Mtn (see 1928 Garibaldi Park map), Cloudburst Mtn (a popular target) is left unnamed, and Packer Meadows was omitted on the Black Tusk Meadows inset map. Trails of established usage are fairly comprehensive in display though at least two (Lake Lovely Water and Wedgemount Lake) suffer from plotting error near their lake termini. Vaguer trails (to Zenith Lake, "Clytie Lake", Wedge Creek, Culliton Creek, and even "Gin and Tonic Lakes") have not been shown and some which are indicated also fall into the realms of vaguery as well. For white water types the rivers are reach by reach classified but there is confusion over the location of the kayaker's slalom course noted in the text — the reviewer is aware of one near Whistler Village Sewage Plant (not noted) but has not seen the one near Garibaldi Station.

The text of the Whistler/Garibaldi map gives a fair description of the mountaineering and ski touring potential but the map would be enhanced tremendously if a few of the more popular alpine ski touring routes were shown in red as they are on European maps. The ORC co-ordinator explained to the reviewer that there could be liability overtones and protest from other groups such as 4 Wheel Clubs if they were excluded such information pertinent to their own sport. It would seem apparent that 4 Wheelers have been accommodated by the liberal display of logging roads. The inset map for Whistler Resort Municipality could use a few road names as well as show the Club Cabin Area and CYH cabins. On the table of related services we are already facing changes. The ski plane services disappeared with a crash last summer; another heli-ski operation based at Green Lake has moved into the area and the Rainbow ski area has closed. So, in a nutshell, map 3 will be up for some extensive alterations once the initial 7700 are sold out which, by the way things are going, will be by the time you read

this edition of the Journal.

With the foregoing highlights and criticisms, one has to applaud the actions of the ORC and helping agencies involved in the production of these maps. The product, already above expectations, can only get better. The Kamloops area is the next to be released and will be followed by the Kelowna area. Campbell River/Strathcona Park, Shuswap Lake, Merritt, Chilliwack valley and Nelson areas are also slated for action. Most of these maps will use the NTS grid quadrants for their boundaries rather than splicing across the grid boundaries in the case of Maps 1 to 3. The long range programme will be geared to those areas where the Surveys and Mapping Branch of the Provincial Government is producing new metric contour 1:100,000 scale maps, and thus it will be confined to populated areas of the province. All new maps will have white water areas graded directly on the maps but if we want comparable treatment with alpine ski touring routes it looks as if the mountaineer will have to deluge the ORC with this request. The reviewer believes that this additional information will make the maps that much more saleable.

The maps are a bargain at $3.95 each — where else can we buy a guide, directory and map all put together in one package for less than $5.00? Success of the programme hinges on your purchase. The maps are readily available at bookstores, sport shops, some kiosks and even large department stores — about 140 outlets at present. The ORC (at 1200 Hornby Street, Vancouver) invites comments on those maps released to date — congratulations are in order.

Karl Ricker

Cascade Alpine Guide: Climbing And High Routes. Rainy Pass To Fraser River

Fred Beckey. The Mountaineers, Seattle, 1981. Black & white photographs, diagrams, sketch maps. 322 pp. Paper. $19.95

Upon opening for the first time Fred Beckey's latest Cascade Alpine Guide I felt as if the final dramatic act in Beckey's trilogy of the Cascades was developing before my eyes. Here was the volume, Rainy Pass to Fraser River, that many a mountaineer like myself had been waiting for. Would Beckey reveal the secrets of this the most remote, mysterious, sometimes frightening, area of the Cascade Range? He does, and more.

Over 450 summits are described, many in staggering detail. Technical climbing information, geography, geology, and amazingly detailed history characterize this volume, not unlike the previous two Cascade Alpine Guides. The guide is divided into three sections based on geographic location. Numerous sketch maps and countless photographs orient the user and help provide the type of detail needed for travel in the rugged North Cascades.

The old saying "three is the charm" is very appropriate with this volume. Oh there are omissions and errors; that is inevitable with this type of detail. But Beckey, through experience gained from his 1949 Guide to the Cascade and Olympic Mountains and previous volumes of the Cascade Alpine Guide has become an absolute master of "guideology". The formatting, photo quality, and sketches are the best yet. Beckey has the ability to combine thorough hiking/backpacking information and technical climbing detail all under the same cover.

Like most guide books this one is not without controversy. Too much detail, not enough detail, too much "lecturing", publication delays (four years between volumes), costs. Through it all Beckey weathered the storms, the books were published, he won the battle. Beckey can rest now. For many, like myself, the war has just begun.

Don Goodman

Trails Of The Cordilleras Blanca & Huayhuash Of Peru

Jim Bartle. 1981 edition. 16 pages of colour photographs, 11 individual trail maps, fold out map. 5x7 inches. 159 pp. Available from Rocky Mountain Books, 106 Wimbledon Crescent SW, Calgary, Alberta T3C 3J1. $9.50

This attractively packaged book is based on Jim Bartle's previous three guidebooks to the area. A well organized text successfully combines the three guide booklets into a useful guide to the Cordillera Blanca of north central Peru. It contains descriptions of 26 hikes covering more than 1000 kms of trails and general information on transportation, climate, mountain conditions. Many of the small errors present in the earlier editions seem to have been corrected. There is a lot of practical advice contained within a sensitively written text. The author deals not only with the trails themselves but also with the problems that could be encountered in getting there and getting about while in the country. The book is particularly recommended for anyone planning a climbing or trekking trip to Peru. Aside from a few small and not very important omissions, such as the Huaraz post office location, the book represents excellent value at a reasonable price. I would recommend that the purchaser use some clear MacTac on the lift out map and obtain a set of the Ricker maps to the same areas. Both sets will be quite useful.

Kevin O'Connell

Mexico's Volcanoes: A Climbing Guide

RJ Secor. The Mountaineers, Seattle, and Douglas & Mclntyre, Vancouver, 1981. 55 black & white illustrations, 24 line drawings & sketch-maps, 120 pp. $10.95

Canadians and Americans who dread the long winter months will be interested to learn that that is the time to climb in warm Mexico. This is certainly the best book to prepare for climbing trips to Mexico's six major mountains: Orizaba, Popocatepetl, Iztaccihuatl, Toluca, Malinche and Cofre de Perote (5620 to 4282 m). The text includes a general background, preparations (with a useful "Health" section), and the climbs, plus complementary indices. Advice on how to behave (and not to behave) should be memorized. There is an abundance of photos and charts. In sum, everything a mountaineer may need to escape the long northern winter.

Evelio Echevarría

Climber's And Hiker's Guide To The World's Mountains

Michael R Kelsey. Kelsey Publishing, 310 E 950 S, Springville, Utah, 1981. 318 maps, 680 pp. Softbound. $17.95 US

Born out of visits to 100 different countries in 11 years, this guidebook purports "to get the climber or the hiker on the right side of the mountain in question and to the top via the normal or easiest route possible". It comprises seven major chapters divided into 318 sections, each with a map and a page of text in which a mountain area is described. Approach routes, supplies and transportation problems are emphasized. There are also complementary sections on map symbols, a short bibliography and an index of places. The author has a firsthand knowledge of 251 of the 318 areas covered by the maps. Regarding the accuracy of his information, I could find no faults with the notes on the regions I know, although a number of corrections referring to spelling of mountain names and to heights will be necessary in a new edition. It will be up to other mountaineers to evaluate information about areas they know. Among fairly important mountain regions missing in this guidebook I can only find the Lofoten Islands, West Irian and S Africa. Places selected were the more likely ones a hiker or a climber may visit in normal times. A total of more than 700 peaks are surveyed. The book is bound, in plastic vinyl and is flexible and light enough to be carried in a pack pocket.

Evelio Echevarría

The Big Book Of Mountaineering

Bruno Moravetz, ed. Barren's Educational Series, New York, 1980. 108 colour plates, 285 pp. $49.95

To produce a large book "filled with lively articles ranging in scope from mountain geology and wildlife... to thrilling accounts of historical climbs in the world's great peaks" editor Moravetz teamed up with 21 other western European specialists. The 30 articles he selected reflect this concern. These articles average some nine pages each and cover topics that can be loosely grouped into sciences, history of mountaineering, and actual climbing. There are articles for every taste, although the ones dealing with mountaineering medicine, Goethe as a possible mountaineer, the development of mountaineering in western Europe between 1919 and "extreme climbing", and mountaineering in cinematography were particularly appealing to me. Photographs, nearly all in large format, are first class. Some are amusing, some dramatic, nearly all impressive.

But it is in the text where in my opinion the value of this book lies. It is a book written by Europeans, who are exposing to those of us who live on this side of the English Channel the cultural side of their mountaineering world. It is evident from this work that mountaineering on the Continent is deeply related to history, art, the humanities and to each country's own culture. This book then will compel us to become more international and more open minded to the accomplishments of the others. I would regard this work as a blow to whichever mountain writer shows or has shown an egotistical and deliberate provincialism. True, the self-conceit displayed by some of these European aces when writing about themselves will displease many readers. So will its price. But a major part of the information stored in its pages should become a part of the cultural baggage of our mountaineers.

Evelio Echevarría

The Use Of High Mountains Of The World

Department of Lands and Survey, Wellington, New Zealand, 1978? 12 black and white photographs. 233 pp. Paper. $8.05

Mountain Research And Development (Journal)

United Nations University and International Mountain Society, Vol. 1 (1) 1981. Subscriptions at $25 US from Box 3148, Boulder, Colorado 80307, USA.

The Use of High Mountains of the World consists of papers written in preparation for an International Union for Conservation of Nature and Natural Resources conference in New Zealand on the Conservation of High Mountain Resources. The conference was provoked by world wide recognition that "high mountain ecosystems and their biota are particularly vulnerable to the presence of people" and that "degradation is accelerating and spreading".

About half the book is devoted to papers describing the character, human use and environmental problems of the main high mountain ranges of the world. The Alps, sometimes seen as a model of the man-mountain relationship, receive very brief attention, though it does show that they are now beset with many problems, particularly as a result of having a resident population of 11 million and great tourist appeal.

The Himalayas receive the most attention, being discussed in three papers. All stress the vulnerability of the Himalayas to human impact both from residents (there are 12 million people in the west Himalayan part of India alone) and tourists. Forest exploitation, cultivation, grazing and communication development are all exacting an environmental toll. One author states that "the landscape is not benefiting from increasing tourist traffic" while another observes "tourists as they grow in numbers tend to decline in cultural sensitivity. They can become a blight and, in areas not prepared to channel and accommodate them and their waste materials, they can leave behind a veritable junkyard." A third author in a case study of Nepal writes, "though the increase of tourism has benefited Nepal's foreign exchange earnings, the destructive effects to some Himalayan regions caused by vastly increased numbers of people threaten the natural and cultural resources upon which tourism depends (for example, the simultaneous presence in the Khumbu-Everest area of several mountaineering expeditions and groups of trekkers severely disturbs regional trade; food becomes scarce owing to demand at inflated prices and there is extensive consumption of wood for fuel)." Clearly Canadians have a responsibility to consider this when visiting the Himalayas and perhaps for this reason, above all others, to avoid large expeditions.

Jack Ives, Director of the Institute of Arctic and Alpine Research in Colorado, provides a very broad survey of the mountain conservation situation in North America. He emphasizes the need for regional ecological surveys and the assessment of resources and hazards but offers few specific comments or recommendations regarding Canada's main ranges. Other papers deal with the Andes, northern Europe, north and east Africa, the Caucasus and Carpathians, and Australia and New Zealand.

The second part of the book includes papers on particular mountain land uses such as pastoral agriculture, timber harvesting, water management and tourism. T Huxley of the Countryside

Commission for Scotland has some interesting comments on tourism in mountains, based on his experience in Britain. He points out that "one cannot understand the impact of constructing hotels in mountainous country simply in terms of their effect on the landscape" for they require an infrastructure of roads, sewage disposal, power supply and manpower accommodation. He notes that "activities which may initially seem acceptable to long term conservation interests may ultimately be unacceptable. For example, skiing over deep snow must be one of the least harmful, recreational uses of mountains, whereas skiing over thin snow cover can be damaging to vegetation. More important, however, is the fact that skiers do not like to ski over thin snow, and so special boulder-free pistes must be prepared and revegetated artificially, using road engineers' techniques of hydromatic seeding and bitumen straw/mulches. Come the summer and a snow free summit, the uplift machinery must still pay its way, so the ski lift becomes a mountain lift and thousands of human feet, which would otherwise not have reached the mountain zone, tread their way across its sensitive vegetation." His comments on hotels have immediate relevance to Banff, those on skiing to the ski resorts of Sunshine and Lake Louise.

A final paper summarizes man's impact on mountains, lists what most high mountain ecosystems have in common in terms of physical, biological, aesthetic, economic and scientific components, and recommends some courses of action. These include: more mountain research, revegetation of damaged areas, institute and educate for sustainable use, and establish wilderness areas in relatively untouched mountain areas.

The book provides a useful world view of mountains, their environmental problems and conservation. By comparison one can evaluate how well a specific range has been managed by man and what techniques and ideas could be applied in future. Such comparison would have been facilitated had the authors been given a definite format for their papers which are uneven in length, coverage, quality and degree of referencing.

The book constitutes a "state of the mountains" report for the 1970's. Fortunately a new international journal Mountain Research and Development edited by Jack Ives provides an ongoing global report on mountains, their use and conservation. Articles cover the Himalayas, Andes, Simien Mtns of Ethiopia, US Rockies, and New Guinea. There is also a news, reviews, correspondence and conferences section.

Both the book and journal demonstrate a maturing of research on mountains and reveal a quest for comparison of mountain problems and the development of a global strategy to deal with them. It is indeed timely, in the words of the International Mountain Society, "to strive for a better balance between mountain environment, development of resources and the well-being of mountain peoples."

Naturally Canada should be concerned with this topic; mountain "degradation is accelerating and spreading" here too. However research on our mountains and the planning and management of them remains weak and fragmentary. There is no comprehensive planning and management strategy for any range in the country. The ACC, given its stated objectives, its conservation committee, its Journal, and its lobbying efforts with government, could do much more to encourage a more progressive approach to what, after all, are some of the world's finest mountain resources. Members wishing to assume this responsibility would be well advised to begin by consulting these two stimulating publications.

John Marsh

High Mountains And Cold Seas. A Biography Of H. W. Tilman

JRL Anderson. The Mountaineers, Seattle, 1980. 40 black & white illustrations, 15 sketch maps, 366 pp. Cloth. About $26

To reconstruct any life of 80 years is a hard task, even more so when it is the life of Harold William Tilman, the most active mountaineer-explorer-sailor the world has so far known. We knew Tilman through his books, particularly his first eight (until 1957). After he combined mountaineering with sailing his writings were not often available to us and we are therefore fortunate that his biographer, who knew Tilman in his seafaring years, devotes several chapters to this part of his life.

The book has 17 chapters, of which four are devoted to soldiering, six to sailing, the rest to "Beginnings", Africa, and mountaineering. There are also two appendices and 15 useful sketch maps. Photos are good but for my taste not enough of them; a few more describing Tilman's activities in Central Asia after 1947 would have been welcome. Not very well covered in this book either is the crucial matter that always needs to be broached when referring to a famous mountaineer — why did he climb mountains? But can we blame the author for this? In his many books Tilman was particularly reticent in this respect and probably only a few of his very intimate friends ever placed this question before him. To penetrate the more hidden sides of this uncommunicative mountaineer the author carefully scrutinized his letters. We have thus an efficient biography; so efficient indeed that I doubt another will be written (although an edited version of Tilman's diaries may appear in a near future). HW Tilman emerges from this book as the man we thought he would be: self-contained, self-disciplined, always active. At 80 he found an adventurer's grave when sailing with five companions in a small boat for an Antarctic island. Any mountaineer, explorer, or sailor interested in learning from the life of a restless and determined adventurer will profit from this biography, and more so if its reading is combined with several of Tilman's own books.

Evelio Echevarría

Expeditions To Nowhere

Paddy Sherman. McClelland and Stewart Limited, Toronto, 1981. Black and white photographs, maps. 226 pp. Cloth. $16.95

I approached this new book by Paddy Sherman with apprehension. I had read Sherman's earlier book The Cloud Walkers (1966) almost a decade ago and found it a very poor read and disappointing for its portrayal of Canadian mountaineering. When asked to review Expeditions to Nowhere I had misgivings. Having first encountered the book in large piles at the local bookstores, and after seeing Sherman do the mandatory television talk show spots, I had become disenchanted with the hype. However I was half wrong.

Expeditions to Nowhere is a book that is on the one hand well written and entertaining and on the other hand mediocre. Sherman writes with an economy of words, as one would expect from a man of his professional background. He presents us with ten of his "expeditions to nowhere" in Peru, Argentina, Bolivia, Alaska, Africa, the Canadian Rockies and the St Elias Mtns. The stories remind me of listening by a winter's fire to an old friend's reminiscences of his latest adventures. Herein lies the problem. Sherman, like the vast majority of mountaineers, enjoys the hills for themselves and not for the record books. Throughout the book he stresses the adage "it is better to travel hopefully than to arrive". His tales revolve around this theme. Unfortunately his stories are mediocre. They lack any sort of interest that would set them apart from other people's mountaineering adventures. The book is not unique or important within the context of Canadian or world mountaineering literature. Sherman's stories, though a pleasure to read, are no different in subject than the many offered in the various mountaineering magazines and journals. The editors at McClelland and Stewart obviously felt that Paddy Sherman, as publisher of the Province, could attract the non-mountaineering public to read the book.

As to the production of the book I have a few complaints. The first concerns the maps which provide the geographic locations of Sherman adventures. The maps are a joke. They present the peaks concerned as over ripe pimples on a continental scale. It would have been far better to indicate the general area around the peaks, showing access and typography. Furthermore the photographs, which are only of a standard variety, are not as well reproduced as they could have been.

If one wants to read a well written and entertaining collection of mountaineering stories of no real value you can not go too far wrong in reading Expeditions to Nowhere. However the buyer should beware. Judging by the number of copies of this book that I have seen in numerous bookstores when it first appeared and am still observing some months later, it is sure to be destined for the remainder pile within a year or so. If you want to buy a copy, take the chance and wait. If you want to read it, support your local library.

Geordie Howe

Books Received

THE BIG WALKS: CHALLENGING MOUNTAIN WALKS AND SCRAMBLES IN THE BRITISH ISLES

Compiled by Ken Wilson and Richard Gilbert. Diadem Books, London, 1980. Maps, numerous black & white, and colour photographs. 256 pp. Cloth. £16.95

A collection of 55 of the finest mountain walks and scrambles in the British Isles.

GRANDES COURSES

Francois Labande. Arthaud, Paris, 1980. Route drawings, black & white, and colour photographs. 104 climbs, about (pages not numbered) 180 pp. Cloth

GLACE ET NEIGE: ART ET TECHNIQUE

Yvon Chouinard. Arthaud/Altitudes, Paris, 1981. Black & white, and colour photographs. 192 pp. Cloth.

THE DARKNESS BECKONS: THE HISTORY AND DEVELOPMENT OF CAVE DIVING Martyn Farr. Diadem Books, London, 1980. Maps, diagrams, black & white photographs. 27 pp. Cloth £9.50

SEA KAYAKING: A MANUAL FOR LONG-DISTANCE TOURING John Dowd. Douglas & Mclntyre, Vancouver, and University of Washington Press, Seattle, 1981. Drawings, black & white photographs. 240 pp. Paper. $9.95

PLAYBOY'S GUIDE TO ULTIMATE SKIING

Tom Passavant and James R Petersen. Playboy Press, New York, 1981. In Canada from Fitzhenry & Whiteside. Black & white, and colour photographs. 222 pp. cloth. $33.75.

A slick, tasteless book.

THE WINDING TRAIL

Roger Smith, editor. Cartoons by Sheridan Anderson, Diadem Books, London, 1981. 477 pp. Cloth. £10.50. To be published in N America by Robbins Mountain Letters, Modesto, CA.

An anthology for walkers; over 80 articles and essays selected from recent writing but also looking back to travellers' accounts over the last 150 years.

TAKE IT TO THE LIMITS

Lucy Rees and Alan Harris. Diadem Books, London, 1981. 197 pp. Cloth. £5.95. To be published in N American by Robbins Mountain Letters, Modesto, CA.

Another fast paced, slight climbing novel. Why are they so difficult to write?

K2, MONTAGNE DES MONTAGNES

Reinhold Messner et Allessandro Gogna. Traduit de I'allemand par Monique Bittebierre. Arthaud/Altitudes, Paris, 1981. Black & white, and colour photographs. 176 pp. Cloth.

THE BREACH: KILIMANJARO AND THE CONQUEST OF SELF

Rob Taylor. Coward, McCann & Geoghegan, New York, 1981. 8 pp of colour photographs. 248 pp. $14.95US

Publisher's hype describes as "a dramatic personal account of how one man faced impossible odds and survived. . . a book with an eloquent message for all". Hmm.

Altitude and Eyesight: Changing Myopia After a High Climb

On an earlier Himalayan expedition, my vision declined abruptly with a worsening of myopia on the return to sea level; I had the impression it changed at 11 pm in the airport at New Delhi! The change was found later to be 1.0 diopter spherical for each eye.[1] I was also examined for retinal haemorrhages and diabetes but no cause could be found.[2] The effect itself was puzzling as was the seeming abruptness of its onset. Weeks later my eyes fortunately drifted back to their former correction. Here I outline detailed refraction measurements made on a second climbing trip to Nepal in which a peak of about 6600 m was climbed. A similar instability occurred after this trip, this time -0.75 diopters.

EXPERIMENTAL METHOD

Because testing might have to be done in a tent, a chart was designed which could be used at two as well as four metres distance. This consisted of hundreds of letters of Helvetica medium type in each of 10, 7, 5, 3.5 and 2.5 mm heights, scaled down from the size which would be used at the more usual distance. Because of the large numbers of letters, memorization was well nigh impossible.

To establish standards for acuity the chart was tested at sea level with individuals with normal eyesight. The number of errors in a block of 50 letters of a given size was then expressed as a percentage, establishing acuity versus type size for normal vision. For the smallest type and at 2 m this error was about 3%.

A set of lenses, kindly supplied by the Imperial Optical Company of Toronto, was used ranging from -1 to +2 diopters in 1/4 diopter steps. For most individuals tested ±0.25 diopters resulted in an increase in error percentage to at least 20 to 30% for the 2.5 mm type at 2 m working distance. This was also true for the 3.5 mm type at 4 m. Ordinary eye testing procedures were used, except that any marked increase in error frequency beyond the 30% value was taken to indicate need for correction with a lens; the limit of sensitivity was thus 1/4 diopter.

RESULTS

There was no detectable change in either the acuity of my vision during the expedition itself and/or that of other members, most of whom also had considerable correction. However on the evening of the 36th day (1 November) I sensed my vision changing and testing the following morning in daylight showed a -0.75 diopter change in both eyes, abrupt but in the opposite direction. This change was steady the next few days but by the time I was examined by an opthamologist in Canada (13 November) the change had relaxed to -0.25 and -0.5 diopters. By 20 November vision was entirely normal. I should add that I am age 52, a healthy business man and a physicist by training, weight 85 kg; visual acuity constant for 10 years prior to 1979, corrected acuity 0/4.5 (20/15), uncorrected RE -2.25 -0.75 x 162 and LE -0.75 1.75 x 22 with 1.5 bifocal.

DISCUSSION

It is tempting to ascribe the effect of high altitude exposure. Time altitude profiles are shown in the graph for the two trips. In 1979 the altitude exposure was on the average higher and longer; although the period of acclimatization was long, I suffered many symptoms of AMS such as lassitude, dizziness, nausea and headaches. The diet in 1979 was poor since it was especially high in starches and low in roughage, fat and protein. I lost 20 Ibs!

Tthe author before the 1981 trip and one day after the ascent of Chulu, 6600 m. Extensive oedema closed the eyes.

These diet deficiencies were largely eliminated in 1981 and my overall physical condition both during and afterwards was much better with lower weight loss and better performance. Acclimatization however was abrupt on Chulu, 3500 m to 6600 m in four days. There were no symptoms of AMS other than shortness of breath; there was heavy oedema afterwards (see photograph).

SUMMARY

This experiment confirmed that an abrupt change in myopia can occur after a climbing expedition. The change (fortunately) relaxed later. Assuming the cause is some physical distortion of the lens system, it is difficult to understand why the change should vary in sign or why it should occur abruptly and long after what one might assume to be the period of peak physical stress. Perhaps the change is actually caused by the "stress" of a return to a normal diet with an expedition appetite, without exercise and with the resultant rapid recovery of lost weight! The fact of an abrupt change in myopia has been confirmed; its origin remains a mystery.

DR Hamilton

FOOTNOTES

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Nutrition and Mountaineering: Principles and Practice

Mountaineering is an exciting and rewarding sport. It also is a very physically demanding activity often performed under conditions which place major stresses on the body. High altitude, extremes of temperature and humidity, and prolonged periods of strenuous activity are all frequent companions of climbers, and each means an additional burden on the body's ability to perform

optimally. The article will discuss some important fundamental issues in nutrition and provide basic guidelines for fuel and fluid management to optimize the performance and hopefully increase the comfort and satisfaction of the active mountaineer.

BASIC NUTRIENTS

The human body is a complex machine, requiring a variety of nutrients for continued stable function. For ease of discussion these nutrients can be separated into six classes: vitamins, minerals, water, fats, protein and carbohydrates.

Vitamins

Vitamins are essential organic compounds required by the body to regulate a variety of processes including energy production, cell growth and repair, blood formation and nervous system function. As regulatory components they are needed in a continuous supply but only in relatively small amounts. There are two major groups of vitamins. First are the fat soluble vitamins consisting of vitamins A, D, E and K. These vitamins are capable of being stored in the body's fatty tissues in times of excess intake and thus can be used when intake is not adequate for daily needs. The other group are the water soluble vitamins which include the B vitamin complex and vitamin C. Because of their freely soluble nature in water the body cannot store appreciable amounts of these vitamins, so consistent intake is more important. This also means that the amounts taken in excess of the daily requirement are almost entirely excreted from the body rather than stored. Hence the often heard comment that vitamin supplementation tends to produce expensive urine and little else.

Sources for vitamins are widely distributed in both plant and animal foods in our diet. Contrary to some popular opinion, the food consumed by an active individual eating a varied diet which includes a good protein source, cereal grains, dairy products and fresh fruits and vegetables will contain a sufficient supply of vitamins to meet body demands. There is no need to pay for expensive supplemental vitamins when an adequate diet will provide all that the body requires. In addition many foods available in Canada and the US are made using vitamin fortified ingredients such as B vitamin enriched flour and this further diminishes the need for expensive supplements.

There is no conclusive evidence that the intake of vitamins above the level found in an adequate diet will be of benefit to the body or contribute to improved athletic performance. It is important to remember that vitamins are not energy sources themselves and do not directly contribute to body structure.

Minerals

When considering the important minerals they can be separated into a more abundant group including sodium, potassium, calcium and magnesium, and a group which is present in only small or "trace" amounts in the body. Of this "trace mineral" group, iron is by far the most important as it is the most abundant and also the most likely to be deficient. Iron is essential in energy metabolism in every body cell and plays a crucial role in oxygen transport throughout the body. For a variety of reasons it also tends to be deficient in the average diet and if a significant iron deficiency develops, energy production and endurance can be markedly reduced. Iron rich foods — such as meats or meat substitutes (soybeans, other beans), leafy vegetables, dates, and raisins — should be part of every diet. In women who are menstruating, iron losses are generally greater than men's so adequate iron intake is of even greater importance.

A good varied diet contains very adequate amounts of the more abundant minerals. In fact the typical Western diet generally contains sodium (in the form of sodium chloride or common salt) in the amounts much in excess of actual body needs. Of these minerals, sodium and potassium are in highest concentration in the body fluids. Potassium is found predominantly inside cells in the intracellular fluid and sodium is predominantly in the extracellular fluid space surrounding the body cells. Because of the distribution of these ions there is potential for major osmotic shifts of fluid into and out of cells as salt balance changes in the body. The body is able to control this fluid balance very carefully in most circumstances but major changes in salt balance, particularly salt loss, can upset this equilibrium leading to a loss of necessary fluid from cells and diminished cell function. Fatigue and poorer performance obviously follows. Salt is lost from the body either in the urine or through sweating so an active climber will obviously have salt losses greater than a sedentary inactive flatlander. This salt loss is offset in part by a decrease in production of urine while the person is exercising hard and also by a diminished amount of salt loss in the sweat well-trained individuals, but as a rule the salt requirement for a person will increase with strenuous activity. However as mentioned above, our usual salt intake is so far above actual daily needs that added salt is rarely needed. Salt tablets, potentially dangerous because of the ease of consuming a large salt load quickly and without accompanying adequate water consumption, should be avoided. In extreme conditions where sweat and urinary salt losses are producing weight losses of greater than 5 to 8 Ibs per day salt can be added as a supplement but it should be combined with water intake. A good rule would be to take added salt of about a third to half teaspoon per litre of water.

Water

An ordinary and generally easily accessible substance, water is often overlooked when considering nutrition, but its importance should be emphasized. It is needed for a variety of vital functions including waste excretion, transport of nutrients and oxygen throughout the body by blood, and temperature regulation through evaporation of sweat. In the absence of adequate water supply it is obvious that the body would be unable to maintain normal function. The critical importance of adequate hydration, particularly in strenuous, energy consuming conditions, is clearly evident in accounts of some early Mt Everest expeditions. The unsuccessful 1952 attempt by a strong Swiss team was attributed to insufficient fuel supply. With only enough fuel to allow for one daily pint of water for the last four days of climbing the climbers became very dehydrated. As dehydration progressed severe fatigue developed, forcing a retreat less than 300 vertical metres short of the summit. In 1953 the first ascent expedition provided sufficient fuel for approximately seven pints of water per day for the climbers. Considering the strenuous exercise and the low humidity of extreme altitude this is not an excessive allowance for daily water consumption. As a rule of thumb water allowance should aim for 1 litre of water for each 1000 calories of food consumed, knowing that there should be increased calorie intake with both increased activity and elevation.

The average daily loss of water for a normal adult in an average environment is about 2.5 litres; this is of course, balanced by a similar daily intake. Of the losses, a majority is lost through excretion of wastes, predominantly in the urine. The remainder is lost either through sweating or loss of exhaled moisture when breathing. Clearly in conditions of either low humidity or increased sweat loss due to heavy exertion (and climbing often involves both of these simultaneously) there will be greatly increased water losses, requiring aggressive replacement. Another factor which will tend to increase water losses is the need to excrete more waste compounds from the body. The most common compounds in this category are the salts consumed in excess of body need and nitrogen containing wastes from protein metabolism. Obviously then a high salt high protein diet will place an increased water intake burden on the body.

It should be stressed that, contrary to what is commonly believed, thirst is not a good indicator of body water balance or the need for water. People involved in very heavy exertion can become significantly water depleted and yet not feel thirsty. Due to a lag in the thirst response of the brain this depletion can easily extend over a multiple day period of heavy exercise and, if not reversed by aggressive water intake, can lead to poor metabolic function and severe fatigue. As a result it is advisable to maintain a schedule of frequent and increased water consumption during exercise and not depend on thirst as an indicator of need for water.

Fats

Fats are an essential part of our diet. Greasy and insoluble in water, they are the most concentrated source of food energy available, containing twice as many calories per unit weight as either carbohydrate or protein. This obviously makes fat well suited for its role as a store of excess energy.

The basic structural components of fats and oils are fatty acids. Depending on the specific chemical structure of these fatty acids, the fats we see are either solid, saturated fats as with animal fats, or are the more liquid unsaturated fats as are seen in oils from vegetables and fish. One of the fatty acids used in the body is an essential fatty acid meaning it cannot be made by the body but must be obtained from dietary sources. Deficiencies of this fatty acid could produce a number of skin and metabolic problems but this would be an extremely unlikely deficiency to occur, given the small amount of the fatty acid needed and the general over-abundance of fats in the typical Western diet. With about 40% of the calories in our typical diet coming from fats, we easily consume them far in excess of minimum needs so there should be no concern for inadequate fat intake, even in the very active person.

The metabolism of fat for energy is a process which is slower and less efficient than the metabolism of carbohydrate, which will be covered shortly. This means that in situations where quick energy is needed, as in short duration intense exercise, fat is not the fuel of choice. However when a person is involved in prolonged moderate to heavy work as in climbing, fat provides an increasing proportion of the fuel burned, up to almost two thirds of the energy the body uses. This should not be taken as an argument for eating a high fat diet. A normal diet supplies adequate amounts of fat for prolonged strenuous work. Furthermore there is evidence which suggests that increased fat intake can actually reduce the level of performance. A diet consisting of roughly 30% of the total calories as fats or oils is a reasonable goal.

Protein

Proteins are a group of compounds found in both plants and animals which are composed of multiple combinations of 20 sub-units called amino acids. Nine of these 20 amino acids are essential, meaning we are not able to make them in the body but must obtain them from dietary sources. Proteins are used throughout the body as structural components in all tissues, as enzymes and hormones, and in various blood products.

Protein is abundantly available to most Canadians and Americans and is generally eaten far in excess of actual body need. There are many good protein sources available. In addition to the more traditional meat sources, vegetarian diets, particularly those which include eggs and dairy products, are very satisfactory sources of protein. The risk in obtaining protein from vegetable sources such as beans, nuts or grains is that there are relative deficiencies of some essential amino acids in some vegetable protein sources. This will not be a problem if a wide variety of vegetarian foods is eaten, particularly if this includes milk or eggs which are "complete" proteins, containing all the essential amino acids.

Protein is not an efficient source of calories and should not be used as a source of energy. Rather protein should be consumed to meet the body's needs for tissue growth and repair, allowing energy needs to be met by carbohydrate and fat. It is a common myth that increased protein consumption is needed for meeting the demands of heavy exercise. Sufficient protein is provided if a person sticks to a diet which includes an overall increased intake to meet increased caloric needs; there is only a very small increase in protein requirement in an active person. Over-consumption of protein can be more of a detriment than a benefit for the active person. First, a high protein intake means a lower proportion of more energy efficient carbohydrate or fat so the body actually has less easily available energy supply. Second, a major waste product of protein metabolism is urea, which must be excreted in the urine. So increased protein intake also means a greater water loss through urea excretion in the urine, adding to the other increased water losses in an active person. This can easily worsen the dehydration problems already present in people exercising heavily. As a general guideline, protein should comprise about 15% of the total daily calorie intake.

Carbohydrate

The most efficient and also the most inexpensive sources of food energy are the various sugars and starches which comprise the nutrient class called carbohydrates. Formed by plants from carbon dioxide and water, the basic sub-units of all carbohydrates are simple sugars. In humans glucose is the simple sugar used as the basic energy "currency". All carbohydrates are broken down and converted to glucose through the digestive and metabolic process. Carbohydrate sources in our diet include sucrose or common table sugar, honey and fruit sugars, as well as the starches which are the major component or rice, grains and root foods such as beans and potatoes. They are an inexpensive and excellent source of energy and should comprise over one half the daily total calorie intake. On an average daily intake of 2000 to 2500 calories an adult male

should be consuming roughly 1200 calories as carbohydrate. At four calories per gram of carbohydrate this means eating about 300 grams (or greater than 1 Ib) of pure carbohydrate per day. This requirement will clearly increase as one becomes more active.

Glucose circulates through the body in the blood, supplying energy to all body tissues most importantly the brain, kidneys and muscles, including the heart. Those tissues need a steady supply of glucose to function properly and, under normal circumstances, the body has a series of well balanced controls to assure that constant circulating glucose supply. A small amount of the carbohydrate eaten each day is picked up by the liver and muscles and converted to a compound called glycogen. This is a storage form of glucose, and when the circulating glucose supply is being depleted through exercise or increased metabolism, glycogen can be broken down to maintain a constant glucose level.

Total carbohydrate stores of the body are one of the major factors in determining the duration of prolonged exercise. As exercise continues and glucose, in the form of glycogen, is being depleted from the body's stores, the blood level of glucose will begin to drop. Without a normal level of glucose, one will begin to feel very fatigued, have poorer concentration and perhaps feel nauseated. Muscle performance drops because the muscles' preferred fuel is no longer available in adequate amounts, and with fat as almost the sole fuel for muscles, exercise tolerance can plummet. As was mentioned earlier, fats are a concentrated and very useful source of energy but because of the poorer efficiency of their metabolism the body can't maintain the same level of activity solely on fats as it can when glucose is also present in normal amounts. Clearly, maintaining an adequate level of caloric intake, including both fats and carbohydrates, is extremely important to a person involved in prolonged exercise such as climbing.

FUEL UTILIZATION IN CLIMBING

Climbing is a moderately strenuous but prolonged activity with energy consumption averaging roughly 500 to 700 calories per hour. For comparison, the average adult will consume about 100 calories per hour sitting quietly while a person running at 10 mph (a competitive marathon pace) will consume about 1200 calories per hour. For the long days of extended climbs this means a climber will be burning up to 6000 to 8000 calories daily, or approximately three times a normal daily consumption. Factors such as heavy loads or intense cold will further increase the energy demand. Studies of exercise physiology in humans have revealed information which should be of benefit to people involved in endurance activities such as climbing.

It has been noted that athletes who exercise at high intensity levels to exhaustion (depletion of body glycogen stores) and then consume a very high carbohydrate diet can increase their stores of muscle glycogen almost threefold. This has become known as carbohydrate or "carb-" loading and can improve performance and extend endurance significantly. Unfortunately it is only of real use when the level of activity is very high (greater than 70% of maximum capacity) and for the climber who is generally exercising at 50% or less of maximum capacity it would not be a great advantage. There are some related effects however, which are more obviously of benefit to climbers.

Diet and the proportion of carbohydrate to fat consumed while active also plays a role in performance when exercising. The greater the proportion of carbohydrate to fat in the diet the greater the carbohydrate utilization and since we know that carbohydrate is a more efficient fuel source than fats a diet with an increased percentage of carbohydrate in the diet will be an advantage to an active climber. This advantage of carbohydrate foods will probably be welcome news to climbers who have noticed that particularly at higher altitudes, fats and fatty foods are increasingly difficult to digest; the exact reason for this is presently unknown.

Exercise and continued physical conditioning changes the pattern of fuel utilization in the body by apparently causing well trained persons to use a greater proportion of energy from fats to perform work than untrained persons. This glycogen conserving consequence of physical fitness would presumably allow more work to be performed before glycogen (and glucose) depletion and consequent exhaustion.

To summarize these comments on fuel utilization, total energy intake should be increased when climbing up to three to four times normal baseline diet. This should include a greater percentage of carbohydrate than the resting diet and also be consumed more frequently while active to maintain a good level of available glucose. Furthermore, prior training and physical fitness will produce more advantageous use of both fat and glucose stores, thereby lengthening the productive work period.

CONCLUSIONS AND RECOMMENDATIONS

When planning your food consumption either for a mountaineering trip or for daily meals at home, remember to consider all the important nutrient classes in a diet. Good sound daily dietary habits are fundamental to a sense of well being and a good level of performance when active.

Salts, fats, and protein are generally found in overabundance in a typical Canadian or US diet so deficiencies of these nutrients are generally not a concern. In fact in some cases one should try to reduce consumption, as n the case with saturated fat foods which have been associated with an increased rate of heart disease in Western countries. If a good variety of foods is consumed in an amount adequate to meet daily energy requirements and includes fruit, vegetables, and cereal grain products, there should be no need for vitamin supplementation. Given that a period of at least three to four weeks is necessary to manifest any symptoms of vitamin deficiency, there is little need to use expensive vitamin supplements even when on a longer climbing trip and away from certain types of foods such as fresh vegetables.

When climbing a continued frequent schedule of fluid intake is extremely important to minimize the fatiguing effects of dehydration. Do not depend on thirst to tell you when to drink, and when replacing major salt losses from sweating, drink dilute salty drinks; salt tablets should be avoided. Adequate fluid intake depends on prior planning. Carry enough fuel in the winter to assure at least three or four litres of fluid intake per day; with high altitude and increased exertion this will be increased. Allow for approximately one litre of water for each 1000 to 1500 calories consumed.

Energy sources for the active climber should come predominantly from carbohydrate intake. Fats are also an important energy source but the rapid utilization and greater efficiency of carbohydrates favours their greater role in a climber's diet. Proteins are a poor food choice for energy and should not be consumed in appreciably greater amounts than in the normal, less active diet. A reasonable guideline for the distribution of foods in the diet would be 10 to 15% protein, 25 to 30% fat and 60% carbohydrate by total calories.

The energy consumed by an active climber may be as high as 6000 to 8000 calories per day, or three to four times normal consumption. This should include an increased amount of readily available carbohydrate sources such as chocolate, hard candies or raisins, dates, etc and should be consumed on a frequent schedule to maintain a continued, high level of performance. Water consumption can be coupled with this to maintain adequate hydration.

Finally a programme of training and continued physical fitness will mean more efficient function and utilization of fuel sources and will it is hoped result in a more enjoyable mountaineering experience.

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Earth Science Studies

Wedgemount Lake and Glacier Studies, Northern Garibaldi Park: 1981 Progress Report

The 1981 glacial year, that is the time span between our successive early autumn visits, brought its usual share of surprises to Northern Garibaldi Park. There was little precipitation in the early fall of 1980, then record rainfall and high temperatures in November. Little snow fell until early December when 2 m covered the area. Unfortunately this was the end of any serious snowfall for some time and on Boxing Day some very wet visitors noted that intensive warm rains extended up to the top of Wedge Mtn (2891 m), reducing the already sparse waist deep sodden snow pack at the hut to a dense snow of only shin deep proportions. Packing out next day they found that the unusual snow melt was causing horrendous floods in the valleys below. According to Jane Weller they ran out of snow just below timberline. The trail was an eroded ditch, typically 10 to 20 cms deep, much more on the corners. At the crossing of Wedgemount Creek near the top of the logged area they found that part of the shaky excuse for a foot bridge had disappeared. Walking the logging roads below, where only two days before they had skied up on at least a 60 cm base, there was not even a patch of snow. At the Green River crossing to the highway they found no logging road bridge; luckily the nearby railway bridge allowed passage. En route to Vancouver they passed through the sodden settlement of Whistler, the flood choked canyon of Cheakamus River, the Culliton Creek highway wash out, and the extensive flooding of Brackendale. It was one of the climax storms of the century which affected all elevations and it raised hell with all mountaineering access involving logging roads. Snowfall of any substantial amount was long in coming thereafter; it eventually came in earnest by the time spring officially rolled around. By late April the snow pack exceeded 2 m at timberline and higher elevations but a very hot and cloudless summer soon removed it all.

In mid September snowfall returned on a permanent basis. Weather delayed our annual visit to one hurried day in early October when there was about 20 cms of snow on the ground. Threatening skies limited work on the glacier to a re-survey of the snout and re-establishment of the lower velocity profile as shown in CAJ 1981. The upper line again went unsurveyed. In the intervening year however there was a scientific conference presentation of the work and a good amount of office mapping had been completed using new techniques. Some facets of these studies, including incidental observations, are discussed in the following paragraphs.

Following the 1980 survey work started on the production of Digital Terrain Models (DTM) of Wedgemount Glacier from photogrammetric models. A DTM is a set of points having X, Y, Z co-ordinates which define the terrain surface. Two DTM's have been created, namely the 1969 and 1978 data sets. Using existing computer facilities, standard contour mapping at 1:5000 with 10 m contours has been produced for test purposes. The result compares very favourably with manual contouring from a stereoplotter. The DTM has no particular advantage if only one scale of map is to be produced. The value of the DTM approach is in the determination of volumetric ice changes. Work is presently underway on production of programs to compute volume change of regions of the glacier from the differences between two DTM's.

Comparison of the graphic contour mapping from the two DTM's indicates that practically no change has occurred in the height of the glacier surface above the 2100 m level; except that the depression in the glacier below Parkhurst Mtn is about 5 m lower. Below 2100 m the effects of ablation become increasingly apparent as lower elevation zones are examined. At the 1978 glacier front the loss of elevation is approximately 30 m. This amounts to an ablation of 3.3 m/yr which compares favourably with the computed value of 2.2 m/yr at the velocity stations which are 120 m upstream and 50 m higher in elevation.

The 1981 annual glacier snout position survey has revealed yet more surprises. While the left and right edges of the snout are at the exact position of last year, the centre of the glacier has bowed forth another 5 to 8 m revealing an overall advance for the glacier were it not for the following items. The first is the slope of the ice snout on the true righthand side of the tongue. It is no longer a vertical cliff but rather a uniform 30 to 40 degree slope allowing climbers easy direct access onto the glacier without having to

walk on steep lateral moraines. Thus the ablative loss has been severe over the season. Secondly the margins of the glacier near the snout have "shrunk" by 5 to 15m. Finally the lower velocity profile shows that the ice has thinned by a variety of processes for the above noted average loss of 2.20 m over the past year. Thus the actual advance of the glacier snout is strongly counteracted by much loss of ice volume. The velocity profile across the lower tongue of the glacier has moved at about the same rates as reported for last year (11.67 m/yr) though monument 31 has accelerated to 12.08 m in a 372 day time span, while 32 has diminished to 11.08 m in the same time frame. Thus some ice marginal drag has been lost on the true right edge of the glacier. However the true left side is behaving normally with reduced velocity (11.20 m) compared to the centre of the glacier which was the 12.34 m value (372 days). Last year we erred by describing a divergence of ice flow across the profile. Looking at the velocity table and diagram of ice station monuments in CAJ 1981:59 it can be seen that the monuments are indeed converging and that the axial eclipsing of stone circles placed around each monument is indeed a crude representation of strain ellipsoid deformation or "squeezing" of ice (though ice is incompressible). During this past year the convergence was maintained though station 32 is behaving abnormally compared to the others. Because this station may also be showing abnormal velocity, and the fact that this station is now just up slope of a curious set of arcuate crevasses, reported as a slump structure in CAJ 1979, it may be that station 32 is being hindered by a sub-surface irregularity, such as a bedrock riegel. With continued ablation we may have a definite answer as to what is taking place at this abnormal portion of the glacier tongue.

Finally we draw attention to the oldest or late Pleistocene age terminal moraine located at the top edge of the logging on Wedgemount Creek (CAJ 1976). Spot observations elsewhere in the Green River valley show two or three other moraines of probable correlative position. The largest of these is just upstream of the new Whistler Village on Fitzsimmons Creek. The new triple chair lift departing the village towards Whistler Mtn crosses over a probable lateral moraine which lies adjacent to a vertical rock cliff — where the lift begins to rise towards the first plateau level. The village itself lies on the outwash apron of this old Fitzsimmons valley glacier. Another area of more obvious morainal development is on the lower reaches of 21 Mile Creek on the opposite side of the Green River valley or in this case, Alta Lake. The trail to Rainbow Falls is located on the crest of this moraine after beginning in outwash on road cuts above West Side Road. The moraine is on the true right side of what was a long sinuous valley glacier which no doubt extended down from the upper south facing basins of Rainbow Mtn. The falls may represent a feature left by sub-glacial erosion in bedrock but this needs more study.

Finally the west slopes of Mt Currie near Pemberton show morainal like features on the logging road above Nairn Falls. The mound-like feature lies across a broad bushy basin which could have developed by nivation phenomena, that is particle movements over (and under) snow banks, rather than ice shove processes. A study of Late Pleistocene ice re-advance features would be a worthy objective for the entire Green/ Cheakamus through valley now that logging roads have provided much better access and exposures for examination.

WA Tapper and KE Ricker

Some Winter Snowfall Records at Timberline, Southern Coastal Mountains, Vancouver to Lillooet, BC, with Special Reference to Lizzie Creek Basin

Alpine (timberline) weather stations in the mountains north and north-east of Vancouver, both existing and abandoned, can probably be counted on the fingers of two hands. This includes long and short-term, permanent, semi-permanent, and experimental one purpose sites. Brooke et al. (1970) analysed the records available up to and including 1964 exhaustively while studying the effect of snow on growth in the subalpine mountain hemlock biogeoclimatic zone. Most of the records came from provincial or watershed snow courses which have had sporadic or monthly visits during most years since their establishment. However the majority of these courses are well below timberline. There are also ski resort snowposts, some of which record daily snowfall as well as standing snow depth, and sporadic or short-term observations elsewhere. The daily record however is very sparse.

Drawing together all the fragments plus my touring observations, one is struck immediately by the unusually thick and heavy snowpack covering this area most years around Easter. The BCMC began snowpost readings at the 1200 m level on Dam Mtn (behind Grouse Mtn ski resort) in 1912 and over the following 25 years recorded an average yearly maximum snowpack of 427 cms. 1920 was exceptionally light while 1937 reached 579 cms (Taylor 1936, 1937).

In the subsequent era of watershed snow course surveys and ski resort facilities there were record snowpacks in 1946 and exceptionally light snow in 1963, and certainly 1981. Vancouver City engineers claim there is a 17 to 19 year cyclic redundancy in snowfall patterns and order their snow removal equipment accordingly. Though the maximum snowpack usually occurs during the first week of April, give or take a month, the maximum water equivalent almost always occurs in late April or early May. Snow depth-to-water depth equivalent ratios vary from 1.98 to 2.79 (Brooke et al., 1970).

Above the November to May average location of the freezing isotherm, which has a modal occurrence at 990 m above sea level, the snowpack thickens dramatically. Maximum precipitation takes place from that level up to or near the cloud base, which hangs habitually at about 1200 m during the winter months (Brooke et al. 1970).

Since BCMC's old Dam Mtn snowpost disappeared in the 1940's, and since the official watershed snow courses are another 180 to 200 m below timberline, one must proceed to Mt Seymour for further near timberline snow records. For short-term experimental work the usual location is the Mystery Peak/Brockton Point region where timberline flirts between 1200 and 1215m. During their early 1960'secologic studies Brooke et al. (1970) used three sites in this region. In the early 1970's two enterprising geography professors renewed the assault with a self designed automatic apparatus to measure daily water equivalents. The armchair approach failed to

eliminate the trudge factor altogether; exposure to cantankerous mountain weather revealed shortcomings in the design. Results have yet to appear in print.

COASTAL MARITIME SNOWPACKS

More permanent meteorological stations are located below timberline on the coastal front at Hollyburn/Cypress Bowl (1015 m), the CBC tower on Mt Seymour (890 m), and Grouse Mtn (1105 m). Moving northward the next elevated meteorological station is the winter season station on Whistler Mtn in the Coast Mtn "transition zone" (Brooke et al. 1970). There are however bits of information to be gleaned along the way.

The first record of note is often overlooked Henrietta Lake reservoir station (855 m) behind the Woodfibre pulp mill on Upper Howe Sound. A year round watchman at this depressed timberline locale has kept a daily snowpack record since 1963. Because this unusually wet site is below the modal winter freezing isotherm but above its minimal elevation there are extreme year to year fluctuations in the maximum spring snowpack (0 to 6.2 m).

Across Howe Sound from Woodfibre the upper residential areas of the now abandoned Britannia Mine complex had a meteorological station at "Tunnel Camp" or Mt Sheer townsite (670 m), just below the critical minimum elevation for thick snowpack development and well below the local timberline (1500 to 1550 m above mean sea level). Over a 30 year span the average total annual snowfall was 511 cms. Because the site is located below even the minimum average elevation of the winter freezing isotherm it receives much less snow than higher snow courses in the nearby Vancouver watershed. The highest water reservoir in the Britannia complex, Utopia Lake (1300 m), did not have a caretaker to keep snow records but alpine clubs frequented a ski cabin between it and Lower Parklane Reservoir. In the spring this cabin was totally buried more often than not. This suggests a standing pack of 4 to 5 m or more in heavier years.

There are several subalpine snow courses in the adjacent Vancouver watershed: Loch Lomond (1100 m),1 Burwell Lake (880 m), Palisade Lake (880 m), Hollyburn Mtn (1100 m), Grouse Mtn (1160 m),1 Mt Seymour at Dog Mtn (1080 m),[1] Mt Seymour near Mystery Peak (1070 to 1110 m) and, established more recently, Orchid Lake (1190 m). Except for the latter site all the data from these courses (up to 1964) were analysed by Brooke et al. (1970). Their findings can be summarized as follows: average elevation of the seven sites, 1045 m; average snow depth range 1 April 1960-64, 160-483 cms; average snow depth range 1 April 1945-64,[2] 152-657 cms; long-term average depth of snowpack (April 1), 345 cms. To this could be added for comparison: average snow depth 1 April 1974,[3] 529 cms.

The foregoing summary can be extended back in time by comparing only the Grouse Mtn record with that of BCMC's Dam Mtn snow post, established in 1912. The Dam Mtn record, as mentioned earlier, shows an average 427 cm spring maximum pack, with a 25 year maximum of 579 cms in 1937. The Grouse Mtn record (1936 to 1964 inclusive) shows an average of 308

Table 1-snow survey course records, southern Coast Mtns, for 1974 prime period, or closest year to 1974 period. K. Ricker

	area	elev (m)	depth (cm)	date	comment
south west	COASTAL MARITIME SITES				
	Vancouver Watershed	1045	529	April 1974	7 site average
		1070	579	March 1974	Mt Seymour site
		1070	571	May 1974	Mt Seymour site
		1180	665	May 1974	Orchid Lake* site
	Stave River	1210	561	April 1974	snow pack little higher in 1971
	Woodfibre-Henrietta Lake	855	619	April 1974	May 1974 = 503 cm
	COASTAL ARIS SITES				
	Diamond Head	1420	NR	NR	312 cm in April 1976
	Callaghan Lake	1040	NR	NR	348 cm in April 1976
	"Boomerang Glacier"	1520	NR	NR	625 cm in April 1971
	TRANSITION SITES				
	Black Tusk Meadows	1620	NR	NR	328 cm in May 1976; 246 cm in May 1978; record year (May 1954), 409 cm.
	Sentinel Glacier	1570	NR	NR	314 cm on 18 May 1970
	Whistler Mtn (microwave station)	1450	310 279	April 1974 May 1974	south of ski area (official snow course)
	Whistler Mtn (top of ski lifts)	1850	518 581 442	April 1974 March 1974 May 1974	at ski resort snow post (not a snow course)
	EAST OF LILLOOET-HARRISON VALLEY (Maritime or west side)				
	Tenquille Lake	1680	427	April 1974	record year depth
			437	March 1974	record year depth
	Nahatlatch Divide	1520	511	April 1974	record year depth
	Lizzie Creek Basin	1620	(est) 371	March 1974	from snow post estimated by extrapolation
			(est) 504	April 1974	
			(est) 630	May 1975	
north east	EAST OF LILLOOET-HARRISON VALLEY (axis to leeward sites)				
	McGillivray Pass	1800	251	April 1974	record year depth
	Mission Ridge*	1850	257	April 1974	1972 year a little higher

Figure 1 - location of snow measurement sites (many lowland sites omitted). K. Ricker/M. Irvine

cms, with a maximum of 712 cms in 1946. Because of the site difference this comparison between two eras should be regarded with caution. The five year period from 1960 to 1965 contained the year of the lightest snowfall (1963) for all sites included in the above summary except Grouse Mtn. The latter had one especially lean year of only 83 cms in the period between 1938 and 1944. The year 1981 (not included) was similar. On the basis of snow course readings taken somewhat farther down Mt Seymour Brooke et al. (1970) estimated that the 1964 snowpack reached 760 cms by 1 April in the uppermost timberline areas (1200 m) near Mystery Peak and Brockton Point. Three of their own stations there were unfortunately not read that year. In the three previous years they had recorded maximum standing snowpacks of 323 to 439 cms.

GARIBALDI PARK SNOW LEVELS

Beyond the head of Howe Sound timberlines are higher (1650 to 1800 m) because of increasing distance from the maritime front as well as a higher terrain base overall. Ridges and peaks are generally 300 to 1000 m higher than those of the Vancouver watershed and surrounding regions. There have been sporadic attempts at keeping snowpack records for five timberline locations in or near Garibaldi Park: Diamond Head, Black Tusk Meadows near Taylor cabin, two sites at Whistler Mtn, Sentinel Glacier and, for a short period in the early 1970's, Brohm Ridge. Only Whistler Mtn has a long term daily snowfall record but Brohm Ridge and three sites at nearby Callaghan Creek basin (945 m, 1520 m and 2195 m) have daily records for 1971. The latter two were kept by Garibaldi Glacier Resorts and Nancy Green Ltd respectively in connection with proposed developments. The Diamond Head and Black Tusk sites have occasionally observed snow courses, though Park Rangers also continue to keep records begun by Cliff Fenner in the early post-war years.

Garibaldi Park straddles a moisture cline that is distinct in areas located below 700 m. The pronounced differences are reduced with increasing elevation but the general reduction in glacier size or increase in glacier base elevation as one moves north indicate alpine moisture change along the transect as well. Brooke et al.'s analysis of valley bottom annual moisture records covering a 30 year period (1931 to 1960 inclusive) shows this drying out effect in the following south to north-east sequence: Vancouver airport (1058 mm), Britannia Beach (1993 mm), Squamish (2222 mm), Garibaldi Station (1548 mm), Whistler (1406 mm), Pemberton Meadows (942 mm), and Lillooet (355 mm). Thus the axis of the coastal wet belt passes north-westerly through the Squamish/ Brohm Ridge/ Diamond Head area towards the Pemberton, Mt Cayley and Callaghan Icefields. The precipitation decrease to the north-east of this alignment is termed the "transition zone" to the climatic leeward zone of the interior (Brooke et al. 1970).

At the alpine levels in the Garibaldi area the precipitation decline cannot be well demonstrated with the available snowpack data (Table 1), though it can certainly be seen by the skier who traverses the length of the park in spring forays. The snowpost at Diamond Head Chalet stands almost 9 m high and has been all but covered some years, though not recently. Traversing from there to Garibaldi Lake one descends Sentinel Glacier, sounded in the 1968 to 1971 period to reveal 4 to 9 m thick snowpacks (Mokievsky-Zubok 1973). Proceeding from the south-east end of Garibaldi Lake some 6 or 7 kms north-west to Black Tusk Meadows one is lucky to find 4 m of snow on the ground even in heavy years. On Whistler Mtn there is 3 to 5 m of snow above the 1400 m level in better years. For Wedgemount Lake at the north end of the park (1860 m) a 3 to 4 m snowpack is unusually deep.

The maximum precipitation zone then hovers around Mt Garibaldi, surrounded by heavy packs recorded at Diamond Head, Brohm Ridge and Sentinel Glacier. We hope Al Raine will publish his snow records for Brohm Ridge and upper Callaghan Creek to support this claim. The latter involved a camp at the toe of "Boomerang Glacier" on the north-west side of Brandywine Mtn, a remote recording station higher up on the nearby icecap, and another station below timberline at a proposed village site halfway to Callaghan Lake. Very thorough documentation was compiled for the proposed Powder Mountain ski resort and the records were compared to Whistler, the Bugaboos, Lake Louise, Sunshine Village, Snowbird in Utah, and even Zermatt! On Brohm Ridge there were some outstanding snowfalls in 1971. For example in March and April there were two days when snowfall exceeded 90 cms, seven days of snowfall in excess of 50 cms, and six days of falls greater than 25 cms. It snowed on 35 days of that period, accumulating an outstanding 998 cms, of which 541 cms fell in the first two weeks of March. The Ides of March however, were followed by a week of clear weather.

TRANSITION ZONE AREAS

With the advent of the Whistler village ski area in 1965 the upper slopes of the mountain were instrumented for daily ski season weather and snowpack observations. This transitional zone site is the key alpine weather observation station for all of south-western British Columbia. Unfortunately some data require manual readings and are not recorded while the mountain is shut down for skiing. With the developing emphasis on summer skiing a fully manned year round observation site may be forthcoming.

The Whistler area is on the fringe of surrounding heavily glaciated country as it lies south-west of the Harrison/Lillooet River "through" valley. Mountains influenced by the continental climate lie to the north-east of this major lineament and their eastern slopes mark the true leeward or rain shadow side of Pacific frontal precipitation. Their western slopes however are shielded by the Garibaldi Park ranges and thus should be cooler and drier in winter and warmer in summer. There are four snow courses in the region (Table 1) located very near timberline, of which the Mission Ridge site is also being instrumented with a "snow pillow" device to record daily snowfall in terms of water equivalent. These sites can be used in a general way for comparison to the transitional area. Their records do not show a large difference in terms of timberline snowpack depths.

Another way of checking the drying and cooling phenomena to the east of the transitional zone has turned up in the log book of Lizzie Creek cabin, on the east side of the "through valley" almost 43 kms due east of Whistler Mtn. This fortuitous circumstance evolved when Fern Kornelson and Ross Campbell decided to take up one author's suggestion of keeping a daily weather log during their isolated stay at the cabin. This well organized record was finally retrieved in the spring of 1981. Through the cooperation of R McCarthy of Whistler Mountain Ski Corporation a comparison of the two areas is possible, as shown by Figure 2. The graphs for

the two sites are not strictly comparable because record keeping at the Whistler operation had a delayed start and at Lizzie Creek the perpetual lack of sunshine as the winter wore on finally drove the occupants out just before the Ides of March; Ground Hog (or alpine marmot) Day did not give them any confidence in the weather to come. They should have toughed it for a few more days to cash in on a week of clear weather as happened at Brohm Ridge. Thus the time for annual peak snowpack development was missed and because the record shows only a total snowpack reading for the day before their departure (4.4 m), we are forced to estimate the snowpack for the selected time intervals (Table 1) based on ratio comparison to the Whistler record. The 1 May value is probably too high; spring temperatures should be warmer at Lizzie Creek than at Whistler — a trend that was beginning to develop in late February (Figure 2). However during the main winter period the weather patterns between the two sites are remarkably similar. Sometimes the Lizzie Basin area lagged a day in the arrival of new snowfall or in the clearing of skies after a snowfall but otherwise the histograms of snowfall are near mirror image replicates. Temperature patterns correspond somewhat less. While general temperature trends are in unison minor shifts at Lizzie Creek lagged behind or even reversed the changes at Whistler.

The graphs show Lizzie Basin to be somewhat cooler overall in winter as theorized, despite its slightly lower elevation (1620 m as opposed to 1850 m). This cooling is about 0.85°C on the average; thus it is significant that the upper Lizzie Basin did not have one day above freezing between 29 October and 12 March whereas Whistler had at least three different daytime periods above 0°C. Hence on a temperature regime basis the Lillooet Range (and Cayoosh Range to the north) can claim some continental climate characteristics.

Lizzie Creek however accumulated 16.4 m of snowfall over the autumn and winter whereas Whistler for the same period received about 12.2 m (an estimate to cover for early autumn record hiatus). This would suggest that the intervening ranges of Garibaldi Park are not effectively shielding inland ranges from the maritime storm fronts. However as the standing snowpack at Whistler on 10 March was 13 cms higher it is concluded that Lizzie Creek snowfalls are of much lower moisture content, thereby prone to more settling. In fact the snowpack had settled by 74% by that time because there had been no warm day melting or wind attrition (the snowpost site is on a sheltered glade). Small losses to surface sublimation cannot be ruled out. However Brooke et al. (1970) noted that timberline glades do "attract" snowfall, at the expense of adjacent continuous forest cover and expansive open areas. The accumulation at Lizzie could be a local quirk typical of only the cabin site and nearby areas rather than of the basin as a whole. In our 1981 Easter visit the pack was a well consolidated 3 to 4 m.

Using the Whistler data to cover Lizzie Creek after mid March it is estimated that the total year's snowfall at Lizzie added up on a day by day basis to 19 to 20 m whereas Whistler probably logged about 16 m. Both estimates assume no appreciable snowfall in May. However innumerable May trips to Garibaldi Park indicate that a metre of snowfall over the month is not uncommon. Thus a season end snowfall of 17 m for Whistler and in excess of 20 m for Lizzie Basin is possible, though perhaps a little optimistic for the latter because of its lower elevation and likelihood of warmer spring temperatures. How does this accumulative snowfall compare to that elsewhere? There are no published records for the Coast Mtns. Vancouver's north shore ski resorts probably have data, but not for timberline sites. In Washington State the Paradise Ranger Station (1965 m) on Mt Rainier keeps the most publicized record. According to Barnett (nd) and Kirk (1978), 26 to 28 m cumulative readings for one season are not uncommon though 15.3 m is more typical, and a maximum of 917 cms on the ground at any one time makes the area one of the more snowed in of the western Cordillera. While the Olympic Mtns undoubtedly surpass these levels it is not known whether the Mt Garibaldi area has exceeded the figure — 900 cms is the highest known standing snowpack there but other Diamond Head or Brohm Ridge records may turn up a 10 m snowpack figure. One site that has certainly surpassed the 10 m barrier is the old Mt Becher cabin on the edge of the Forbidden Plateau (1150 m) on Vancouver Island. In mid March 1956 Don Poole and one author measured 11.5 m; it made the underlying cabin rather hard to find!

Another interesting aspect of the Lizzie Basin record is the absence of sunshine. There were only two major and two or three minor clear spells between October and mid March; using the Whistler record thereafter there may have been one more major and three other minor periods of sunshine to the end of April. While Ross and Fern were at the cabin measurable snow fell on 104 days of the 141 day period (74%) whereas the Whistler area had 103 days of snowfall in a 165 day period (63%). However where the two sets of data are in a common time frame (117 days) Figure 2 shows that there is only a minor difference in the number of snowing days between the two sites. Interesting as well were the conditions responsible for the release of a large avalanche off White Lupine Ridge. It passed through the axis of the valley bottom just upstream of the cabin to terminate up slope on the opposite wall. The graph shows that two days of very heavy snowfall coupled with a very fast rise in temperature were the prime climatic controls for the release.

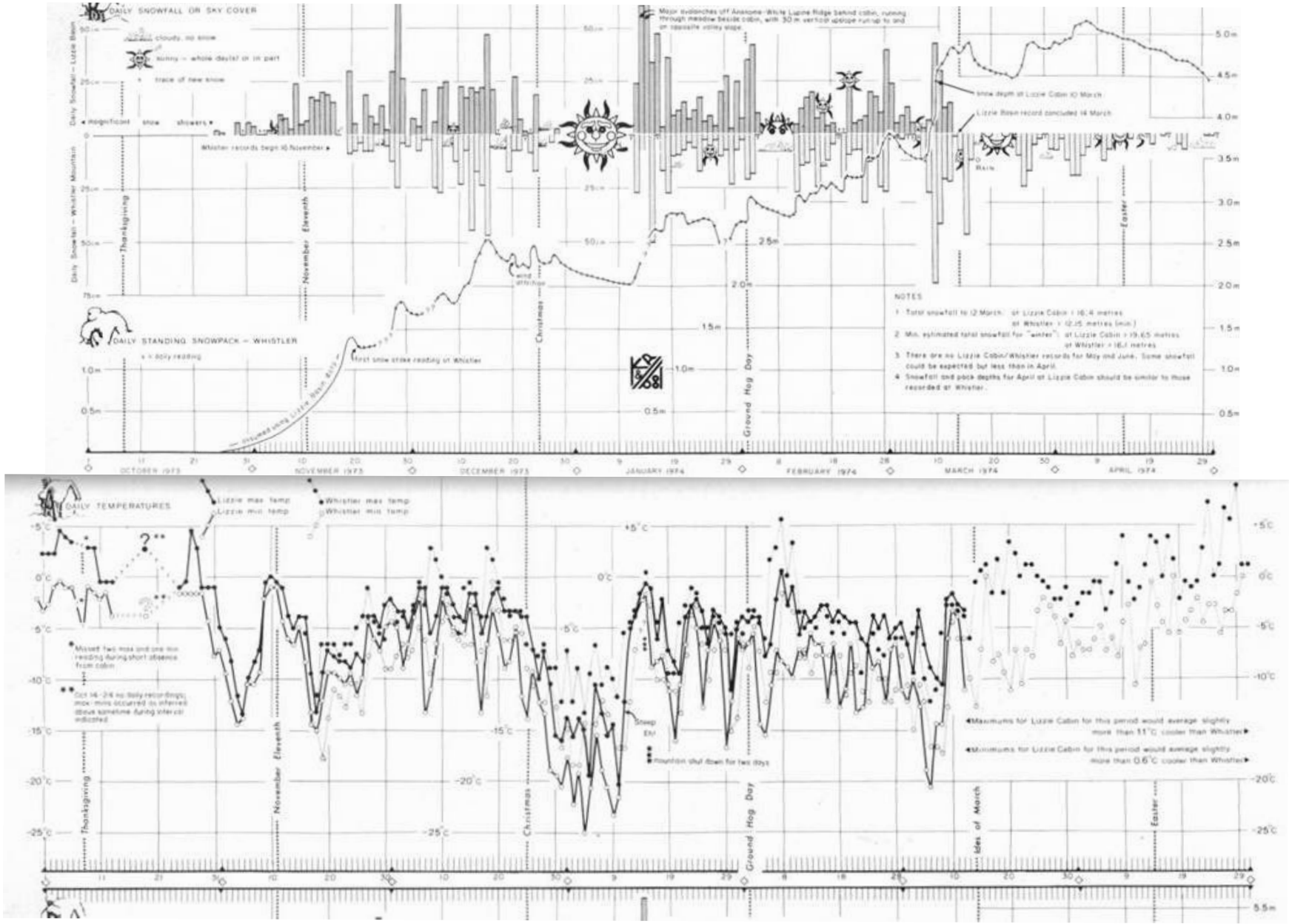
Climatically speaking a one winter record does not really tell that much, other than that the site is characteristic of a trend running north from the east side of Harrison Lake through to Railroad Pass, the latter of which lies north of Pemberton Meadows (Figure 1). However because the site record had a very strong correlation with that for Whistler it is probably valid to analyse this entire mountainous trend by using the Whistler Mtn weather records. While this trend is considerably moister than the McGillivray Pass/Mission Ridge area, it does suggest that would-be developers should be examining sites to the north and east of Lillooet Lake as prime target future ski areas because of the high but dry snowfall there. Sunshine however could pose a problem. Any site with other merits should be examined for winter sunshine lighting conditions in advance of plans for a ski lift or helicopter based operation. The data also demonstrate that hydro transmission lines should be kept well below timberline in this part of the world and tower sites be well clear of old avalanche tracks.

Karl Ricker with Leo Burdak

ACKNOWLEDGEMENTS

Peter Jordan, Al Raine, and the engineering staff at Woodfibre pulpmill contributed data for this report. However it is the immaculate record collected by Fern Kornelson and Ross Campbell at Lizzie Basin cabin, upon the principal author's request, that made the key discussion possible. R McCarthy of Whistler

Figure 2 - daily timberline weather synopsis, upper Lizzie Creek basin, Lillooet Range and Whistler Mtn, Fitzsimmons Range, 1973/74. Leo Burdak



Mountain Ski Corporation very willingly supplied the comparison data to make the analysis that much more meaningful and worthwhile.

FOOTNOTES

1. These are 1964 elevations. The 1980 Snow Survey Bulletin quotes elevations of 900 m, 1100 m and 1070 m, respectively.
2. 1936-64 for Grouse Mtn. 19 to 20 years for most other sites.
3. Includes Orchid Lake.

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Hypoxic Glaciology: The Final Round on Mt Logan

A certain irony prevailed in the latter days of our 1980 operation (CAJ 1980) for the very object of our research, the weather and its long term expression, the climate, put an end to our field operation in a decidedly less than acceptable manner. In early August repeated storms struck the mountain and new snow began to accumulate on the north-west col. The air campaign was lost; our logistical main stays, the two Heliocouriers, did not land again on the upper mountain. Four hours of tramping down a compacted snow runway were utterly wasted. Our spirits were temporarily buoyed by the news that the Alouette helicopter might come in but alas a defective booster pump confined it to the less hypoxic realms below 5000 m. Our tasks were then clear; cache the drill beside the almost buried AINA building fitted with a locator mast and store the remaining core (a total of 80 m) in a snow cave near the north-west col drill site. Finally we had to pack our suitcases and briefcases and plunge off down the trench, a less than bearable exercise when handling an 80 Ib unsteerable hypoxic plastic toboggan loaded with such things as an oscilloscope, a Bolex Movie Camera and other delectable items.

By 17 May 1981 all these tribulations were forgotten and once again the east ridge loomed above. The Hubbard/Seward ridge had been considered as a viable route but an avalanche tearing down the access icefall quickly changed our minds. Martyn Williams and I were flown in first and we spent several days between base and camp 1 before the weather relented enough for Mike Demuth and Dan Verrall to make it into the base camp on the next scheduled Heliocourier flight. There is little point in repeating the account of the ascent since it followed, with minor variations, the 1980 version. However this time I had brought along a Bolex 16 mm cine camera and was determined to film our ascent. This proved a slight drag, particularly as load hauling was such a large part of our activity. At camp 4 just above the last knife-edge we rather unwisely left a cache of unwanted technical gear and several rolls of exposed film, convinced at the time that a helicopter could get in here quite easily. The idea was to reduce our loads and taper off into an alpine style ascent, which never really came off until after two more camps. The pure AS ascents are not practical for us since we must acclimatize solidly all the way to ensure trouble free operation on the north-west col. Certainly an extended push over 18,000 ft is a good practice before working for extended periods at 17,500. For the home stretch we were quite glad to have carried snowshoes up the ridge. Though heavy "Tucker" bindings gave the best mileage, particularly when traversing the west peak slopes. By 9 June we had reached the north-west col to be greeted by Pam Simper and party who had arrived via the Trench route several days before and who had already begun "the dig". A mighty excavation was necessary to free the wooden building from the inescapable grip of the snow. Our excavation was shortly begun as a satellite dig. The drill was found to be down almost 3 m. Thus an immense crater developed surrounded by a chaotic rim of snow rubble; not something to be blundered across on a dark night. A cave slowly formed as each item in the cache was dug out. This technique saved considerable time and energy that would otherwise be spent in transporting snow blocks out of the main pit. Frequent trips up to the north-west col followed so that the ice cores stored in the snow cave there could be transferred to the air strip site and stored in our pit "cave".

The equipment needed for logging the borehole soon arrived and in between flights to evacuate the drill and cores a final resurvey of the borehole was made. This included temperature, slope, and depth to reference notches reamed in the borehole wall in 1980. After a final positioning by resection of the top of the borehole the site was abandoned. So too were about 300 plastic bags of drill chips each weighing about 3.5 kgs. These are located in the north-west col snow cave and could be used for pollen studies or for gross common element chemistry by any enterprising individual. The time period covered by these samples could be anywhere between 300 and 500 years. An exact time scale for the core will be established in due course. Between office hours, more or less, Dan and Mike skied off and hit the main peak. Though they were back in the small hours of the morning they were not on time for work the next day. As a last project a line of black plastic garbage marker bags was placed between the north-west col and camp on the off chance that a radar ice depth sounding flight could be implemented before the end of the season. We were lucky that Garry Clarke of UBC was able to do this before the markers were obliterated by snow drift. On 26 June we packed up and skied down the trench route, mostly in a whiteout. We were thankful for the forest of wands along the route and also for all the instant food discovered in numerous snow cave "tuck shops" along the way. Next morning the fog had disappeared and we had little trouble in convincing Phil Uptown and Andy Williams to fly in for the evacuation.

I remained at Kluane for several days packing equipment for transport back to Calgary and waiting for the outcome of an attempted rescue of a party stranded by avalanche conditions on the

dome above the east ridge. On the climb up we had left equipment and film in an igloo at 13,000 ft and I now saw a way of evacuating this gear if the climbers came down to that site. Alas an abortive helicopter rescue was attempted from near the top of the dome (our camp 5). Food and equipment were dropped to the stricken group who later came down under their own steam without bringing our equipment or film (except a stove they needed for their survival — theirs had failed or had been avalanched away). Therefore I departed Kluane for other activities. In late August I found myself back in Whitehorse after a drill site reconnaissance on Mt Edziza. The weather suddenly turned fine in the St Elias according to the AES "Met" office. I raced up the road to Kluane and jumped into the Jet Ranger; it stood by while I shed street clothes and climbed into gear more suitable for digging out a cache at 13,000 ft. The whole manoeuvre had a touch of fantasy. As the chopper cleared the minor ranges Logan and the whole St Elias group came into view — a cloudless blue and white vista somewhat hazy as smoke from forest fires was drifting across the area. As we circled the camp 4 site above the knife-edge pilot Ron Eland said it looked OK but he would just burn off some fuel. After six orbits just thrashing thin air we were almost level with the site; it didn't look as flat as when we were there in May. Then came an approach manoeuvre and I was ready to jump out with all my gear when a sudden gust pushed us up and away from the ridge. I was informed the machine had just suffered a temporary blade stall. Unnoticed until now, drift was streaming off the top of the dome indicating that the usual afternoon "weather" had arrived. We were too late. Unable to justify the risk, Ron turned and headed back. So near and yet so far. The great cache rescue (at least involving the film) will be taken up again next year, by special arrangement with a band of free lancing scavenging climbers. And there it will all end.

G Holdsworth

History of the Yoho Glacier, British Columbia

Olive, Thompson, Baker, Collie, Des Poilus, McArthur, Agesta and Isolated and Yoho Peaks, together with the connecting ridges (see accompanying map).

Source: Wheeler (1931); 1 and 2 from Slaymaker and McPherson (1972); 3 from Kodybka (1981).

Scientific observation of Yoho Glacier was initiated by W Hillell under the auspices of the Smithsonian Institution in 1901 (Sherzer 1907). In 1906 the ACC commenced an annual surveillance of Yoho Glacier with two objectives: to ascertain retreat or advance and, to record surface flow through the force of gravity (Wheeler 1931). Although these treks were mainly of an outing nature they did provide valuable scientific data and photographs which are useful for comparison with present day glacier extent (see accompanying photographs).

Much of the glacial data from the Canadian Rocky Mtns concerns frontal or terminal recession. The condition of recession has prevailed for the last 70 years and likely since the Neoglacial maximum (Gardner 1972). It has occurred at a variable rate, probably reaching a maximum in the 1940's and 1950's. Sherzer (1905), Heusser (1956), and Bray and Struik (1963) place the Yoho Glacier Neoglacial maximum at around 1857 when the terminus was almost 2 kms down valley from its present position. Recession data for Yoho Glacier is given in the accompanying table.

The fluctuating rate of glacial recession has been explained in terms of climatic change (Heusser 1956, Slaymaker and McPherson 1972, for example). Recession from ca 1910 to ca 1950 is explained with respect to a general increase in the mean annual temperatures and a decrease in precipitation up to the early 1940's. Collier (1957) postulates that a decline in temperature and an increase in precipitation in the 1950's resulted in a glacial readvance in the Cordillera. Although this readvance did not occur in many parts of the Canadian Rockies a marked decline in the rate of recession is noted (Hubly 1956, West and Makil 1961, Gardner 1972). Climatic conditions during the last decade may be responsible for the present day readvance evident at the termini of Emerald and President Glaciers in the Yoho Valley (M Batterson 1980, unpublished). Terminal readvance is not currently evident at Yoho Glacier.

Richard J Kodybka

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Recession rates at the terminus of Yoho Glacer. RJ Kodybka

year	recession (m/yr)	year	recession(m/yr)
1901-1904	11.0	1912-1914	09.4
1904-1906	--	1914-1916	29.8
1906-1907	06.0	1916-1917	07.9
1907-1908	11.4	1917-1918	14.5
1908-1909	11.8	1918-1919	15.0[1]
1909-1910	14.1	1919-1931	13.8[2]
1910-1912	14.9	1931-1980	20.4[3]
Total recession 1901 to 1980, 1412 m.			

Terminus of the Yoho Glacier in 1906 as seen from the Neoglacial latero-terminal moraine.
Reproduced with permission of the Peter and Catharine Whyte Foundation, Banff, Alberta.

Terminus of the Yoho Glacier in 1913 as seen from the Neoglacial latero-terminal moraine.
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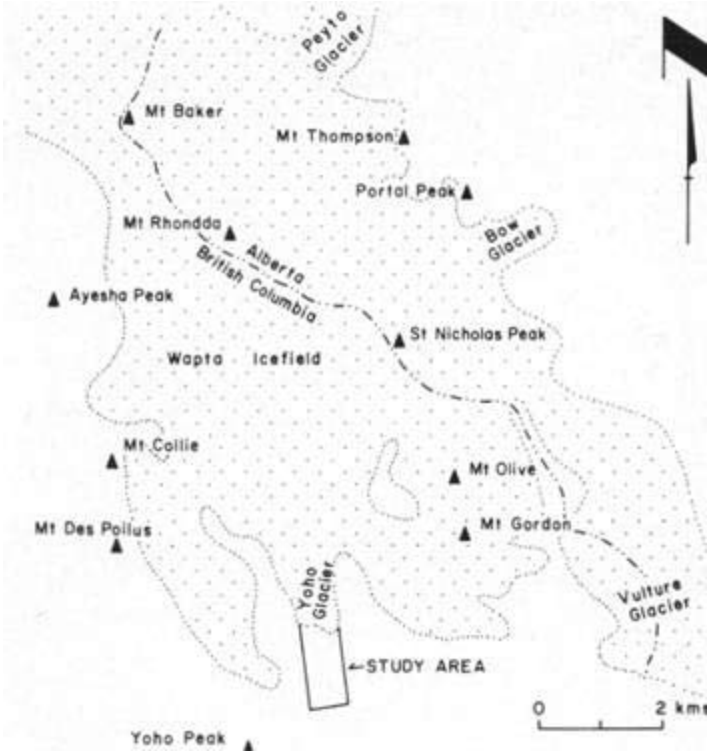
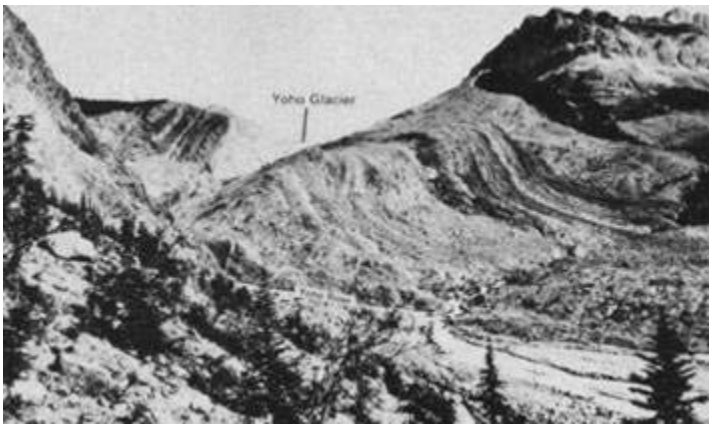
Terminus of the Yoho Glacier in 1931 as seen from the Neoglacial latero-terminal moraine.
Reproduced with permission of the Peter and Catharine Whyte Foundation. Banff, Alberta.

Location of study area. RJ Kodybka/M. Irvine



Looking up valley towards the Yoho Glacier, partly obscured by the bedrock formation on east side of Yoho River, 1980.



Terminus of Yoho Glacier in 1980 (photographed at ca 0.5 km distance).
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Coast Mountains

Coast Climbing Notes

The following is a summary of climbs reported in the Avalanche Echoes during 1981 that are not described elsewhere in this volume.

WELCH PEAK WEST FACE

Welch Peak in the Cheam Range was traversed by directly ascending the west flank via Airplane Creek and descending the east ridge. This project had seen interest from several sources over the winter but the difficulty of getting to the west flank of Welch combined with poor weather had turned back a couple of previous attempts. Access via a massive avalanche chute is the only practical way of getting at the west face and parties have to choose their time of approach very carefully. The west face of Welch can be seen from a number of spots on the south side of the Chilliwack River. It offers many possible lines of ascent but is most practical as a winter climb when one can use snow for access and for a route to the top. This party was likely the first to complete this particular traverse.

Harold Redekop and Bob Stair, March 1981.

AMPITHEATRE MTN (US) WEST PEAK

The obvious ridge immediately to the right of the Middle Finger Buttress on the peak's north face (see newest Beckey guide) involved class 3 and 4 climbing for most of its length. Some pitches had some class 5 moves, the final headwall an unavoidable 5.9 face crack.

First ascent, II 5.9, John Howe and Blake Robinson, August 1981.

MT FODDARD EAST RIDGE

Access is via the west spur of Sumallo River logging road. Light bush is encountered on approach to bowl east of summit. The climbing route is divided into three sections: the Stegasaur, first rock step, second rock step. The crux, a 5.6 jam crack, is on the first rock step. Spring is the best time as snow covers the bush; also large cornices along the ridge offer interesting and often exciting climbing (III 5.6). Full day return from car. Vegetation near the summit is hanging on for dear life in the sparse, windswept soil at 7100 ft — please exercise caution. Enjoy the scenery; logging hasn't yet come to some of these valleys.

First ascent, Rob Boyce, Bruce Fairley, Maxim de Jong, 24 May 1981.

ALPHA MTN NORTH BUTTRESS

The route takes the ridge right of the north-east ridge, topping out barely west of the summit. Five leads of class 4 and 5 (to 5.6) beginning immediately right of a major gully/chimney line on lower left face of buttress, then 600 to 800 ft scrambling (one snow patch) to summit. Very fine rock on roped pitches. Done as a strenuous but very enjoyable day climb. 8 am, Squamish River; 2 pm, base of route; 5.30 pm, summit; 9.30 pm, hut.

First ascent, Bruce Fairley and Don Serl, 23 August 1981. t

FITZSIMMONS MTN NORTH FACE

Approach via Singing Pass, Russet Lake shelter, Overlord Glacier and descent onto Fitzsimmons Glacier. Up snow slopes just left of toe of rock a short distance, then scramble rock right, then up and left to base of main snow face. Snow face is 360 m, mostly at 45 degrees. Above notch in ridge dangerously loose rock leads to a short diversion on the west face snow slope, with the summit a short scramble above. Total climb 530 m, 3 hours, from base of rock. Done as (another) long, enjoyable, and satisfying day trip of 14 hours car to car.

First ascent, Steve Fuller, Chris Guest, Don Serl, 9 August 1981.

Don Serl, et al

From the Avalanche Echoes, Vancouver Section ACC, May, October, September 1981.

Squamish Update 1979 to 1981

In terms of sheer numbers the last two years have seen more first ascents and first free ascents than any other two year period at Squamish. Although not all of these 100 plus routes are of "classic" quality many rank as some of the best routes done to date. Along with the increase in new routes there has been an explosion in the number of people climbing them. Gone are the days when you could recognize every car in the parking lot — nowadays it's hard enough just to get in. But on the whole free climbing at Squamish has been enhanced by this recent trend and there now exist, more than ever before, a complete spectrum of types of climbs which span the entire range of grades.

THE LITTLE SMOKE BLUFFS

The Little Smoke Bluffs, owing to their quick drying, southern exposure, and generally friendly nature, have rapidly become the most popular climbing area at Squamish. If so inclined it is possible to climb virtually all year round but generally the best months are from March to October.

Granted most of the routes are fairly short (one pitch) but a moderately enthusiastic pair (no, not Blake and I) can easily do eight or so good routes in a day without much trouble. The major stumbling block usually is to decide which routes to do. Most new routes have been intensively gardened prior to first ascent, usually a legitimate and accepted practice here. Several rather unsightly messes have resulted but overall most here feel that they would rather have the first ascenders do a "good" cleaning job if one need be done at all.

Starting at Crag X, the most northerly cliff, Jim Campbell and friends have managed to snatch most of the best lines and wear out

the greatest number of wire brushes in the process. Center Street (5.10c; Campbell and Hughes) follows a thin crack up the main wall to give one long pitch with a stemming fingery crux near the top. In the same area is Auntie Gravity (5.10; Campbell, Coope, Doig) which is a good steep face climb mainly protected by fixed pins and one bolt. Campbell and Hughes also added Cold Comfort (5.9), a delightful deep finger crack with plenty of face holds. Kevin Duck and Robin Barley climbed a new route near Easy Does It called Outer Mongolia. The pair encountered some hard 5.10 face climbing off the ground. They were forced to use a few points of aid to surmount a seemingly holdless slab and reach the "easy than it looks overhang", the top of which marks the end of the climb. Shortly after the first ascent Richard Suttaby and Peter Croft arrived on the scene and dispensed with the aid, giving yet another hard 5.11 desperate to the area. Two other good routes are Easter Island (5.8; Coope, Doig, Campbell) and Earth Trip (5.6; Spatt and Paquette). Both offer excellent protection and are a good introduction to the area and its grading system.

In the vicinity of Jabborwalky several new routes have become quite popular. Wonderland (5.9; Barley, Shackleton, Murell) climbs a nice buttress above and to the left of Jabborwalky. The route is surprisingly exposed and a definite must on any Smoke Bluffer's list of "to do's". On the tier below Wonderland, Campbell and Hughes have added Mosquito (5.9), a good exercise in liebacking and hand jamming. To its left is S-M's Delight (5.10; Campbell and Kubik) with some tricky flared finger crack moves midway.

Over by Neat & Cool Phil Kubik and Tim Ryan climbed Pink Flamingo (5.10b), an interesting dyke below the popular Cat Crack. Gross Incompetence (5.8; Barley and Murrell) takes a line to the right of Neat & Cool and involves an off balance step across a void before finishing up the final crack in N & C. To the right of Geritol is Where Ancients Fear to Tred (5.10c; Barley. Ffa Suttaby and Barley), the crux being the difficult unprotected face moves off the ground. The turkey skewer-like stumps below are more than adequate incentive for the leader not to fall off.

The cliff below has been peppered with new routes. Two of the better contributions are Move It On Over (5.9; Tooley and Beeckman) and a rather bold for its grade Burgers and Fries (5.7; Manuel, Donhertog, Spatt).

On the Penny Lane tier several good new lines have been added. Beginning from the lefthand side (see photo) is Clandestine Affair (5.9; Barley and Shackleton), a pleasant finger crack to a hand traverse. Its companion, the Yorkshire Gripper (5.11b; Barley. Ffa Croft), goes straight up a disappearing finger crack where the previous route traverses left. In the groove to the right of these climbs is the very exciting Popeye and the Raven (5.10d; Campbell and Smith). A series of very thought provoking liebacking and stemming moves are required to reach the crux, a deceivingly awkward mantle. Further right is Health Hazard (5.10b; Barley and Cody), aptly named when the leader of the second ascent fell at the crux, popped a bolt, and almost grounded out. The bolt has since been replaced but even with a Friend to back it up the climb still remains a serious undertaking, very unrepresentative of The Bluffs. Some recent desperates on this cliff include Foot in Mouth Disease (5.11b; Croft, Fulton, Kindree) requiring who knows what, and Climb and Punishment (5.11c; Barley. Ffa Croft and Knight). Near Split Beaver, one of the first Smoke Bluff climbs, is Heavenly Ladder (5.9; Barley and Shackleton), one of the better 5.9's on The Bluffs, and Organ Failure (5.11e; Barley. Ffa Croft).

A special note of interest to Smoke Bluff enthusiasts is the recent closure of three good climbs due to encroaching housing development. Potty Room, Little Stinker, and Rat Trap are not on private land but have fallen into disuse, mostly as a courtesy to the house owner who doesn't seem to enjoy opening his bedroom curtains in the morn and seeing someone plummet down so close to his property line. Personally I hope that if other climbs become subject to similar pressures that the climbing community will be more assertive in trying to protect the rest of this great little climbing area.

THE APRON

One of the most outstanding achievements in the past two years was the completion of Dream On by Carl Austrom. For those unfamiliar with the climb it follows a line between Unfinished Symphony and Bloodlust up the steepest and blankest section of the Apron. The route was first attempted by Scott Flavelle, Dave Lane, and a host of others back in 1976 but was left incomplete halfway up the fourth pitch. Carl eventually had to use a few points of aid on the second to last pitch in order to complete this eight pitch Apron test piece. Undoubtedly some will question Carl's style on his many attempts but few will dispute his determination and perseverance. Croft and Johnston freed Bastille (5.10a), a long forgotten climb rising out of South Gully. After an initial scruffy pitch the rest of this climb makes it well worth the hike if you don't mind coastal type approaches.

Diedre, an Apron classic, had its first nude ascent in summer 1981 by three unidentified climbers. The group, clad in only EB's, swami belts, and with paper bags over their heads, made the ascent much to the amusement of the rather large group of onlookers in the parking lot. The only one who didn't take the prank in stride was John Coope, on the route at the time, who was passed in a series of embarrassing stemming moves by this understandably quick party.

THE GRANDWALL

This section of The Chief saw considerable activity summer 1981. Most impressive was the freeing of Roman Chimneys by Croft, Foweracker, and Knight. This upper section of the original Grandwall route slipped into disuse when the Bellygood escape was discovered in the late 60's. The Chimneys have now been free climbed in five pitches (two graded 5.11) which, if combined with the lower 11 pitches of the Grand, give an almost free, very sustained, grade V.

Croft went on to climb the thin crack to the left of the Sword pitch of the Grandwall, calling it Grinning Weasel (5.11a). The crack is a continuation of Grand Wazoo, upgraded to 5.12.

Uncle Ben's had a considerable portion of its aid whittled away by the Croft/Foweracker team, reducing the total number of aid pitches to four. Foweracker freed all but the last 15 ft of the traversing pitch heading off left at the top of Merci Me while Croft eliminated the aid on the rotten A3 traverse pitch as well as that on the final very awkward chimney off width pitch which he

Peter Ouram leading Health Hazard at Little Smoke Bluffs.
1-Clandestine Affair, 5.9. 2-The Yorkshire Gripper, 5.11b. 3-Popeye and the Raven, 5.10d. 4-Quarryman, 5.8 or 5.10b. 5-Health Hazard, 5.10b. Short People, 5.11d. Robin Barley

thought "wasn't that bad". All of these pitches are 5.10. On the lower half of Grandwall Perry Beckham pieced together what has to be one of the best routes at Squamish. Cruel Shoes (IV 5.10d) is a creative combination of several different climbs, each with its own character and reputation. It begins with the first pitch of Apron Strings, then follows Phew for a pitch where it traverses right to the previously aided overlapping dihedrals on Up from the Skies. After following this route for a pitch it takes its own line to the base of Split Pillar. The route is characterized by excellent belay ledges, continuously difficult climbing, and excellent protection. The exception is the fifth pitch which involves an unprotected 5.9 lead up a steep headwall. But if you make it that far you're not likely to blow it there.

A long standing friendly argument was finally settled in 1981 when Perry Beckham free climbed the first pitch of Miss Led (misnamed Misled) on a top rope. Satisfied, Croft went on to free the previously aided bolt ladder, rating it a nasty 5.11d. Above Bellygood Ledge, Coope and Campbell freed Colon (5.9) which takes a meandering line to the South Summit and is reportedly a good route.

THE BULLETHEADS

Bullethead Central has its remaining aid eliminated by Croft and Foweracker, up grading it to 5.11a. Croft and Knight added Chimp Dip (5.11a), a thin crack near Compression Crack. Hidden away in the obscure area near A Cream of White Mice is Golden Labs (5.10c; Croft, Howe. Robinson) which consists of an ascending 5.9 hand traverse to a tree where you can belay or continue on with the last 25 ft of a 5.10 finger crack. If you can find this one you won't be disappointed. Campbell, Miller and Klein produced Bite the Bullet, a two pitch 5.10c crack and face climb starting just left of Constriction Chimney.

THE PAPOOSE

Contrary to a rather presumptuous statement made in the last CAJ Squamish report, I know that A Duet For Two Hands was not the last significant remaining line on the crag. Summer 1981 Blake Robinson and I climbed what I consider a very significant good three pitch route to the left of Pin-up, called Centerfold. The route begins to the left of the direct start of Papoose One, follows a groove system past a bolt to Moccasin Ledge where it joins Pin-up for half a pitch, then takes a leftward trending line to the top of the cliff.

John Verbeck and company climbed a nice crack to the right of Mix-up which they called Mercury Vapour (5.10c). Unfortunately they then disgraced the route by constructing a pointless bolt ladder up the blank wall to the top of the cliff. Pointless because it is possible to climb 20 ft left at the top of the crack and reach the Mix-up bolt ladder and a route to the top of the cliff.

THE MALEMUTE

Croft climbed an amazing new route in the shattered rockfall section of this crag. Croft describes Fungus Razor (5.12) as being

"technical and acrobatic". I believe him. Just watch him do it someday.

Overly Hanging Out was finally completely free climbed by Croft and Knight (5.11c). The remaining aid points were at the final series of overhanging overlaps.

MURRIN PARK

Big Daddy, one of the big aid roofs at Nightmare Rock, had its first free ascent autumn 1981 by, you guessed it, Peter Croft. The old rusty bolt at the lip was replaced which apparently gave Pete the confidence to work out the very difficult 5.12 sequence. So far these big roof problems are not that popular as free climbs; most prefer to aid them, mainly because so few can do them free.

Rob Rohn and Tom Gibson climbed the obvious and long overlooked diagonal cracks leading up to the final section of Grandaddy. Their route is called Shiver Me Timbers (5.11a). Richard Suttaby freed Tourist Delight

(5.11a) and Croft added a direct start to Sentry Box (5.11d).

On a sadder note Squamish had three serious climbing accidents in 1981, luckily none involving fatalities. Two happened when climbers were soloing and the third involved a leader fall where the belayer had too much rope out and was unable to check the leader in time. It's not necessary to place blame or discuss further these unfortunate events other than to say that they demonstrate the serious consequences of soloing and poor belay techniques.

It should be noted that Jim Campbell is in the process of writing a topo guide to the Squamish area and requests that any new route info be either relayed to him or entered in the Squamish new route book at Mountain Equipment Co-op in Vancouver.

As for future climbing at Squamish? Well — your guess is as good as mine. There's still plenty of potential out there — it's just a matter of developing an eye to find it. And I have this sneaky suspicion that the best crag at Squamish is yet to be discovered! Oh yeah — don't forget your wire brushes!!

John Howe

A Long Weekend in the Chehalis

Our bivouac site was the top of a rognon in the middle of the glacier below the north face of Mt Clarke. A remote place and a bit strange too because the valley below seems to be closed off at both ends forming a perfect bowl — a kind of granitic never never land with no entrance or exit.

We arrived with plenty of light left and Don began pointing out routes on the faces above. Mt Recourse, Viennese Peak, Nursery Peak and, the plum of the whole area, the north ridge of Mt Clarke. He had done all the first ascents and now wanted to do another new route on the north face of Clarke. It was to start there, he said, at the highpoint of that snowfield and then work up to those ramps. Then it would go left at that Y shaped area and. . .

That part of the face is about 700 m high and completely amorphous. I could follow his pointing arm as far as the foot of the route and no farther. But I'm a trusting fellow and the next morning as we slithered up the glacier in our kletterschue (with one hammer each and no axes or crampons) I reassured myself that Don probably knew what he was doing and that all would no doubt become clear once we were actually on the route.

Then the snow got too steep and we switched to the buttress beside it. This was pleasant climbing on great pillows of rough granite and we quickly made about 200 m of 4th and easy 5th to the base of the face where we had planned to traverse right onto the snowfield again.

Surprise surprise! The buttress dropped off smoothly into a moat and there was nothing to rap from. But we didn't really mind because right in front of our noses was a set of beautiful cracks rising to a ledge several pitches up and beyond that there appeared to be a direct if difficult route straight to the summit.

Back came our smiles, out came the ropes and rack, and up went Don climbing smartly for a little over half a rope length and then grinding to a halt below a small overlap. He couldn't do it free, couldn't find any way around it, but was saved from having to aid it by the light rain which began to fall.

Don would probably have gone on — that's the way he is — but I wasn't too interested in a bivouac in slings in a rainstorm and we agreed to retreat and head home. So down we went and of course by the time we got back to our bivi site the sun was out and the clouds had gone back to wherever clouds go back to.

In an effort to salvage the weekend we decided to have a go at the original (1949) route which had never been repeated. A lot of walking, a lot of technical bush, a lot of "probably just around this corner", and we finally broke out onto the beautiful granite of the west ridge. We walked and scrambled for an hour or so, did a short bit of difficult climbing, that is to say Don turned a route finding error into a brilliant variation, then walked and scrambled for another hour to arrive on the summit just in time for the evening light show. There were cloud seas, brockenspectres, alpenglow, northern lights, meteors, satellites and even a small lightning storm. Great stuff.

David Harris

Anderson River Group Climbing Notes

IBEX PEAK SOUTH-EAST RIDGE

This ridge gives reasonably pleasant rock climbing up to 5.8 standard with occasional bush. Variations up to 5.9 were made by John Howe and Dave Fulton on the day following our ascent. About half a dozen roped pitches.

First ascent, Robin Barley and Pete Shackleton, July 1981.

LES CORNES: THE SPRINGBOK ARÊTE

A 14 pitch rock climb on the south-east buttress of Les Cornes, providing excellent rock climbing on increasingly clean, solid granite. Start approximately 500 ft up the side of the buttress at an obvious left leaning ramp, leading up to a prominent orange rock fall scar.

1 150 ft. Climb decomposing gully.

2 140 ft. Step right and climb steeply up centre of hollow flakes to bushes on left (5.8). Go back up right to clean crack just right

Looking down the west ridge from the summit of Mt Clarke
The twin summits of Mt Judge Howay rise above a cloud sea in the right background. David Harris

Anderson River Group: Ibex Peak, south-west ridge. R. Barley

Anderson River Group: Les Comes, Springbok Arete, south-east ridge. R. Barley

A Long Weekend in the Chehalis: Don Serl models the latest in semi-formal mountain wear. David Harris

On the summit of Mt Clarke. David Harris

of bed of ramp.

3 120 ft. Climb crack trending back left into ramp (5.8). 4, 5, 6 400 ft. Continue up bed of ramp or left arête.

7 130 ft. At top of ramp traverse out left to arête and follow a thin crack (5.9,1 aid sling) which curves back right to a tree below the orange scar.

8 130 ft. Diagonally left up awkward off width to edge of buttress. Climb carefully over tottering blocks and up thin cracks to a cramped stance below orange off width (5.9).

9 120 ft. Follow crack (5.10-) to a good ledge and continue up left to a heathery bay.

10 40 ft. Good hand traverse left on flakes leads to a two tree ledge (5.8).

11 165 ft. Follow steep crack directly above using some aid at 30 ft (or alternatively tension into this point from groove further left). Continue steeply finally moving right to a small ledge (5.9).

12 140 ft. Ascend obvious lieback flake above (5.9) then right up magnificent slab to right side of huge overhangs and block stance.

13 100 ft. Take off strenuously (5.9) and follow cracks.

14 150 ft. Continue in same line up grooves and chimneys packed with blocks (5.8) to summit.

First ascent, pitches 1 to 7, Robin Barley, Chris Murrell, September 1980. First complete ascent, Dave Cheesemond, Chris Lomax, Greg Lacey (South Africans), and Robin Barley, September 1981. 10 hours climbing time.

Descent. Continue over minor summit, then a cheval down ridge, drop west by rappel into gully leading south. One more rappel at mid height leads back to foot of climb, Approx 2 hours.

Robin Barley

Mt Cheam North Face Direct

This is a challenging single day alpine route which can only be done, with at least some safety, in late winter or early spring. The rock is of such poor quality that the face is only in condition when iced up. In a purely technical sense the face is not very difficult — the challenge of the route lies in the delicacy of the climbing, dictated by the thin ice, shattered rock and the resulting inadequate protection.

Two attempts acquainted us with the face before Bob and I were able to coax this winter's obsession into reality. Caution, which typified our efforts on this route, was transformed by fickle North Cascade weather into desperation while we were high on the face. Full storm conditions committed us to a night lost in a fury of darkness and snowflakes. The forecast had been for fine weather so we had been climbing light and without bivy gear to help us speed over the anticipated hard sections.

After completing our ascent we down climbed and rappelled the as yet unsealed east face, not really knowing where we would end up in the dark.

However first light and brief pauses in the otherwise incessant snowfall helped. We circled the mountain and eventually found our way, stumbling down the heavily forested slopes to the sacred warmth of an automobile heater — after 32 hours of climbing.

Maxim de Jong

Mt Cheam. Skagit Range. North Cascades, 6913 ft. First ascent north face direct, Bob McGregor and Maxim de Jong, 21 March 1981. Hardware: knifeblades, shallow and regular angles, Leeper Z s and the occasional chock. 12 pitches, 45 to 75 degree alpine snow and ice with YDS 5.7 rock.

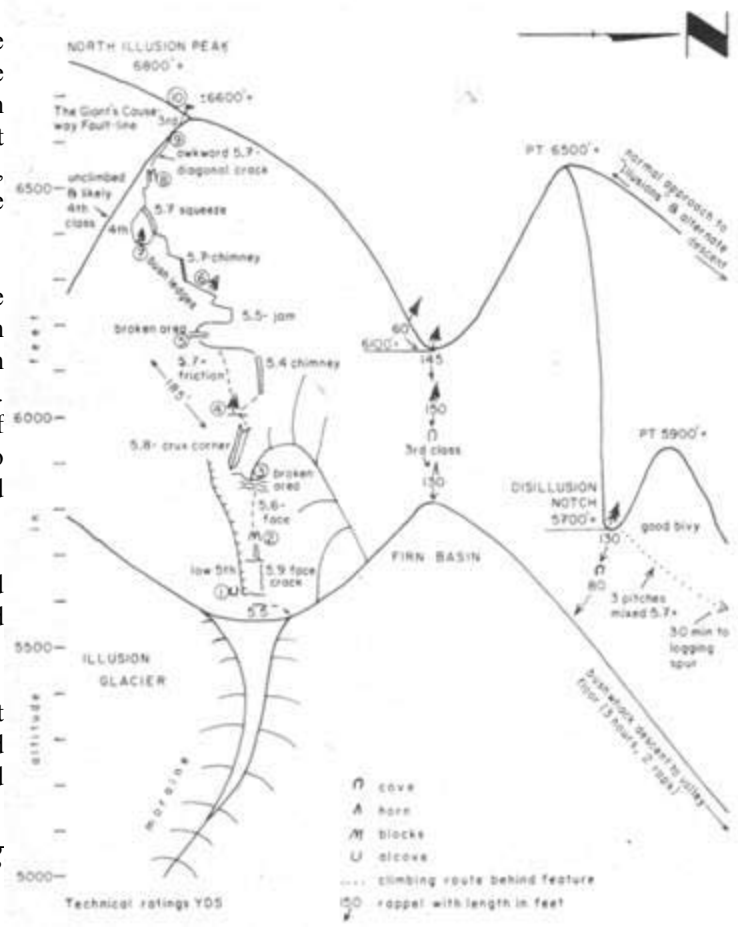
North Illusion Peak: North-East Buttress

The firm granite of the Chilliwack batholith offers a wide scope of routes and route potential in an alpine setting; long free routes and wall routes, routes to do in summer or buried beneath winter snows. This route on the Illusions is a fun free climb which calls on a variety of climbing techniques.

Maxim de Jong

North Illusion Peak, Rexford Group, Skagit Range, North Cascades. 6800 ft. First ascent northeast buttress, Hyung Soo Kim (Seoul, S Korea) and Maxim de Jong (Chilliwack), 8 to 9 August 1981. Hardware: a few knifeblades, horizontals and angles as well as half a dozen hex's to 8. 185 ft of rope helpful. 10 pitches, YDS III, 5.8-.

North Illusion Peak, North-East Buttress. Maxim de Jong/M. Irvine



Lizzie Creek, Lake, and Cabin in the Lillooet Range of the Coast Mountains

Over the last few years a new ski touring and alpine rambling area has emerged near Vancouver. Lizzie Creek, surrounded by an area of remarkable alpine beauty, flows west into the south end of Lillooet Lake. Lizzie Lake, below timberline, occupies the middle valley and is rimmed by easy 2300 m peaks and pleasant alpine meadows dotted with an abundance of small tarns and one longer narrow basin, Long Lake.

Access, once an all day affair, was eased with the construction of a trail. By 1968 T Anderson, G Richardson M Juri, and D Nickerson had constructed a small log cabin located at timberline (ca 1600 m) in a hanging valley overlooking the lake. The cabin can house eight in comfort; parties of 12 or more will require supplemental outside accommodation — count the cars parked on the access road before ejecting the tents from your packs.

The cabin is an excellent jumping off point for local high rambles and to the Stein valley. An impressive alpine ridge and glacier traverse to as far east as Kumkan Peak in the Kwoiek drainage, east of the Stein, was completed by S Golling and party as early as 1972.

Now loggers flirt near the shores of Lizzie Lake and the cabin is a too close and comfortable stroll of one or two hours from the new roads in summer. However ski access may revert to longer jarring grinds in sweltering hot treeless basins. For the interim BCFS plans to build a camp site on the shores of Lizzie Lake in autumn 1981 and to construct a trail conducive to carrying canoes from car top to lake shore. Apparently the lake basin is in a reserve and will not be clipped by our desperate loggers.

Currently there are no fees for this unlocked cabin and the generosity of the builders is shown to be much appreciated by the users to date. We hope that the predicted influx of visitors (see Cabin Use addendum) will not damage the cabin or its flower bedecked alpine meadow surroundings. Spring users are asked to shovel the 2 to 3 m of snow off the roof carefully, not reaching and damaging the wood shakes. The lamps burn coal oil (kerosene); the wood stove is supplemented by a white gas Coleman. Groups have encountered bad snowstorms in late August and used skiis from as early as the November long weekend right through to the end of June. The average spring snowpack is about 4 m and the last metre disappears in July. October snowfall is common but not an impediment to reaching the cabin on foot. Most lakes are ice covered in July, though melt holes are typical. The smaller tarns are quite swimmable in August.

Lizzie Creek, Lake, and Cabin:
Swiss tourist Jacqueline Muller on standard ski ascent route of Long Peak with Cloudraker Mtn (2400 m) in left centre background. K. Ricker

As far as climbing goes the only technical alpine ascent is a steep glacier hung pinnacle. Cloudraker Mtn overlooks the drainage basin and the splendid seldom seen alpine heights of eastern Garibaldi Park and usually requires an overnight bivy from the cabin. Other peaks afford very aesthetic short rambles. Tundra Peak, the nearest on the Stein River basin, is a long day spring or summer, and a very pleasant class 3 ascent. Peaks to the north of Tundra are seldom climbed but all were traversed in one siege by Tom Anderson and partner while looking for the right alpine basin to build a. cabin as early as 1965.

A map on the cabin wall acquaints visitors with all the local names. The access trail and a few of the unofficial and official names are shown in the new edition of 103 Hikes in Southwestern British Columbia and in Exploring the Stein River Valley. The final deliberations on all known names in the area are noted elsewhere in this volume.

Karl Ricker

CABIN USE

A look at the cabin register now shows two log books, one having been filled by 1 January 1980. Using the 1968 to 1979 timetrame in the older book, eleven years plus the construction year, the following registered man nights are shown on the attached summary table. For 1968 the construction man nights are not shown in the register. The only 1968 visitor entry is mixed with the 1969 year, suggesting that others for 1968 did not have a book to sign. For 1969 the traffic is light and log entries by the cabin owners that year do not show the duration of their stay for any particular visit; thus totals are probably conservative. The data shows that cabin use had peaked in the early to mid 1970's. Two individuals stayed continuously at the cabin from 30 September 1973 to 13 March 1974, recording their weather bedecked but enjoyable saga with a poem After 1975 traffic declined until 1978, but in the following year the count increased by 59%. The proximity of logging roads now ensures that henceforth use will exceed 300 man nights per year. In fact the 1980 count reached 332 and a late summer 1981 visit showed a lot of traffic. Eight cars were parked at or near Lizzie Lake though only six persons were using the cabin. The others were rambling to as far east as the Stein, camping at prime sites shown in the Stein Guide.

Looking at use on a monthly basis as well as perusing the comments in the log, the following is self-evident: 1 - Use peaks in July and August when 30 or more man nights are consistently registered, especially in August at prime alpine flower season. As well trekkers usually pass through for destinations in the Stein Basin. While July use may also be high it is inconsistent, depending upon occasional use by large organized youth groups. While the cabin is often dormant on July weekends the chances of an empty house on an August weekend are very slight. 2 - Once every three years there is a holiday weekend spring ski touring group invasion — usually the BCMC — so far not the ACC! 3 - A Christmas ski trip by the VOC or a grad group thereof can also be

expected once every three years. 4 - Months of predictable low use are January through March (unless Easter is early) and November. In fact there have been nine years with no February use at all; January, March and November have been void of use every second year on the average. However the second log book shows the following man night use in 1980: January nil, February 35, March nil, April 32, May 16, June 22, July 112 (one large youth group for several days), August 30, September 32, October 43. November 8, and December nil. Obviously the road construction resulted in an above average turnout for the October long weekend.

On the Cayoosh

The rain blew in dark squalls as we headed up the Fraser valley toward Lillooet. At one in the morning we stood below the Cayoosh Wall. The skies were clear and full of stars. After a fit sleep we woke and found an almost full case of Canadian in the sage by the side of the road. What better omen? We rolled into Lillooet, ordered breakfast and waited to see if any of Van's weather would show. Back where we spent the night we watched a few squalls linger on the tops of some distant peaks. Over a beer we decided to go for it with the intent that we could always rap off if the weather got too fetid.

We packed and were off discovering a new line following a more or less distinct buttress on the righthand side of the face. In roughly five leads we sat on top of a prominent gendarme. Rob and I gained it from the south via a chimney with an awkward slightly overhung exit. Hollering over to Paul and Rick we could see they were on their way toward the north side. Enough chocolate and water and we were off, maintaining an appreciable distance in case of rockfall. The weather was great and it was good to be climbing. After several more pitches we were on a gentle sloping gravel ramp. In the corner lay a chimney, clean at the bottom. In the middle it ended as a bushy dirt chute so we exited and face climbed some shattered rock off to the side and then re-entered the cleaner latter half. Emerging from this we were on a treed ledge about two thirds up the face. Paul and Rick showed up later and used the line we had fixed for them. The approaching night brought heavy cloud and it was questionable whether we would avoid the rain.

The morning was cool. Several hundred feet of class four led to a notch left of the buttress. Snow started to fall and it was in, up and over a large hand crack to a gravel ramp that led to the top.

The exit was indistinct. It took us a few hours of goat-like traversing and a couple of raps to find our hidden scree gully (furthest right). Once down we rehydrated ourselves in a hydro culvert that flows out of Seton Lake.

Greg Maurer

On Black Lassie's Trail. 3000 ft, 5.7. First ascent, Rob Tomich, Greg Maurer, Paul Kendrick. 2 to 3 May 1981. Take water.

McGillivray ACC Ski Camp, 14 to 21 February 1981

Eldon Talbor wheeled his four passenger Hughes 500 out into the Pemberton monsoon. It was 11 am and we were finally on our way to McGillivray Pass. By 1.30 pm all had arrived. There was about 2 m of snow; less than normal but it still looked promising.

First order of business was to dig a snow pit to see what avalanche conditions we could expect. The spot selected was adjacent to the cabin on the side of a north facing gully. Walking there the first person triggered a slide which swept the whole slope 40 m to the creek below. A discouraging indication of prevailing conditions. The snow pit revealed a solid ice layer about 30 cms below the surface overlain by a very weak 5 cm depth hoar layer and then the present snowfall of 25 cms. After avalanche beacon practice we settled into the cabin. It continued to blow and snow. Joan stuffed us with dinner goodies and we waddled off to bed at 10 pm.

February. A hearty breakfast cannot dispel overcast skies. Only 500 m from the cabin Murray stomps too close to the base of a small steep slope and with a subtle whomp a large slab slides down. Desperate to burn off calories we trudge east along McGillivray Creek to the abandoned cabin and beyond. 2 pm finds us playing scrabble and reading about avalanches. After another superb dinner 'a la Bernard' fueled by a 4/ Gala Keg a rowdy game of Oh Hell ensues.

February is another sombre day. Temperature just below freezing, high winds, blowing snow, flat light. The group mood is as grey as the day but everyone wants to ski so we set off across the creek to the west facing slope across from the cabin. Murray leads us up through the trees to avoid avalanche slopes. A small avalanche just above funnels into a draw below. We make it up to a medium slope, crossing one more suspect slope singly, and ski some runs in heavy loose snow.

February we wake to gentle snow which soon pauses to reveal several patches of blue sky. Hopes soar and energies surge. But the cloak of grey draws in again with swirling snow. Heavy snow and poor visibility make it a day of pit falls. Hot rums soothe our ski psyches and dinner by candlelight makes it hard to believe we are roughing it.

February, another 15 cms of snow but clearing skies. The water hole is now 2 m down and the climb back up the hillside a major ascent. In the first bright sunshine of the week the group heads up a ridge behind the cabin to about 2200 m with a view of Mt Taillefer. Hats and jackets off and sunglasses and creams on as we revel in the Florida of the North. On returning to the cabin those with excess energy discover that the path down to the water hole makes a fine luge run. Some discrepancy as to whether shovels or plastic bags make better vehicles. The winning time, 38.2 seconds by Lisa on a plastic bag. At about 4 am we have our first nocturnal visitor. Dick, Lome and Murray, suitably attired in underwear and head lamps, go forth to investigate a rhythmic tapping sound on the roof. No critters are found and Bernie denies that he has been out shovelling snow. The cause is finally attributed to falling wet snow, slipping slowly off the roof.

February and still it snows. Another 25 cms overnight. Joan, Lisa and Karen brave the howling blizzard for a loop around the Star cabin while Bernie shovels as usual to burn up calories. Others read about the mountains and avalanches and the scrabble competition is intense.

February. Last night there were prospects of clearing as the moon was visible for a while. After 10 am the storm dies down. We follow our old trail up Telephone Ridge and make a few runs in the new snow. The light is flat and visibility poor; bumps and dips all look the same. Dinner is enormous as usual. We make a noble effort to polish off the last of the wine like troupers. Tomorrow the ski out.

February. The early risers clang the sleepy heads out of bed. With all the windows shuttered it is like a cave in the cabin at 5.30. Packs are topped off, breakfast eaten, and the first of the group hits the trail at 6.30. On the ski out we cross six major avalanches that have come down during the week. There is little snow at the lower elevations along the Telegraph Trail. Steep side hills and heavy brush do not make the trip any easier. We regroup at an old trappers cabin about half way down the trail and shortly after start to walk. In the mud 'tis a long slog. With the help of airphotos and forestry experience we find our way down to McGillivray Falls and welcome relief from our packs and skiis. The last remaining members struggle in at 3 pm to await the rickety BUD car from Lillooet. Goodbyes are said in the Pemberton bar with "let's ski the pass again" but only if the sun shines and the slopes stay stable.

Awards. Most games played: Murray, innumerable games of Oh Hell and Scrabble. Best average game score: Peter and Ernie tied; sorry Murray (only 4th place), you have to practise more or rig the scrabble game. Best cook: the unparalleled Joan. Most snow shoveled to the outhouse and water hole during a full moon: Bernie. Most books read: Tie among eleven.

Bernie Ivanco

Royal Mtn, Niut Range

After a rest day at the col between Royal Mtn and Brother Peak the pains of an ice climb on Brother Peak and a cold glacier bivouac had worn off. We decided to climb what seemed a perfect objective for a sunny day, the triangular face of Royal Mtn. The glacier access was easy, and a morning chill had frosted the glacier surface so that crampons bit nicely. There seemed a number of ways to begin but since our objective was the buttress-like south-east face we cramponned up a slanting snow and ice gully. When the sun's heat began rolling rock we got off to the right side and performed a scrambling rock ascent to a ledge system that would take us above the gully head. Here was the unpleasant part, an easy but loose traverse westward onto the buttress. The sun shone and the rock was of superb granitic quality. There were a few belayed leads on the corner and one awkward section where a short class 5.6 traverse proved stimulating and exposed. A solid scramble led to the summit where we had magnificent views of the Waddington and Queen Bess massifs.

A two day snowstorm deposited about 16 inches of new snow at our col camp and had us much worried for the survival of Brill and Lahr who had struck out for the north face of Three Sisters. The wind was so bad we did not cook for one day and when a break did occur on the third day we broke half the camp, leaving a tent and some food, and roped up for the struggle down the Bench Glacier. New snow and crevasse danger hindered us but all went well. Our shouts for the two missing climbers were not answered and our minds were full of thoughts as to where they could be. We hastened and descended a classic alder slope to the valley of Five Finger Creek that night. Two long days of walking took us to the head of Five Finger Creek, over the divide, and down Quartz Creek to Walt Foster's ranch. Next day we flew in with White Saddle (Mike King) and were happily stunned to see our companions at the tent site.

Fred Beckey

New route via south-east face. Mark Hutson, Doug Stufflebeam, Ken Willis, Fred Beckey. September 1980.

North Face Brother and Sisters, Niut Range

We arrived at Bluff Lake on the evening of 13 September 1980. Fred Beckey, Bill Lahr and I had waited over a month for a break in the weather sufficient to allow us to make a traverse of the Niut Range. Now at the tail end of a damp non summer we expected an Indian Summer. New snow blanketed surrounding peaks the following morning and it looked as though our trip would amount to nothing more than sightseeing. We decided to give the weather one more day.

The morning of 15 September dawned clear and much of the previous day's snow had already disappeared as we boarded the Jet Ranger. A tentative travel plan had been left behind for three other climbers who were to join us the next day. Much bare ice was visible on surrounding peaks as we placed a cache north of Plummer Mtn and proceeded by air to our 2300 m camp site at the top of Bench Glacier.

We rapidly set up camp and left at 10 am for the nearby north face of the Brother. The most aesthetic line on this face is an ice arête on its western edge. We descended ca 200 m down Bench Glacier to the base of the face and threaded our way through its badly crevassed lower section. A seemingly impassable crevasse system was by-passed with an F6 pitch on surprisingly coarse and sound rock emerging from the ice enveloped face. This led to an easy snow bench above which we traversed to the base of the undulating ice arête. The 35 to 50 degree arête was followed on predominately good snow and ice to the west summit. A short ridge run on mixed ground led to the true summit. We paid our dues as the shortening days and broken glaciers of late summer found us unexpectedly bivouacked after a few rappels at the edge of the glacier on the Brother's east side. We returned to camp the following morning and were soon joined by Mark Hutson, Doug Stufflebeam, and Ken Willis who had just flown in from Bluff Lake.

The morning of 17 September dawned fair once again as Bill Lahr and I set out for the unclimbed north face of the Sisters. The snow was firm and we donned crampons before walking the 2 kms down Bench Glacier to the base of the face. We swung out well towards the centre of the Bench so as to get a good view of both the intended route and the approach over the badly crevassed portion of the face's lower glacier. We ascended a concave section of glacier at the base of a long chute-like ice gully separating the Brother and the Sisters. We climbed together on this 35 to 60 degree section, skirting crevasses and occasionally placing an ice screw

for protection. A critical bergschrund was gingerly crossed on a sagging six inch wide but well-frozen snow bridge. Gaining the 300 m high sharp narrow rock arête east of the Sisters we climbed together on generally good rock intersected by several loose horizontal bands. Climbing was generally 5th class with several F7 or F8 moves. A tricky irreversible step across move (F8), protected by a pin, was the key to a ramp which in turn led to the prominent green ice couloir 300 m east of the summit. Although the couloir could be followed directly from Bench Glacier, much exposed loose rock advised against it at this time of year. With only three ice screws to protect multiple leads over the hard green ice we climbed meticulously. After three pitches of ice to 60 degrees we reached the top of the couloir and our bivouac site.

Fog shrouded and partially obscured the obviously steep and difficult tower now barring our way to the summit. Finally the fog broke enough to see a possible route up the tower. Bill led a continuously difficult pitch with an awkward crux — a small, thin overhang and traverse problem (F8). With clouds beginning to obscure the sun and storm clouds darkening the horizon it was obvious that we had little good weather left. I suggested, "Maybe we shouldn't go for the summit." Bill didn't respond so we hurriedly descended the one belayed pitch to the notch separating us from the summit. The summit tower was climbed directly up its north-east arête on mostly good gneissic granite. Three steep and interesting pitches, capped by a short, difficult F8 or F9 crack led to the summit. Clouds and fog already were swirling around the summit whose cairn registered only the previous solo ascent by John Clarke.

Rappelling and down climbing, we reached our previous night's bivouac at about 3.30 pm. Fog borne on strong south-westerly winds enveloped us, sleet had already begun to fall. The rapidly intensifying storm ruled out rappelling the ascent route from the notch. Our only alternative was to descend the unknown glacier adjacent to the south wall of the Sisters. With visibility reduced to about 100 ft we found our way down this glacier and, without the aid of map, compass or altimeter, began what was to be a long, miserable trek back to base camp.

Three foodless days later we struggled into an empty camp through deep new snow and in the face of another severe snowstorm. The other four had left for help on 20 September, anticipating the worst. On the morning of 23 September I heard the faint whop whop of the Jet Ranger. Mark Hutson came running down the hill to camp, tears in his eyes, and threw his arms around me. "You're alive, we didn't think you had a chance." I thought he was a little over emotional. Then I realized we'd known for a day and a half that we were OK; he'd only just found out. We flew back to Bluff Lake.

Gary Brill

Mt Queen Bess ACC Vancouver Section Camp, 1981

It is hard to imagine how this camp could have been improved upon. The location, weather and company were all excellent. On 1 August we established camp on a broad bench above Doran Creek at about 6100 ft. Running water, bathing pools, a choice of sandy or grassy tent sites and several snowbanks for refrigeration assured a very amenable camp site. From this base we climbed 20 peaks in the surrounding area, many of them several times. Ten climbs were presumed first ascents.

First to succumb to a sustained onslaught was the 8900 ft peak immediately above camp which we named "Armada Mtn". By the end of the first week all four of its ridge routes had fallen as well as a snow and ice couloir on the north-west face. We were fortunate to find the couloirs in condition as rapidly changing snow conditions made them unpleasant in the second week.

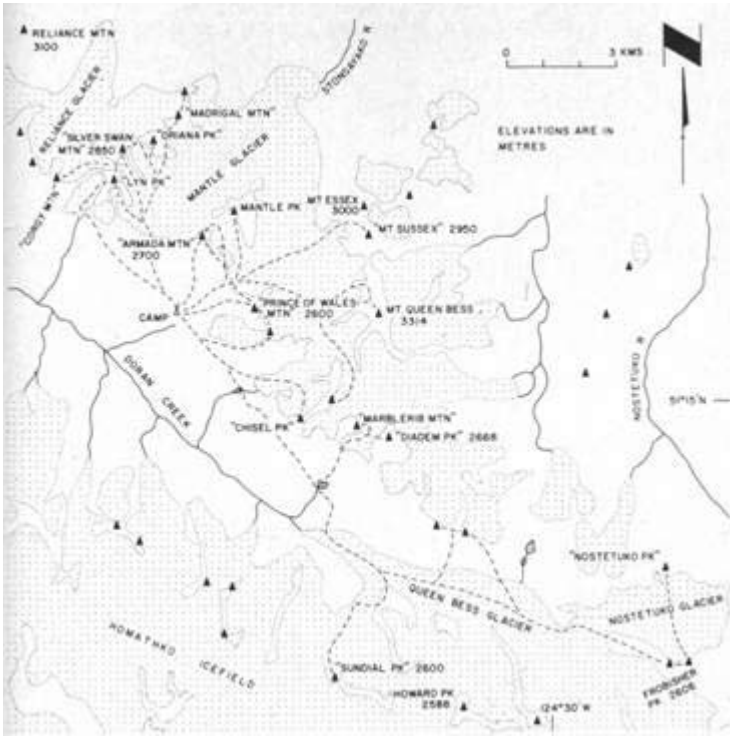
North-west of the Mantle Glacier a chain of peaks extends from Doran Creek to Mt Endeavour. Sticking with the Elizabethan theme we christened these "The Madrigal Group" after the song form that flourished during the reign of Elizabeth I. The group received its share of attention, veteran Howard Rode and Peter Jordan kicking things off. They led a second ascent of the highest summit (9400 ft), named "Silver Swan Mtn" after the most famous of all Elizabethan madrigals.

Also in the first week Irene Goldstone, Bob Stair, John Plimpton, and John Lixvar blazed the route across Doran Creek uplands to the Queen Bess Glacier and Homathko Icefield, making a presumed first ascent of "Sundial Peak" (2500 m). They found travel along the north side of Doran Creek valley reasonable, despite one major creek crossing and a lot of up and down. The descent to the Queen Bess Glacier however, was loose, dusty, steep, slippery and distinctly unpleasant. Two other parties followed their lead with Rob Driscoll and Ken Legg climbing Mt Frobisher and other peaks north of the Queen Bess Glacier.

Then there was Queen Bess itself; she dominated by size and grandeur. Fittingly our first ascent of the Queen came when Fips and Paddy finessed their way up the original ascent route ("The Munday couloir") in crampons. Only a week later I saw the couloir literally come apart in a gush of meltwater. The most popular route on Queen Bess and the finest route of the camp was the north ridge. I had heard that the rock on the north end of Queen Bess was quite poor. Not true. Anyone who considers it poor has been Squamish spoiled. We had no trouble finding secure anchors and protection despite a bit of loose stuff on the surface. To quote our camp journal, "the ridge is furiously exposed in many spots and affords spectacular views of the yet unclimbed north face of Queen Bess. . . if it was in the Rockies most of the loose matter would have long since vanished, and the route would be considered a classic rock climb. Difficulties are mainly class four, with a few moves to 5.5".

Can you imagine Coast Range climbers muttering that maybe they wouldn't mind a day of rain? It happened. We suffered two weeks of sunshine — hot sunshine — damned hot sunshine! Belay spots were chosen for being on the shady side of the ridge. Paddy measured a ground temperature of 76°F shade — 118°F sun. Peter explained that it was not accurate in the sun but I was impressed. About 30 people attended either one or both weeks. Quite a mix can be achieved with that number. The "kids", Rob and Ken, brought a portable cassette player. Gertrude shared her knowledge of all the alpine flowers and plants that I am just beginning to appreciate. Fips and Paddy made the return to camp much nicer with smiles

Mt Queen Bess area. Peter Jordan/M. Irvine



Climbing on the north ridge of Queen Bess. John Manuel

"Armada Mtn" with south ridge to the right and north-west face route in long couloir to the left. Bruce Fairley

Mt Queen Bess from the Mantle Glacier. Fips Broda

Mt Queen Bess from the south peak of Mt Essex (south peak). Peter Jordan

and a cup of tea (fortified). Jennifer recorded the only nude, solo ascent. Why would anyone want to be anywhere else?

John Manuel

Thanks to Whitesaddle Air Services for efficient and friendly helicopter transport.

SUMMARY OF NEW ROUTES

"Corgi Peak", 8600 ft. head of Reliance Glacier. First ascent G Barford, D Lemon, T Herbst. Via glacier on the south-east face and the east ridge, 10 August 1981.

"Madrigal Mtn", south peak. Large party via south ridge. 7 August. Also via the east ridge, H Rode,

N Purssell, J Smith, D Beaudouin, 10 August. Both routes class 3.

"Oriana Peak", 8700 ft. First ascent, via easy snow slopes. B Fairley and H Redekop, 3 August.

"Silver Swan Mtn", 9400 ft, east ridge. First ascent B Fairley and H Redekop. Eleven roped pitches

on reasonable rock, to 5.8. 3 August.

"Armada Mtn". South ridge, first ascent, B Fairley and H Redekop, class 3. 2 August, West ridge,

first ascent, J Manuel and J Weller, class 3 to 4. 3 August. North Ridge, first ascent, J Manuel and

H Redekop. 13 pitches to mid fifth. 8 August. North-west face, first ascent, B Fairley and H

Redekop, via eight pitch couloir. 4 August.

"Prince of Wales Peak", 8600 ft, two miles south-east of "Armada". First ascent, J Manuel, B Stair,

R Driscoll, K Legg, via south ridge. 2 August.

Mt Essex, south peak. Second ascent, B Fairley, R Driscoll, L Reid, F Grange, via the west face. 9

August.

"Chisel Peak", 2520 m, 2 kms south-south-east of "Prince of Wales". First ascent, S and L

Paterson, R Reader, via west ridge, class 4. 6 August. Also south ridge, H Rode, N Purssell, J

Smith, class 3. 13 August.

Peak 9100, most southerly of "Madrigal Group". East ridge, first ascent, J Manuel, J Smith, B Stair,

to mid-fifth. 4 August.

"Sundial Peak", 2600 m, northern perimeter of Homathko Icefield. First ascent, J Plimpton, J

Lixvar, I Goldstone, B Stair, via north-west ridge. 6 August.

Mt Queen Bess "Munday Couloir"

I was puzzled when Bruce Fairley telephoned to ask about the Mantle Glacier. It was 26 years since my party had made the second ascent of Mt Queen Bess, using the north ridge for the first time. The climb was on our last day and I was out of action. I jumped at the chance to go back. Fips Broda and I reached the lefthand edge of the north ridge on Monday but were too far left and knew we would not make it up and down that day. We descended and carefully checked the 3000 ft from Mantle Glacier to the summit via the "Munday Couloir". It is the longest one and the farthest right. We had ignored it at first because of the debris and because the sun obviously came to it quite early in the afternoon. Now we felt it would go with an earlier start and good weather.

We left camp at 5.15 am on 5 August and soon after 8 crossed the 'schrund. The snow was perfect, just taking crampon tips, and we moved together most of the way. We belayed occasionally where the slope exceeded 50 to 55 degrees on a bulge, and higher in the couloir where very thin snow covered the ice. At 400 ft or so from the crest 90 ft of rotten rock led us to the final steep and icy headwall.

From base to summit took 31/2 hours and the delight of the first climb of the route in 39 years was matched by the clearest day I remember in the Coast Mtns. We went down in two hours before the sun did its damage. A week of sunshine later the whole route disintegrated.

Paddy Sherman

Mt Queen Bess, second ascent via "Munday Couloir". Fips Broda and Paddy Sherman, 5 August 1981.

A Short Trip to the Queen Bess Glacier

After eight days in the ACC Vancouver Section camp Ken Legg and I decided to head off towards the Queen Bess Glacier. Being gung-ho we packed the night before and left a wake-up call for 5.30 but didn't actually crawl out the next morning until half an hour after our third rousing. The cool morning air made the hiking pleasant. We stayed high on the slopes above Doran Creek to keep the bushwhacking to a minimum. Eventually we were forced to head down and reached the moraine beside the glacier after an hour's bushwhacking. Once on the glacier we made good progress into the cool headwind. We began to appreciate the vastness of this highway of blue ice when after walking for over an hour we seemed to be still staring at the same eerie pockets of glacial water and the same peaks. Two and a half hours of hiking brought us to a suitable camping spot on some flat but dusty slabs on the north side of the glacier. The site lay in the shadow of a 60 ft wall of ice; a few hundred yards from camp great hunks of ice had peeled off and were melting like stranded icebergs.

To pass the rest of the afternoon we decided to climb a small peak (8600 ft) to the west of camp. We left behind our rope as it looked like an easy scramble. Our intended route was unfeasible and we were forced onto difficult and exposed rock and eventually a steep snowfield which brought us to the summit. To our delight it was a first ascent and we immediately set to work building a cairn. We discovered we had no pen or paper so to record this momentous occasion we scraped our names with charred matchsticks on to a fragment torn from our maps. By the end of the trip our map was in shreds and our match supply nearly extinguished.

The next peak to the west was another first ascent and the summit proved a perfect spot to watch the sun set over Waddington and Queen Bess. The descent in the dark back to the glacier via a steep rock gully was not nearly so pleasant. Luckily there was almost a full moon and everything was bathed in a milky white light.

The next day was cloudless again and we put it to good use bagging the first ascent of Mt Frobisher — climbing all three summits and building bizarre looking cairns on each. We killed the rest of the afternoon with an easy hike across the Nostetuko

Glacier to climb the 8800 ft peak overlooking the glacier which we named "Mt Nostetuko". It afforded great views of Chilko Lake.

As we had no food left we packed up early the next morning, made good time to the toe of the glacier, then followed the wide sand flats of Doran Creek for about three miles until we were forced to head up the bank. In the blazing heat we bushwhacked 2000 ft straight up until we were above the tree-line. It was dry work as we forgot our water bottle at the creek. Although we were delighted to be back at base camp and our food supply, we were not so enthusiastic about the welcoming committee — mosquitoes and horse flies by the hundreds.

Rob Driscoll

Mt Essex South Peak

It seemed that the south peak of Essex had been climbed only once before — and by the Kafers yet! One reasonably assumed that they had sauntered up some totally loose, overhanging and unfeasible route of unconsolidated rock. Their approach had been from the south. From our position however the west face was the logical line. Four of us made a morning trudge across the Mantle Glacier to have a closer look. The climb across the west bowl proved straightforward, the three pitch exit couloir provided a touch of ice and slopes to about 50 degrees. I found myself into 5.7 rock climbing on the west ridge until the ladies pointed out that the summit was only about 50 ft away — in the opposite direction. Strange what tricks a little extra altitude plays!

Ours is undoubtedly the most painless route to the "Sussex" summit and the successful aspirant is rewarded with intimidating views of the north face of Queen Bess as well as a disappointing look at the very rotten group of summits to the east — mostly unclimbed and for obvious reasons.

Bruce Fairley

Mt Essex south peak. Rob Driscoll, Bruce Fairley, Fabienne Granges, Leslie Reid. Second ascent, 9 August 1981.

"Silver Swan Mtn" East Ridge

We began by descending the Mantle Glacier and climbing the two summits of the peak to the north of our objective on easy snow slopes. This summit (which we named "Oriana Peak") gave us our first view of the Reliance Glacier area and we promptly lost enthusiasm for travel in that direction. To the south however our ridge looked fairly clean and definitely worthwhile.

Two leads of class 3 began the assault; they proved exposed. As on "Armada Mtn" the day before we were delighted to find pretty sound granite with lots of sling horns; the odd loose block did not spoil the enjoyment. Several further leads of fourth class brought us to more difficult ground and we finally got to pull out some of the hardware. Never more than eight pieces as each morning Harold would emerge from the tent, look critically at the mass of gear I had laid out, and exclaim, "Well, do you really think we need all that?" He would then proceed to reduce the rack to his favourite eight chocks.

We kept to the crest of the ridge pretty well all the way, avoiding one short, slabby wall by traversing left which took us onto badly shattered rock and was perhaps a mistake. The final lead offered an enticing temptation; an easy traverse across snow to a class 3 finish. Harold however urged a direct attempt on the white overhangs which guard the true ridge (it was my lead). As it developed they provided the most challenging climbing on the route, on excellent rock. The final hard move was an "arms only" mantle shelf onto a spiky flake. This mountain incidentally has a very impressive and bellicose looking north face.

Bruce Fairley

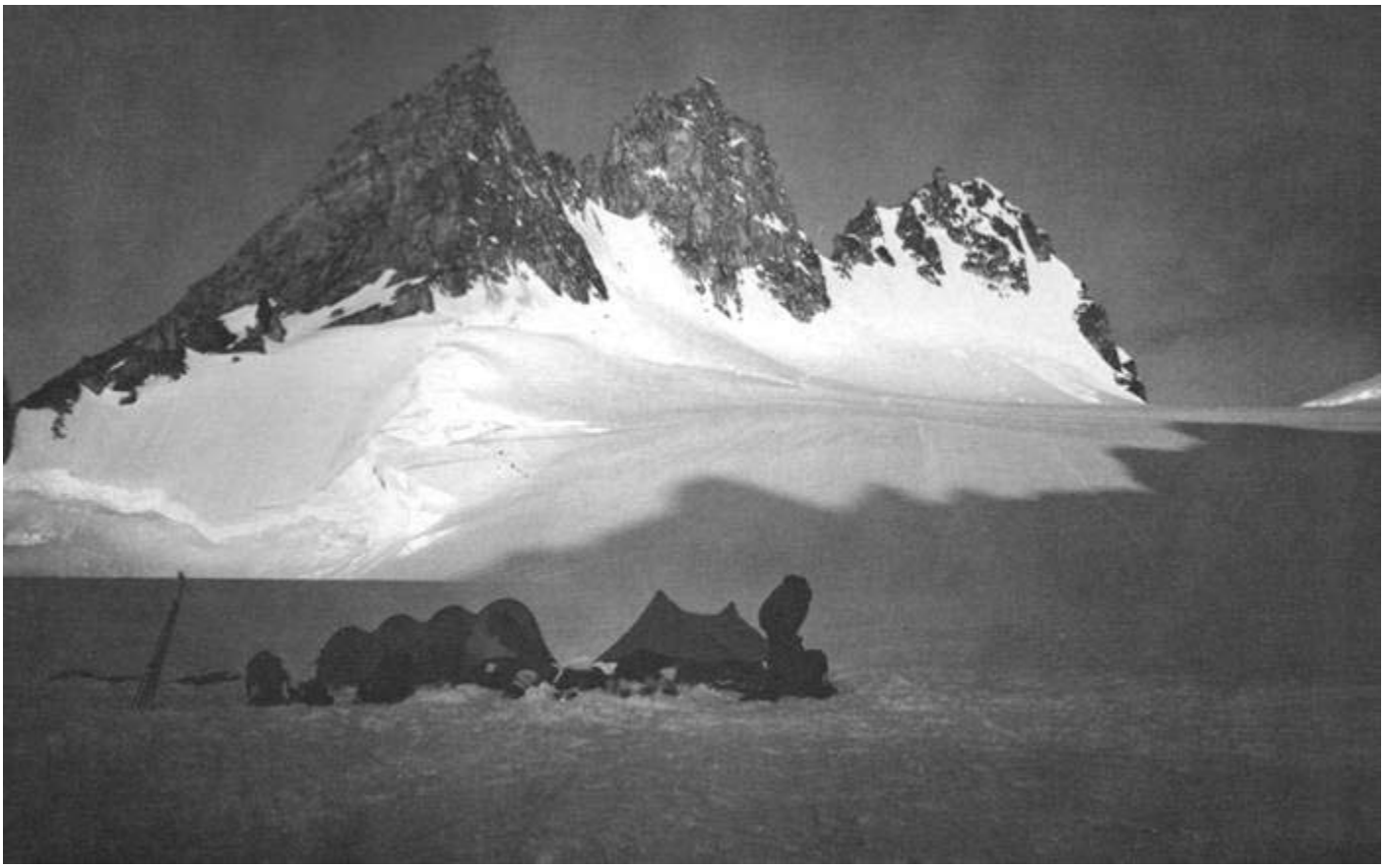
East ridge, Silver Swan Mtn, 9400 ft. 11 roped pitches. B Fairley and H Redekop, 3 August 1981.

Serra Peaks Scramble

The concept of flying up the coast north of Vancouver through the heart of the rugged peaks and majestic glaciers of the inaccessible Coast Mtns and landing at the veritable doorstep of BC's highest mountain had always intrigued me and especially since my last journey to the area in summer 1977. The idea was conceived over many a beer during the long and wet winter of 1980, after being exposed to the amazing potential of the Pilateaus Porter ski plane while glacier skiing in the Misty Icefields of Garibaldi Park. Reality finally germinated one clear and sparkling Sunday late in July 1981 when four climbers complete with gear and hardware for two weeks found themselves securely wedged into the Air Alps ski plane bound for the Upper Tellot Glacier of the Mt Waddington Range. The 1 3/4 hour flight from Squamish was easily worth the cost of the charter alone. The perfect ski landing at 9000 ft (2743 m) was an additional bonus and one of the truly memorable events of the entire trip. Our base was the Plummer Hut, perched at the foot of Claw Peak directly across from Mt Munday and in proximity to Mt Waddington. The plan was to set up a high camp at 10,000 ft on the Upper Tellot Glacier and to climb the neighbouring Serras and surrounding peaks as day trips from our high camp. The weather was very co-operative for the area with only one stormy day, allowing our motley crew as much climbing as our sunburnt and aching bodies could endure. Ascents of Dentiform, Heartstone, Dragonback, Eagleshead, Tellot Spires, Claw Peak, Tellot Peak, Serra I, II and III (via new north face variant) were made along with numerous other rock and ice climbing forays to help pass away the odd restless summer afternoon. A pair of cross country skiis were also brought in and proved quite useful and efficient in travelling between high camp and the hut to say nothing of the sheer pleasure of telemarking down the glacier on summer corn snow. Our return flight to Squamish was not quite as successful however as our previous mode of transport suddenly changed during the second half of the trip. Apparently the strain of such a heavy load and landing at 9000 ft proved too much for the veteran plane to bear; the engine broke down on a subsequent flight and the pilot had to crash land near Tatla Lake. Miraculously there were no injuries but the plane was clearly unserviceable and our plan to leave the area was suddenly uncertain. Arrangements however were soon made to helicopter our gear and equipment out to a nearby airstrip where we were then flown in two fixed wing Cessnas back to Squamish. The weather was still clear and beautiful, just as we had first arrived — it seemed a fitting way to end an excellent trip to the mountains.

Doug Herchmer

Serra I, II, and III at dawn from high camp on upper Tellot Glacier. Doug Herchmer



Smooth granite slabs below summit tower on Serra III. Doug Herchmer

Chief cook and telemarker, Doug Herchmer. Rookie ice climber and musician. Ian Carmichael. Gourmand and comedian, Mark Bitz. Chief lip burner and accountant, Doug Fox.

NB: Though the ski plane will be out of service for the winter of 1981/82, it is anticipated that a new turbo Pilateus Porter will be in service sometime in 1982.

Howson Range BCMC Mountaineering Camp, 25 July to 8 August 1981

Not since the summer of '62 when a party of four young 'prospectors' visited the area has the Howson Range been witness to such a frenzy of activity over so short a period of time. For two weeks last summer 24 BCMC members enjoyed the raptures of living on high mountain ridges surrounded by the glaciers and rugged black rock of these rarely visited peaks.

The Howson Range, south-west of Smithers, is in the unenviable position of being the first major height of land encountered by moist Pacific air moving inland. The range is oriented on a north to south axis. The east side is heavily glaciated but generally well-disposed toward easy access to the peaks. The west side is steep with few glaciers and generally obscured by clouds. A major feature of the range is the Sandpiper Lake depression which inconveniently divides the east side of the range into two parts. A peculiar feature of Howson weather is that by early afternoon clouds and mists rise up from the west and engulf the peaks along the main divide of the range. However these clouds rarely descend to the glaciers on the east of the divide. Hence a few of the peaks (Dire Spire, Lonesome Crag, Polemic Peak, Specular Peak) are almost always visible and available for climbing, while other major peaks (Othello, Gamma, Delta, Felber, Howson) are most often obscured by midday.

We air lifted from a warm, sandy beach 15 miles up the Telkwa River and Jonas Creek in two groups. The first flew in at twilight to a camp at 6400 ft, south of Sandpiper Lake. The second flew in at dawn the next day to another camp at 6700 ft, north of the lake. The flying was performed with consummate skill by John Innis of Okanagan Helicopters, Smithers.

Exploring and climbing proceeded apace as climbers from both camps ferreted out routes suited to their skills and temperaments. A party from the south camp was able to attain the summit of Mt Othello, the last major unclimbed peak of the range, when the clouds to the west parted to reveal an easy snow gully that by-passed the north ridge difficulties encountered on a previous recce. Another party succeeded in climbing Mt Desdemona by a new route on a long day trip from the south camp. Meanwhile north campers climbed Mt Howson, at 9000 ft the highest peak in the range, in an extremely long day.

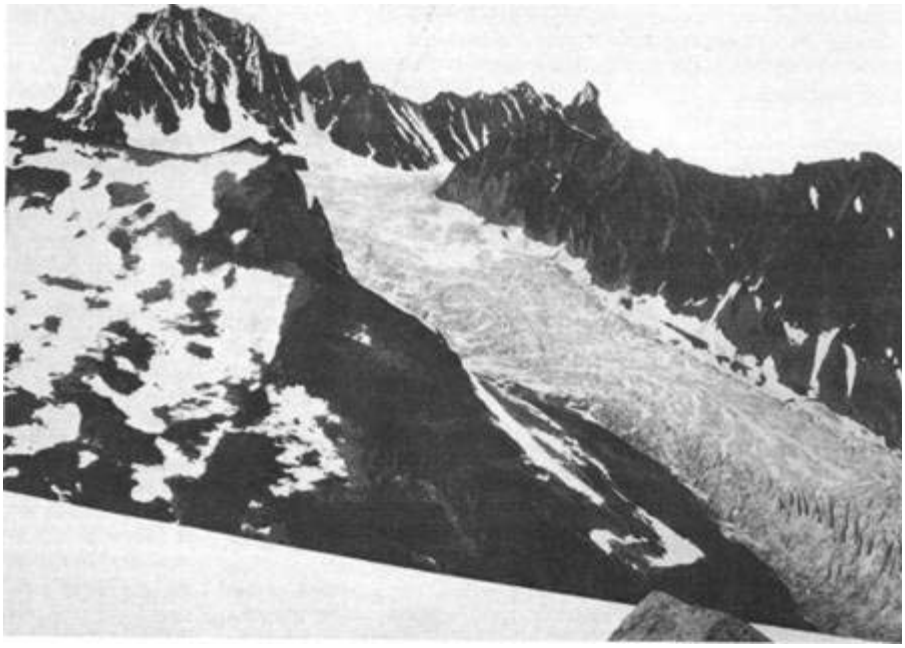
After three full days of climbing the group at the south camp packed up and moved out to join the others at the north camp. This excursion involved only a little route finding and no technical difficulties as we descended into the Sandpiper Lake depression and then ascended the northern side. As almost inevitable in situations such as this the clouds parted and the downpour caught most people 500 ft below the north camp.

From the north camp a wide variety of climbs and peaks are easily available. All peaks were climbed on day trips. Howson was climbed again, this time on a north ridge variation where the party encountered some excellent ice climbing. Many new routes were established on Polemic Peak, without argument the most popular peak of the lot. The general consensus was that the best rock climbing peaks are Peak 8000 (Zeta) between Felber and Specular Peaks and Polemic Peak. Overall these two are the best of a mediocre selection. Your average Howson rock is in most respects broken and loose and the condition of the more northerly peaks of the range is accurately reflected in their given names; Breccia Buttes, Ruination Ridge, and Perdition Peaks.

Looking south from Iota; Polemic centre, Howson on right. Ed Zenger

Looking south; left to right Beta, Dire Spire, Cassio, Desdemona, Othello, Gamma. Ed Zenger

Looking north to Polemic on left, Lonesome Crag on right. Ed Zenger



Looking south-west to, left to right, Cassio, Desdemona, Othello. Mike Fetter

Howson from the south

On day eight a helicopter rendezvous at the north camp recalled five people to civilization. The remainder stayed on in anticipation of the highlight of the trip — traversing the northern Howson Range and walking out via the Fubar Glacier. And so, two days later the north camp was struck and in groups of three and four we marched off with alacrity toward Polemic Pass. By the end of the day, after six hours trudging over eight miles of what could have been inspiring scenery, we descended to camp just south of Verdict Pass. Next day, our last in the Howson Range, the clouds parted and the sun shone through enabling four peaks to be climbed. The same day Verdict Pass was ascended, the Fubar Glacier descended, by-passing the dreaded icefall easily on the north side, and we side hilled to a small lake 2.5 miles down the valley, a suitable camp site to end a long day.

Our final day started pleasantly with a short ascent to the col above the lake and a glissade to begin the long descent to Telkwa Pass below. After passing through open meadows, an over-grown hunter's trail quickened our descent to the road. By now the temperature was 90°F. Hot, but the road eventually led us to Milk Creek where a four wheel drive vehicle had been parked two weeks before. Our packs and our bodies were eventually transported back to Sinclair Creek (unpassable by regular cars) to end a superb adventure.

John Halliday

MT OTHELLO, 8280 ft

First ascent. From a camp on the ridge one mile south-east of Sandpiper Lake the party crossed the col between Gamma and Othello, traversed beneath Othello's north-west face and west ridge, and reached a prominent snow gully (50°) on the south-west face which was climbed. It leads directly to the peak. Class 3 and 4. Descent: two vertical rappels to the notch between Main and North Peaks. North Peak was climbed on a recce over its north ridge. Class 4. They descended north ridge with one more 150 ft rappel, Ed Zenger, Dave Hughes, Frank Savage, Geoff Mumford. John Gudaitis, Matt Babicki, Roman Babicki, Erich Hinze.

DESDEMONA, 8400 ft

First ascent via rib on south face. Class 3 and 4. Party traversed around Dire Spire from the notch in north-east ridge to glacier on south side and walked over this glacier to south face rib of Desdemona. The rib, a mixture of rock and snow, leads directly to the peak. Descent via east ridge. Mike Feller, Evelyn Feller, Paul Kubik, Rosanne Konrad, Randy Enomoto, Elaine Kennedy.

POLEMIC PEAK, 8400 ft

First ascent west ridge. Class 5.8. From the Polemic/Specular col gain the west ridge over easy class 3 rock, by-pass the next steep section on north side. From there follow the ridge to the peak. Firm rock. Three long leads of class 5, rest is class 3. Phil Kubik, Paul Starr, Marilyn Starr.

First ascent, west ridge direct. Class 5.8. First steep section (one long lead) of ridge was climbed. Above, same as west ridge. R Enomoto, Paul Kubik.

First ascent south face buttress. Class 5.7. This is the most prominent buttress on the south face, just to the west of the big snow couloir (descent route). Entire buttress climbed to about 200 ft below the peak where snowfall forced traverse to the left into a gully and walk up to the peak. R Babicki, M Babicki.

First ascent, south-west couloir. Class 3. Just to the east of the west ridge. Very narrow, about 45;. First climbed by Alice Purdy and Fred Douglas. Became the most popular climb in the area.

LAMBDA, 7850 ft

1 1/4 mile west of top of Fubar Glacier and 3 1/4 mile north-west of Outcast. First ascent over the south-east face. Route mostly on ice and snow with some easy class 2 and 3 rock towards the peak. Jan St Amand, F Savage, E Hinze, Ehleen Bohn, G Mumford, E Zenger.

KAPPA, 7800 ft

1 1/3 mile south of West Perdition Peak. First ascent. Class 2. Climbed over west ridge. R Konrad and Paul Kubik.

IOTA, 7100 ft

1/2 mile west of Peak 7800 ft. First ascent on north side. Class 2. Large party.

TAU. 7950 ft

Immediately west of top of Fubar. First ascent. Easy snow climb over east face and upper south
ridge. A Purdy, F Douglas.

DIRE SPIRE, 6800 ft

New route, north-east ridge. Class 3 and some class 4. The north-west ridge was reached from icefield north of Dire Spire. From this glacier a snowfield leads to a notch in the north-west ridge about 300 ft above the glacier. Entire ridge climbed from there. Descent via upper north face (class 4) and west ridge and snow couloir between Dire Spire and Desdemona. Couloir has some bergschrund problems and is not recommended. Descent via north-east ridge. R Babicki, M Babicki, J Gudaitis, E Zenger, M Feller, E Feller, J St Amand, Paul Kubick, E Bohn, E Kennedy.

LONESOME CRAG, 7800 ft

New route, upper north ridge. Class 4. From beginning of west ridge traverse to the left on the little glacier, scramble up a gully

Looking south to Felber on left, Howson on right. G. Mumford

on the snow and rock and continue over north ridge to the peak. Descent via west ridge. D Hughes. G Mumford.

HOWSON, 9000 ft

New route, variation on lower north ridge. Class 4. This route by-passes the first two towers of north ridge on the north-west side. From north col party walked to bottom of the steep ice slope (55 to 60° max) north-west of both towers on the north ridge. They crossed the bergschrund right below the second tower, climbed straight up to the rock and continued on the right side of the second tower on ice and snow next to the rock till they reached the north ridge. From there ridge climbed to peak. This route proved to be much faster than the original north ridge route. North col to peak 3 hours. E Zenger, G Mumford, F Savage, D Hughes.

ZETA, 8000 ft

Between Felber and Specular. New route, east ridge. Low class 5. Several towers at the beginning of the ridge can be by-passed at the south side of the glacier. A glacier tongue leads to a gap above the towers. Ridge climbed from there to peak. E Hinze, E Bohn, G Mumford, John Halliday, E Zenger. First tower on ridge climbed by D Hughes and F Savage — low class 5. Traverse of the mountain from east to west is very nice.

OTHER CLIMBED PEAKS AND ROUTES

Beta, 7100 ft, 1 1/2 mile south of Sandpiper Lake. Delta, 7700 ft, north ridge. Gamma, 7900 ft, north

ridge. Epsilon, 7700 ft, 1/2 mile north of Delta. Felber, 8600 ft, south-east ridge. Lonesome Crag,

7800 ft, west ridge. Specular, 7700 ft, west ridge. Perdition Peak, 8300 ft, west ridge. Sigma, 8300

ft, 11/4 mile north-west of Perdition north of Fubar Glacier.

SUMMARY

Five first ascents, nine new routes, nine repeats. 23 routes total. 19 peaks total.

Ed Zenger

Boots 'n Paddles - ACC Chilkoot Pass Trek, 8 to 29 August 1981

The sun wasn't quite awake as we rolled out of our sleeping bags at 5 am bleary eyed to embark on our adventure. Thirteen of us had rendezvoused in Prince Rupert to trek to the Chilkoot Pass (33 miles) and then canoe the Yukon River from Carmacks to Dawson City (260 miles). Our first mode of travel was an Alaska ferry from Prince Rupert to Skagway. The sun wasn't the only thing that had trouble getting up that August morn. Our ship was delayed and not due to dock until sometime around noon. The delay allowed us time to gather for breakfast in what the Prince Rupert tourist bureau refers to as "The Halibut Capital of Canada" and to assess the people who were to be our neighbours for the next three weeks. There were only four familiar faces. The rest appeared a motley crew — their opinion of us too as I found out later: several teachers, two civil servants, some engineers, housewives, and a secretary. An excellent cross section for a case study in group dynamics. One member was missing. True to Murphy's Law Mary-Jane's connecting plane had left Vancouver early. Our camp manager Bob Jordan was racking his brain thinking of the most pessimistic possibilities. Could she not catch another plane and meet our ferry in Skagway. The mathematics did not look good — how do you split 13 people into pairs for the canoe portion of the trip? The clock ticked on and we found ourselves loaded and aboard the MV Aurora destined for Ketchikan. Some other day ask me about the midnight stop, Colonel Saunders slop, and the ferry swap at 1.30 am. Our ultimate destination was the solarium of the fancy and pleasant ship Taku. One hell of a comfortable, affordable way to travel the "marine highway" from Prince Rupert to Skagway. Two days to laze in the sun, read, watch whales, and count eagles on shore. We glided into the Skagway dock on Saturday at the indecent hour of 5 am, lugged our gear into town, had a quick chance to get rid of our money for souvenirs, met Mary-Jane, and jumped into our econo-van taxi for the trailhead of the Chilkoot Pass at Dyea.

The Chilkoot Pass was the major trail in the days of the Klondike gold rush. Thousands of gold lusting "cheechakos" (greenhorns), men and women, strained and struggled with 2000 Ibs of provisions up the same trail we would take. Eventually the stampeders arrived at Lake Lindeman, built their crude boats, and navigated the lakes and Yukon River to Dawson, arriving sometimes a year later to seek their fortunes. As I stood at the trailhead I wondered what kind of people these stampeders had been, what kind of madness had overtaken them.

Our plan was to hike over the pass, spend one day enjoying the alpine meadows at the summit and, for those so inclined attempt Mt Van Wagenen, and then travel on to Bennett. Bob and Bunty Jordan lived in the Yukon for many years so Bob was the only true "sourdough" on this trip. They hiked the trail last year and Bob knew all the good camping spots. We stashed a very descriptive trail map into our packs and away we went. The weather was superb. Sunny but cool enough to hike in relative comfort — if you can call a 45 lb pack comfortable. We passed a couple of historic sites on the way, devoured all the information in our trail guides, and then devoured our cheese and sausage for lunch.

Our first stop was the site of Canyon City at the mouth of the Taiya River. All along the trail are pictorial placards and descriptions at each point of interest. The photograph of Canyon City shows a very large settlement of tents and buildings. It served as a freight transfer station for the stampeders' goods during 1898. A prosperous settlement grew and an aerial tramway was built to transport freight to the terminus of the pass. Within a year the town flourished then was gone. All that remains today is a huge rusting boiler, numerous clearings, and mysterious pathways in the forest which lead nowhere.

At Canyon City we discovered one of the Parks' log cabins which are sprinkled like salt along the route. A hand lettered notice insisted "Make all hikers welcome inside the cabin" and "only use this shelter for 'drying out', not sleeping". We'd had such good weather so far the thought of being wet was quite foreign to us. It became less so later on.

Day two was also clear. Everyone was amazed that their sleep was undisturbed by the phantom bears of which we had been so thoroughly warned. Nevertheless I confess I did a few hours of "bear patrol" during the night. We dug into our individual goodie bags of granola and oatmeal rations, cooked, ate, and catfooted

away before any of the other hikers sharing our camp site had even unzipped their tents. We only climbed about 500 ft the first day and planned another short day. We reached Sheep Camp at about noon. It was a hunting camp in the 1800's, long before the stampeders cached their goods here in 1897 before their ascent of the pass. There was a friendly neighbourhood ranger stationed near the camp and his notices warned of troublesome bear. After such an easy day I felt somewhat guilty curling up with a book in the tent for the rest of the day. The long awaited bear made a brief appearance that night, sniffed the wind, discovered we were cooking Har-Dee brand freeze dried chili, and ran away snorting and snuffling into the trees to seek a more palatable supper. I felt like following.

On day three I discovered some of the hardships those gold crazed wanderers suffered in their trek over the pass. The trail rose 3000 ft from our camp site. Just before the summit path steepens we encountered a site called "The Scales", the place where goods hoisted over the pass received their final weighing. A higher transport rate was charged for the remainder of the trail. We saw the discarded possessions of those pitiful stampeders. Scattered everywhere, half hidden in the long blades of grass, were bits of cloth, half rotting boots, metal wash basins, crumpled and rusty coffee pots, and pieces of weatherworn leather, all lying where they were discarded 80 years before. It is said that some travellers made 30 or more trips before all their goods were transported over the pass. It's no wonder they abandoned anything they could.

As we began the steep climb to the summit I realized why horses had not been used to haul goods up the trail. Boulders smothered the muddy trail and the angle made walking even on two legs hazardous. Our line of 14 modern stampeders spread out, the eager ones in front ascending into the low grey cloud. Even for someone in reasonable physical condition the climb was no picnic. I thanked heaven I didn't have to make another 29 trips up and over!

Finally we huffed and puffed our way to the top in a typical Chilkoot Pass whiteout. We crossed the international boundary from Alaska to British Columbia and had a lunch stop just over the pass. Then we headed off up to the meadows above the summit and Crater Lake. We settled our seven tiny tents on a beautiful green bench overlooking the lake. This was the base camp for those of us who had enough energy to climb the next day.

Everyone and everything so far had co-operated, except no one had bribed the weatherman! It began to drizzle just as our stoves were shut off after dinner. It rained ceaselessly all night and all next day. We stayed holed up in our saturated tents and counted the number of stitches in a tent seam, dreaming of dryness. And so the mountains could rest easy; they would not be assaulted by our group. The climbers had lugged their ropes and ice axes over the pass to use them for clothes lines and walking sticks! In sunny weather our camp would have been a beautiful place, nestled in a bench covered by purple heather with our own private little lake 30 ft from our tent doors. Everything was emerald green (we now knew why!).

Next morning we grimly packed our sodden gear and donned our dripping Gore-Tex outfits to slop off in search of the trail. It rained all day. We cursed, bitched, and grumbled. Then finally the downpour stopped and we were at the cabin on Lake Lindeman. We burst dripping through the door and found a warm, cozy airtight to cheer the spirits and warm the toes. We were welcomed, just like that sign said. We plunked our chilly bods down, stripped off all the clothing we decently could, and began to "dry out".

This little lake is where the stampeders built their boats. Very few large trees are left standing; the boat builders used all they could find. Consequently it makes for very good, spacious camping around the lake. That night we sat around the stove and discussed the lunch we'd be entitled to eat the following day. The White Pass Yukon Railway provides a wondrous repast for all passengers on their train. Since we were travelling from Bennett to Whitehorse by train and were paying customers we certainly qualified to partake, even if we did look like hobos! After five days of nothing but freeze dried food we were drooling at the legendary meal Bob described of steaming beef stew, home-made baked beans, warm bread, fresh apple pie, and real coffee!

The morning we left Lake Lindeman we were like horses in view of the stable. The miles flew by and we all threw our packs on the train station porch and rushed to the bathrooms to wash in real hot water. We waited in anticipation of the promised feast. We were all ushered into a clean, wood panelled room with rows of tables set from end to end with souvenir plates, cutlery, and already steaming serving dishes and pots of hot coffee. We scrambled to find seats and, almost before we found chairs, grabbed hungrily for the manna before us. And it was wonderful, the best ever! We acted like a pack of half starved wolves, and looked the same — except that wolves are better dressed. I don't know how many trips our weary waiter made back and forth to our table but I do know everyone had two pieces of pie!

We boarded the White Pass Yukon Railway and snuggled into our cozy, comfortable, antique rail car, heated with a small oil burning stove. The railway was built to carry stampeders and goods over the White Pass in the days of the gold rush. Towns and buildings on the route are few. Eight hours took us to Whitehorse, "the cesspool of the earth" as some who have lived there have said. The only campground is named after the famous Yukon poet, Robert Service. If he could see it he'd roll over in his grave and so would Sam McGee! Dust, dirt, and garbage abound. We struggled to find a suitable site and ended up near the Yukon River. Four of our group made a bee-line for the nearest hotel (damn the cost) and we didn't see them again until the next day.

Refreshed by our 25c for 5 minutes showers and loaded with groceries for our next adventure, we hopped onto a small bus and headed north to Carmacks, the start of our canoe trip to Dawson. It took what seemed like hours to sort our gear into the canoes and assign canoe partners. As time passed people talked in whispers about the Five Finger and Rink Rapids which had sunk many a riverboat in the gold rush days. We would navigate these rapids on our second day. By the time we finally launched the seven banana coloured canoes I had doubts that any of us would survive. Bob sensed our apprehension and decided to stop for the day just a few miles downriver. We cooked up a batch of hamburgers that would have made Ronald McDonald drool and all went to bed well fed, happy, and dreaming of peaceful waters.

The second day we ate breakfast in silence as we steeled ourselves for our assault on the rapids. We knew the channel we had to pass through — only one of the "fingers" of the Five Finger Rapids is safe. Bob and his partner led the way. We skirted the standing waves and braced ourselves for the worst as the current pushed us gently into peaceful water — we even managed an eddy turn to photograph the rest of our group. Everyone laughed with relief and we noted the only canoe to take on water was the one whose sternsman was a white water canoe course graduate. The Rink Rapids were a little bit of excitement but were over too soon. We certainly felt smug and competent that day.

Our usual breakfast was pancakes cooked over an open fire by our resident French chef, M Michaud. We stopped each day for lunch on a gravel bar and frequently had soup to chase away the chill. The weather had been overcast and cool. On the third day we had brilliant sun and we spent several hours linked together just floating like bumps on a log in the swift river current. Within five minutes bodies were stretched out and snores rang out into the still mountain forests. Our average distance of travel was 40 miles a day. We saw several black bears, some wolverines, and many birds on our river highway. Some got quite carried away with bird identification and occasionally forgot to paddle. Our theory was to camp on islands and thus avoid any confrontation with bears. Quite soon after we set out we spotted a big black bear peering at us from the trees of his solitary island. So much for theories!

Lake Bennett from the old church. S. Gallazin

Lunch stop on the Yukon River, down stream from Five Finger Rapids. S. Gallazin

Our most comfortable camp was Fort Selkirk, a remote trading post and settlement in the 1800's. Today it is being restored. We cooked our dinner that night on an airtight in one of the historic cabins.

Onward we went and eventually landed at Stewart Island, a one family general store and the only shop on the entire river. We provided the proprietor with some afternoon entertainment as one of our members, in a careless effort to land and buy goodies, went overboard and had an unscheduled swim. By the end of the week we had all improved our paddling skills tremendously; some could even paddle on both sides of the canoe! We continually played musical canoes in efforts to improve the mix of canoe expertise and personalities. By week's end we still hadn't found the ultimate blend.

So we drifted into Dawson — actually Bob said we should paddle so we'd look energetic. Suddenly one of our members exclaimed, "So this is it?!" And sure enough it was! We found a campground, dumped our gear and walked to a free but sporadic ferry across the Yukon River into town, a three minute ride.

Dawson — city of dogs. Dogs in cars, dogs on porches, dogs in packs, dogs in bars. Each one the distant descendant of some sourdough's sleigh animal no doubt. Little wonder Jack London's books are a howling success in the Yukon! Buildings in Dawson have a temporary appearance because they are built on pilings to stand well above permafrost and constant flooding. Some of the cabins and stores have stood since the days of '98 and look it. Others are being restored by Parks Canada. The dusty signless streets are lonely places at night when the tourists are inside Diamond Tooth Gertie's trying to lighten their pockets gambling. The Dawsonites are in bed. We sampled some of the local sights, Jack London's and Robert Service's cabins complete with actors giving readings of their works. It seemed to me that we spent a great deal of time in the laundromat/showers as well although we were only there one day.

So the hour was early, the bus was as full as we were with the memories of our trip. We rode back south to Whitehorse the next day. From Whitehorse we boarded our favourite narrow gauge railway to Skagway. This time the railway reserved an entire carriage for us and we passed the paper bagged wine around until everyone was grinning. Actually I think they remembered us and wanted to keep us away from the clean tourist customers. We arrived at Skagway, ran from the station to the ferry dock packs flapping, and boarded our ship on 26 August for Prince Rupert. We had been gone three weeks and had not slept in a bed for 25 days! A miner we met in Dawson said, "Once you come to the Yukon and work a season and see the river freeze and then break up again in spring, you'll always return." And I believe him!

Sarah Gallazin

Participants: Bob Jordan (camp manager), Lynn Barr, Mary-Jane Bartram, Sarah Gallazin, Ruth Hodge, Nancy Inglis, Louise Irwin, Marilynne Keushnig, Harold Keushnig, Lyn Michaud, Ian Pearce, Pat Pearce, Kal Singh, Harry Thomas.

Recent Decisions by the Canadian Permanent Committee of Geographic Names: Lizzie Creek and Upper Stein River Basins; and Notes on Tenquille Lake and Garibaldi Park

Names for geographic features within these basins were submitted in 1969 and 1977 by Christian Adam and Geordie Richardson, respectively. Culbert's guide books had used the 1969 approvals, plus several unofficial names which have since been officially ruled out. The second edition of 703 Hikes in Southwestern British Columbia has picked up some of the 1977 approvals, but their map (page 122) is bedevilled by minor errors in nomenclature. Exploring the Stein River Valley is the latest book with a map of the area, and it manages to show most of the 1977 approvals as well as a host of new names (see CAJ 1980, re Stein guide) which were approved late in 1981. Using the current 1:50,000 scale map of the area for reference (NTS 92J/1), as well as the references cited above, there follows below the final list of approved names for the area. Accepted names are in upper case, names not approved enclosed in quotation marks, names of record in italics.

The long list of new names accepted for Garibaldi Park (CAJ 1981) are now shown on a 1:100,000 scale recreation map of the Garibaldi-Whistler area recently published by the Outdoor Recreation Council of British Columbia.

Karl Ricker

PRIORY PEAKS, not "Pyramid Mtn" as in Culbert, 1 1/2 kms due south of Meadow Dome. FRIED EGG LAKE adjacent to above peaks on east side. BATTLESHIP LAKES 1 1/2 kms due east of Meadow Dome. BELLAVISTA RIDGE 1 km east of Priory Peaks. TUNDRA PEAK as in Stein guide and TUNDRA LAKE to east. AURORA PEAK 1 km north of Tundra Peak. LINDISFARNE MTN 1 km east of Aurora Peak, UTM 548950E by 5558050N. MEDITATION MTN 1 1/2 kms north of Lindisfarne Mtn. BRIMSTONE MTN, UTM 551600E by 5562500N and BRIMSTONE LAKE on the chain of lakes to the east, ie the lowest and largest lakes. STORM PEAK, UTM 550600E by 5563800N. PHACELIA MTN, not "Cheviot Ridge", UTM 549100E by 5561150N. PUPPET LAKE, not "Poppet Lake" as in Stein guide. CHERRY PIP PASS, CALTHA LAKE, ICEBERG LAKE, SAPPHIRE LAKE not "Lakes", ARROWHEAD LAKE, RAINBOW LAKE, SNAKE LAKE, and MORAINE PASS, as in 103 Hikes and Stein guide. TABLETOP MTN 1/2 km east of Anenome Peak on the 1:50,000 scale map. WHITE LUPINE, not "Lupin" RIDGE, west of Anenome Peak. WHISKY, not "Whiskey" Peak and LAKE, and SHEILDS PEAK, not "Mtn", and LONG PEAK as in 703 Hikes and Stein guide. ARROWHEAD MTN between Moraine Pass and Iceberg Lake and TYNEMOUTH MTN between Moraine Pass and Long Peak. LONG LAKE as in Stein guide, not "London Lake" as in 103 Hikes. CRYSTAL TARNS not "Lakes" as in Stein guide and 103 Hikes. TARN PEAK west of Crystal Tarns. SALAMANDER LAKE due west of Cloudraker Mtn, shown on topo maps. WILD ONION RIDGE from Salamander Lake north to the outlet of Lizzie Creek containing: SALAMANDER MTN north of lake; TAO PEAK, 7000 ft; tiny DRAGONFLY LAKE; LIZZIE PEAK, 6700 ft; SIAMESE TWINS (Peaks); and NO CAMP LAKE; in south to north order. FAMINE RIDGE between Shields Peak and Cloudraker Mtn. DIVERSION PEAK 1 1/2 kms south-east of Long Peak. FIGURE EIGHT LAKE south-east of Caltha Lake, not "Figure - 8 Lake" as in Stein guide. VANGUARD PEAK, not "Mtn" as in Culbert. PYRAMIDAL PEAK as in Stein guide, not "Pyramid Peak". MT SKOOK JIM, not "Scotchsheen Mtn" as in Culbert. ELTON LAKE and ELTON FALLS as in Stein guide. HEART LAKE, upstream of Arrowhead Lake. SNAKE FALLS, NORTH STEIN RIVER and RAVEN FLATS as in Stein guide. INTERN RIDGE, not "Doctor's Ridge", west of Long Lake.

For the Lizzie/Upper Stein rejected names are "Mt. Cline" (Culbert, Stein guide), "Snowblood Mtn" (Culbert), "Upper Canyon of Stein River" (Stein guide), "Tao Tarns" above Long Lake and "Stein Falls" (Stein guide). Names of record are Gates of Shangri-La (103 Hikes), Brunch and Fault Mtns to north of Tao Peak, and Crater Lake (Stein guide). On the whole, names coined by G Richardson, T Anderson and C Adam over the last 15 years and by the Vancouver Natural History Society have met general acceptance.

We also call attention to the Tenquille Lake area (NTS 92J/10 and the new provincial 92J/NE with updated nomenclature on a 1:100,000 scale format) which was reported upon in CAJ 1979 and 1980.103 Hikes (2nd ed) has a diagram showing a "Crown Mtn". This feature has been named MT McLEOD after one of the two gentlemen who staked and worked the mineral claims on it in pre and post World War I times. A higher elevated peak (7500 ft) 3 kms to the south-east (ie 1 1/2 kms south-east of Lot 4811) has been named MT BARBOUR after his partner. FOSSIL PASS (CAJ 1980) lies between Coppermound Mtn (provincial maps) and Mt McLeod (just north of Lot 4810).

St Elias Mountains and the Yukon

Mary Whitley, editorial assistant

Kluane Report 1981

During the 1981 climbing season there were 19 groups, made up of 95 men and women, climbing and skiing in the Icefield Ranges of Kluane National Park. During the latter part of the season (July and August) weather conditions were poor and groups were delayed and forced out of the mountains by heavy snows.

Lloyd Freese, Kluane National Park

Jack Duggan, Steve Hackett, Gunnar Naslund, Brian O'Konek, and Vern Tejas skied across the

Bagley Icefield and Seward Glacier, down the Hubbard to Yakutat on the Pacific.

Conrad Baumgartner, Peter Carr, Doug Gilday, Peter Heebink,

Dave Manzer, Pamela Braun, and Jim Maxwell made a ski trip from the south side of Mt Logan and out the Kaskawulsh Glacier to the Alaska Highway.

Bob Jamieson, Andy Thamert, Lee Jamieson, and Mike Price skied in and out from Kluane Lake to Mt Kennedy. They stopped just short of the summit but plan another trip already.

Kevin Haberl, Jim Haberl, Pat Haberl, and Matt MacEachern had a successful trip on the east ridge of Mt Logan.

Brian Vezina, Peter Steiner, Len Soet, and Jane Weller climbed Mt Hubbard from Cathedral Glacier. They were also successful on the east face of Mt Alverstone.

Jim Gregg, Mitch Working, Bob Working, Mike O'Brien, and Jan Gregg had a good ski trip but were unsuccessful on their attempt of Mt Logan via King Trench.

Jim Rennie, Norm Brown, Dick Ireland, and Dean Eilertson were successful on the east ridge of Mt Steele.

Gerry Holdsworth, Danny Verrall, Martyn Williams, and Michael Demuth were successful in scientific endeavours and in their climb of the east ridge of Mt Logan.

Charlie Campbell, Mack Ellervy, Ted Handwerk, and Jon Altis wisely pulled out from their unsuccessful attempt on the Abruzzi ridge of Mt St Elias.

Brent Ash, Nona Rowat, Dave Timewell, and Jane Weller were successful on the east ridge of Mt Logan.

Jordi Molins Albanell, Marti Santamaria, Jordi Salvador, Luisa Cuesta Sorolla, Agnasa Chies, Emili Gil Boti, Josef Perez, and Vincente Cespedes from Spain were victims of the weather and unsuccessful on their attempt of Centennial Ridge on Mt Logan.

Richard Feichtner, Herbert Feichtner, Wolfgang Feichtner, and Bernhard Feichtner were unsuccessful on their attempt of the north-west ridge of Mt St Elias.

A Pilot's View of the St Elias

There has been, in recent years, an appreciable increase in the number of climbing expeditions into Kluane National Park, which encompasses the major peaks of the St Elias. Phil Upton and I, working for Alkan Air out of Kluane Base Camp, have flown air support for many of these groups. Most are well organized, experienced mountaineers with some appreciation of the task that they are undertaking. A few have none of these qualities.

Most North American mountaineers are aware that the St Elias Mtns include the highest peaks in Canada, and that the area is the largest glaciated region outside of Greenland and Antarctica. Fewer appreciate that it is among the remotest of the world's mountain regions. There are many days of hard travel from the high peaks to that destination of all desperate mountaineers, tree-line. Most points on Mt Logan are barely an hour's flight from Kluane Lake by light aircraft. A well fed and watered party, given reasonable weather, might cover the same route on the ground in ten days. Consequently an expedition that, through accident or bad planning, finds itelf without radio communication, food or fuel is in a desperate situation. An expedition in the High Arctic forced to live off the land has at least the remote possibility of overwhelming a polar bear, seal or walrus: some of the remarkable survival epics of the 19th century expeditions attest to this. On the flanks of Mt St Elias the only possible source of protein will be eyeing you equally suspiciously.

The most commonly remarked upon phenomenon relating to the St Elias Mtns is probably that Low in the Gulf of Alaska. The dread Low features in most weather synopses for the area and generates the frequent storms and multiple cloud layers which invade the region. The proximity of this high mountain range to the coast contributes to the unpredictability of the weather. Even during periods of generally fine weather, upslope moist air flow can cause south-western slopes to be clouded in for days while north facing slopes may remain clear. Climbers at altitude may experience clear, dry, cold conditions while ski tourers on the glaciers are plodding through the murk caused by a shallow layer of moist air flowing across the Icefields from the Gulf. In contrast the larger massifs such as Logan, St Elias, Alverstone, Hubbard and Vancouver, creating their own weather, can be cloud capped and the lower elevations clear.

As a general observation, May, June and early July are the better months for climbing. By the end of July and well into August the weather becomes stormy and heavy snowfalls can occur, particularly at higher elevations. The weather is more settled through September but the avalanche danger is high.

We can only guess at winter conditions in the range. I once monitored an automatic weather station sited on the central Divide at 3000 m. Before it lay down and surrendered the machine recorded several storms during November when the wind averaged 110 kph for days. Gusts were not recorded but can reasonably be predicted to have exceeded 160 kph. The Arctic Institute have enough evidence from damage to survey and cache markers on the north-west col of Mt Logan to suggest that winter winds at this elevation are extraordinarily fierce.

For expedition planning purposes storms must be anticipated at any time of the year. Temperatures as low as -40°C have been recorded at the north-west col in June so equipment must necessarily be of the best. For those who read the foregoing and arrive in May expecting fine weather I can only offer the probably unoriginal thought that the prevailing wind always blows from the direction faced by the tent door.

Most expeditions rely on air support, so some understanding of the pilots' trade would be advantageous to the many climbers who sit at Kluane or King Trench on a clear day, wondering why the idiot won't fly. Most expedition base camps are more than 150 kms from Kluane, into which space can be fitted a considerable amount of "weather". It is obviously impossible to fly through cloud in the mountains. Less appreciated are the dangers, indeed downright foolishness, of flying a single engined aircraft over an undercast in mountain country. The cloud layer almost certainly extends to the glacier surface, rendering a forced landing unsurvivable. A high overcast cloud layer causes such poor surface lighting over snow that it is impossible to safely select a landing site. Crevasses, rolling terrain, and sastrugi become invisible, and in the final 50 m the pilot finds it almost impossible to judge where the snow surface may be. Surface winds may combine with available terrain to make either a downwind takeoff or landing necessary. Under these conditions ski planes do not steer well. In planning loads the pilot must consider snow conditions and the degraded performance of his machine at altitude. Landing site selection depends on crevasse conditions, avalanche danger, and suitability

of the takeoff run. (You can land a plane almost anywhere!) The pilot must pay attention to developing weather, maintain escape routes from the range, and have sufficient fuel to take advantage of them. If he appears to be steering a somewhat meandering course to your destination he is probably watching the spindrift on the high ridges and pondering the violent turbulence created by upper winds over these high peaks, particularly to leeward. Flying in the St Elias Mtns is demanding but not at all dangerous unless one ignores common sense rules. However expeditions cannot expect to be flown in or out on specified dates and must be equipped with extra food and fuel to cope with delays.

The Kluane National Park Warden Service provides an extremely competent and well-trained helicopter rescue team that has performed excellent work over the years. However helicopters operate under similar constraints to fixed wing aircraft. Their efficiency and safety margins depreciate with altitude and there is the additional risk of working close to a mountain face. The rescue services may not be able to arrive immediately where an emergency situation exists. Nevertheless the existence of this service has convinced some climbers that when they get into trouble all they need to do is sit tight until plucked from the mountain.

Sometimes, having completed a successful rescue, the helicopter team is asked to return to pick up a camera, a favourite ice axe, or even a healthy climber who has had enough and fancies an easy trip out. This is not a reasonable request.

There is enough good information available now for an expedition to be aware of the importance of altitude acclimatization and of the symptoms and dangers of cerebral or pulmonary oedema. Too many sufferers have been left to languish alone in a tent while their "comrades" continue the climb. Others remain at the altitude which is killing them, waiting desperately to be rescued. An expedition member suffering from pulmonary or cerebral oedema or cold injury must be evacuated to a lower altitude as soon as possible. To remain at altitude for days on end waiting for weather conditions favourable to helicopter rescue is extremely dangerous.

Expeditions should be strong enough and suitably equipped to get themselves out of trouble. It used to be a basic tenet of mountaineering that you didn't go up anything you couldn't get down. A reasonable extension of this rule might be that an expedition should be able to reverse a climb with an injured or sick member. But the techniques for doing this do not seem to be generally well known or rehearsed.

I vaguely recall an article in the AAJ which argued against the provision of rescue services on the grounds that climbers, having chosen their sport and appreciating the inherent risks, should be allowed to go down in peace without being bothered by helicopters or throngs of volunteer citizens prodding the hills for remains. If this viewpoint is widespread within the mountaineering community then it should be appreciated that the rescue authorities are the wrong targets for this argument. The anti-lobby must aim its efforts at parents, spouses, fiance, creditors, and two especially pro-life groups grandmothers and Consuls General. The latter take a particularly dim view of their nationals being allowed to die without some effort being made to save them.

In summary, and at the risk of belabouring the point, please take sufficient food and fuel to cope with delays. If storm bound don't eat twice as much out of boredom; rather follow the old FIDS habit of going onto half rations. Put not your total faith in manufacturers claims for equipment. Even that architectural wonder, the modern tent, performs better in a wind tunnel than in a gale force wind snapping over a ridge. Stoves break down, ski bindings and poles snap, pack frames disintegrate. Take spares. Fuel management is important due to contamination from condensation. Make every effort to acquire a radio. Many unbelievers have been converted over the years.

A resource study report on the area tells us that "The inner core (of the St Elias Range) is extremely rugged and beautiful, but dangerous. Only the very experienced will brave the hazards of this area, and some of them have been killed by the mountains." A rather ominous and peculiar conclusion. Please don't blame the mountains.

Andy Williams

A Royal Frosting

Recipe. To one Arctic Front anchored over the St Elias Mtns in late March...add six skiers, the fatter the better so they don't fly out on contact...stir around...for four weeks and 150 miles. When completely frosted remove from cold and let stand. This near foolproof recipe for maximum sun in the St Elias escaped our party of five Yukoners and one Alaskan despite the fact that "clearest when coldest" is the way of winter north of 60.

Dumping some of our gear in a buried cache near the landing site for use as we skied off the glacier, we split the rest so there was 110 Ibs per to be packed or pulked. We began climbing up a westerly arm of the Kaskawulsh. The next six days were spent in a frost rimmed, sun blasted slog up to an unnamed pass overlooking the Hubbard Glacier and Mt Logan. It was cold (daytime temps from -20°C to -25 with nights below -30) but beautiful. This first week was indicative of the weeks to come. One day lost to blowing snow, whiteout conditions or ground blizzard, the rest of the days sunny, still and cold. The still days were a blessing for our tents; their petal-like design, although comfortable for six people, could not withstand the winds, despite massive snowblock wind-breaks. Moss can't grow on rolling tents.

On down the Hubbard, rigor mortis setting into tortured neck muscles; the sunny side of our bodies warm, bare handed at times, the shady side frosted, frozen and uncomfortable. We constructed an igloo at the junction of the Hubbard and Seward Glaciers, our first day off. Great ski up and back — Water Pass, cache, more gear, pack for Logan side trip; photographs of amazing hand carved urinal but the view is too good, miss urinal, hit boots.

Logan and St Elias had their hats off when we crossed onto the Seward Glacier and kept them off for much of the visit. A highlight was "telemark school" held in one of the more exotic locations, a small peak close to the towering south face of Logan. Back to school just after starting back toward the Hubbard, as a ground blizzard forces us to learn snow cave building on the bald headed glacier. Luckily we find suitable locations behind a rapidly eroding wind-break, the legacy of an earlier camp.

Back on the Hubbard, great skiing past Mt Vancouver, left turn up a glacial ramp, past Their Majesties to the Kaskawalsh and a rendezvous at our original landing cache. Strange interlude; swap one skier (male, going out for a job) with sweet burdened female — fruit salad and ice cream af-25°. A glacial campfire with willow poles marking the cache. Warmer the next day as we start the downhill run to the Slims River and spring, the seasons changing en route. First waxing hassles, roped up again after long independence, even warmer with more clothes off than on. An argument as to whether or not to ski off the glacier, having already had easy skiing to within one mile of the river.

The river! Incredible that after scrambling off the side of the glacier and over the moraine we find bare ice. We skate away singing. An easy though kooky two day spring tour down to the Alaska Highway. Lots of open water and many opportunities to photograph floating pulks. Grizzly passes one camp, our smell keeping him out. Celebrations with big roaring campfires mark the end of the frost test.

Peter Carr

Start 29 March, finish 24 April 1981. Time 27 days. Distance 150 miles. Maximum elevation gain 2400 ft. Participants: Conrad Baumgartner (alias Count Telemark), Peter Heebink, Jim Maxwell. Douglas Gilday, Peter Carr, Pamela Braun, David Manzer.

Austrian Mt St Elias Expedition 1981

After a long flight from Vienna we reached Whitehorse on 19 June. Mary Whitley and family picked us up at the airport. They were very helpful for our organization.

On 28 June we flew into base camp on the Columbus Glacier; the enormous south face of Mt Logan was very impressive. We pitched camp on the landing site, 6 kms from the north-west ridge. The same day Bernhard and I made a food cache at the base of Mt Newton's north ridge. We planned to descend the north ridge from Mt St Elias.

On 29 June Herbert and Wolfgang built camp 1 at 3000 m on the north-west ridge. At night the weather became very bad. On the morning of 30 June Herbert and Wolfgang turned back to base. They were lucky as the strong storm with heavy snowfall lasted three days. On 3 July the weather cleared; we had one metre of new snow.

On 4 July we tried to climb to camp 1. Trail breaking in the deep snow was extremely exhausting. As we reached 2500 m on the north-east ridge the 40 degree snowslope began to move. We were swept along in an enormous avalanche, 200 m broad and 500 m long. I was buried in the snow and couldn't move. After a few minutes I lost consciousness. But we were in luck. Wolfgang had one hand free and shoveled himself out. He followed the rope and found Herbert who was unconscious. Some minutes later they found Bernhard. He was in good condition. He had had enough air. Then they followed the rope to me. I was under one metre of snow for an hour. After being dug out I shivered for over an hour. My brothers had found me just in time. By 1900 hours we were back in base camp. On 6 July Wolfgang and Bernhard tried to bring down our equipment and food from camp 1. At 2800 m on a knife-edge part of the ridge they had an avalanche again. Fortunately they could jump over to the other side of the ridge. When they arrived at camp 1 they had to dig the tent out. In the evening they turned back to base. We decided that it was impossible to climb Mt St Elias under so many difficulties.

On 7 and 8 July we climbed the unnamed peak one km west of Windy Peak in Alaska (ca 4000 m, possibly unclimbed) from a camp in a col (at 3000 m) west of the peak. On 10 July we flew out to Kluane Lake. This was our second time in the St Elias. In 1979 we were successful on the east ridge of Logan. This time we learnt of the difficulties to be encountered in these mountains. It has not dampened our enthusiasm.

Richard Feichtner

Participants: the Feichtner brothers — Richard (leader), Herbert, Wolfgang, and Bernhard.

Logan Super Tour '81

Our expedition took three months to plan and 18 days to carry out. It was a successful Super Tour to one of the most spectacular mountain ranges in the world. The first 12 days were spent skiing on Mt Logan using 3 pin bindings and touring skiis. Conditions were excellent snow, cold (-20° for 4 to 5 days), hot (70 to 80°F daytime tent temperatures), noon whiteouts, fantabulous food, and endless daylight. The route, standard route out of the King Trench, was 100% skiable, on which we triple carried moderate loads in soft packs (40 to 50 Ibs) to maximize the skiing which was the real purpose of our expedition.

Most of the time we were roped up, calling for real teamwork in timing and pace. At our high point of 18,500 ft good skiing snow ran out. It looked like a good point to begin the second phase of our trip — a partial circumski of Mt Logan to our pre-arranged airplane pickup. Almost simultaneously there were signs of pulmonary oedema in one party member. A 9000 ft vertical ski descent to our cache of sleds, more food, and lots of air replenished us for our 30 to 40 mile trek to the Logan Divide. We single carried up to 100 each on five sleds over the gentle, rolling Quintino Sella, Mussell and Logan Glaciers.

It was like another expedition. The days were hot — we wore shorts. The sound and convenience of running melt water on the glacier was welcome. We saw and travelled endless expanses. The telemark skiing, roped up with sleds was fantastic.

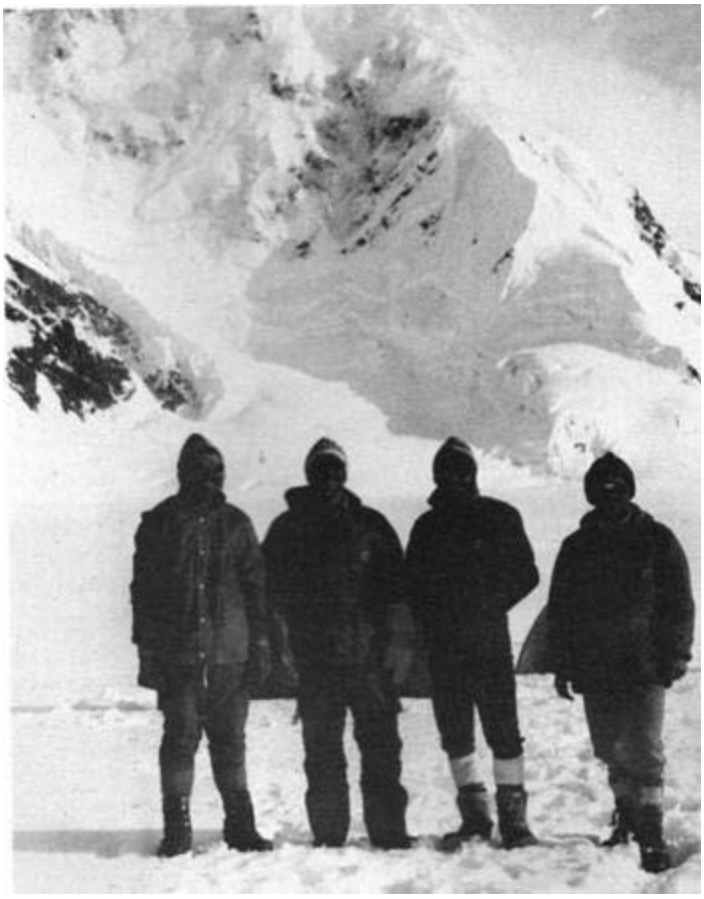
Mystical clouds hanging on the mountain (and sometimes on us), hanging glaciers, icefall avalanches, absolute silence, and endless telemarking interrupted only by the need to catch your breath are the sights and feelings we'll remember from our Logan Super Tour '81. We thank our friends and sponsors for all the support which helped make our tour super!

Jim Gregg

Expedition members: Jan Gregg, Jim Gregg, Mike O'Brien, Bob Working, Mitch Working. Expedition Sponsors: Log House Designs. Wigwam Mills inc. Camping Bacon, Fischer Skis, Patagonia Softwear, Chouinard Equipment, Montana Climbing Skins, COEC.

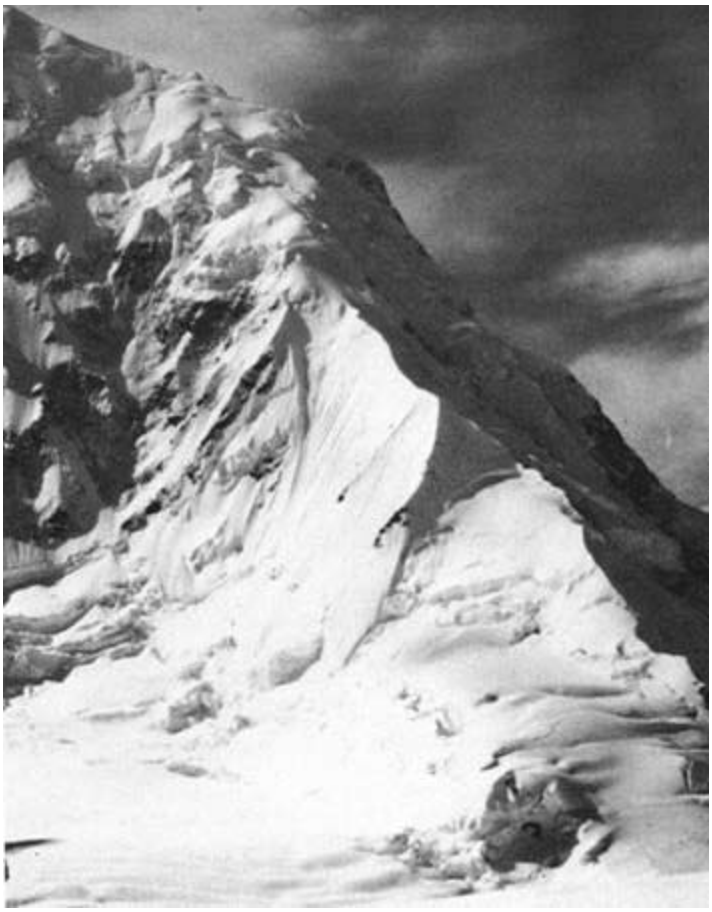
Austrian Mt. St. Elias Expedition: Snow storm at base camp. R. Feichtner

Herbert, Wolfgang, Bernhard, and Richard at base camp.

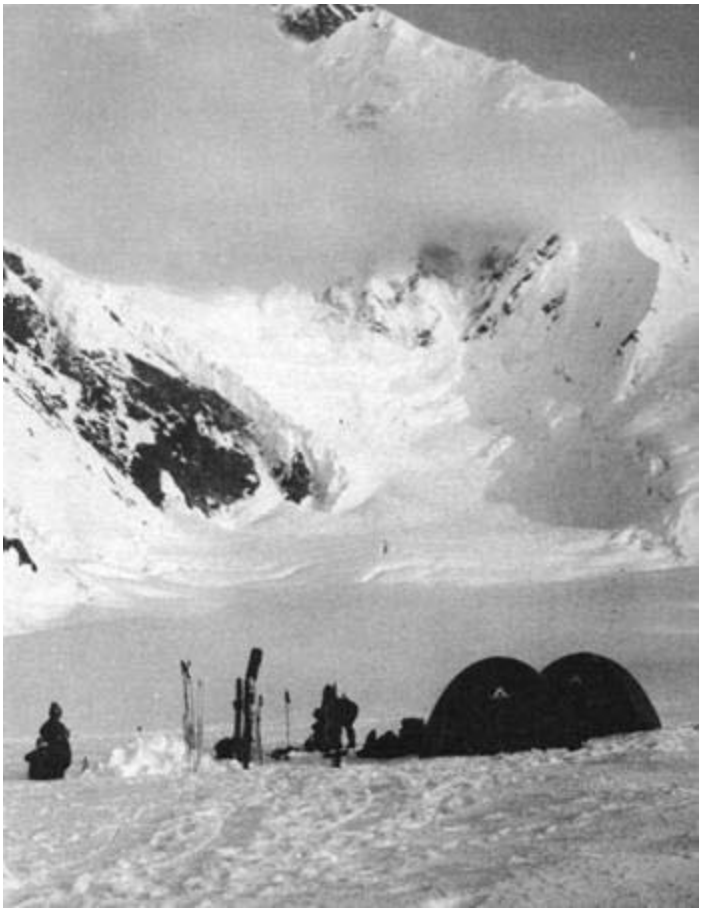


After the avalanche. R. Feichtner

North-west ridge of Mt. St. Elias. R. Feichtner



Base Camp. R. Feichtner



Logan King Trench with 3 Pin Skis

The four of us arrived in Whitehorse 5 June 1981 and hitched to Kluane. Only three days of hackney and beer at the airfield before Andy Williams landed us at 9000 ft on the Quintino Sella Icefield. June 9 saw us well established and ski carrying into the Trench. Bill and Charlie used Kazama touring skiis, double touring boots, and 3 pin bindings with a plate heel clamp called the "Voilae". They were convinced it was the only way to ski Logan. Dave and I had conventional ski mountaineering gear that seemed adequate. In general the weather was excellent for two weeks with just enough snowfall for good downhill runs. Our favourite camp (14,500 ft) was above the King col icefall. We had a snow cave/fort and a beautiful 1000 ft chopper skiing slope behind it. Despite heavy sled carries we skied the slope many times.

Above 16,000 ft things got more serious. We met three teams from the AINA camp coming down with reports of -30°F on the plateau. One hard carry and we went over Prospector's col (ca 18,000 ft) to a bivy site near the AINA camp. This hard move on 21 June took its toll. Charlie felt ill that evening. The team decided to make a summit push if the weather was halfway good the following day. After the cool bivy at 17,000+ we got out at 11 am on 22 June and debated clouds. A quick bite and the skiis were on for the 14th and final day. Dave and I soon had a faster pace. We rounded the west peak carefully, leaving skiis for crampons. At 7 pm we summitted the top of Canada under clear skies. Twenty minutes and two rolls of film later we had to move down as storm clouds approached from the north-west. At 4 am we returned to our second bivy on the plateau. We heard Charlie had felt ill and turned around early. Billy and Charlie telemarked most of the west peak. The 10,000 ft ski descent went in two days. It changed from three feet of cold powder on top to deep mush back at base. The 3 pins did their telemarks. It was a ski we'll always remember. Plans are developing already for something St Elias way!

John A Rehmer

Rocky Mountain Logan Exhibition: John A Rehmer (leader), Charlie Sturgis. Billy "Bozo" Cardozo, Dave Bjorkman

Heebla II — Mt Logan's East Ridge

It never fails. Four of us with all our gear deep in the Bugs in late August, anticipating blistering sunshine overhead, pristine granite under foot. What do we get? Pelting snow and a raging blizzard. Hmf! "We should head to the St Elias," someone suggests, "at least its 'supposed' to snow there." That started it.

Idle talk quickly evolved and by October 1980 our plans were well advanced. By December our objective became clear — Mt Logan's east ridge to the main summit. Based on our combined mountaineering experience and group potential, we hoped to meet the demands of a climb to altitude requiring concentrated effort and stamina. The other major decision was to climb alpine style, a major factor contributing to our success.

Training began January 1981, climbing as a group when we could and running, cycling, working out when we couldn't. Poring over maps, endless discussions, equipment procured and checked, carefully weighed food packages readied; our total concentration centred on Logan.

By 6 May we felt well prepared — mentally, physically, logistically. Donning double boots to combat baggage costs we boarded the plane, pumped with excitement, anticipating what the not so distant future had in store. One night spent in the warmth of Whitehorse hospitality under the guardianship of a Parrot named Baggins then off to Kluane Lake in hopes of clear weather and a quick flight in. Luck was with us and after a mere one day layover we were whistled off and up the immense Hubbard Glacier, flanked by scores of outstanding peaks.

Dropped an alleged three miles from the base of the ridge, we set camp. After constructing a massive igloo, we packed, ate, and talked logistics, scanning the route up, up, up and down! May 11 dawned crisp and clear; we set off under staggering packs, the burden lessened by adrenaline flow. After a full morning's approach we sat exhausted, taking lunch at the base of the gully that would gain us the ridge. Once on the ridge there would be no turning back — after gaining it we didn't want to. Beautiful, precise, knife-edge, classic!

The next days were spent under blistering sunshine, struggling with our hulking packs over mixed terrain; 3rd and 4th class rock, moderate snow and ice. We had a few token spells of bad weather, waking in early morn to whiteout conditions but with limited food on an alpine budget we gambled on climbing — the knife-edge our guide. Camp 5 at 14,000 ft gave us a day to acclimatize, build a snow cave, and cache all our technical equipment — hammers, screws, extra rope. Weight we'd not used, though it would have been a nice psychological crutch in some of the more exposed sections.

The next day's climbing was straightforward but mentally taxing — the group being tested. One thermarest lost and one hopelessly punctured, a strenuous platform dug, frozen stove, two quarts of badly needed liquid lost and, to top it off, a tasteless dinner. Climbing through foul weather we crested 'the dome' at 15,500 ft. Camp 7 at 16,200 ft was set under an award winning sunset. With a full moon rising over Mt Vancouver the energy was high; we were psyched! Fools that we were we soon learned the strength of a mountain so big. In an instant the first of a series of violent gusts flattened one tent and hammered the other, shocking us into reality. We wasted no time establishing work shifts to erect a snow wall to shelter the site.

17,000 ft found us searching for refuge from the unrelenting wind, cold and altitude. Snow blocks were carved and a wall constructed to shield us from the elements. Camp 8 was set within striking distance of the main summit of Logan. A few last entries in the log, day packs and breakfast readied; we relaxed in preparation for the summit bid.

The alarm rang at 4 am but with wind and whiteout we elected to return to the warmth and security of our sleeping bags. By 9 am the weather cleared and the summit push was on. A long traverse beneath the south side of the last peak and up the slopes below the main summit took much of the afternoon, our efforts slowed by the altitude. We gained the final summit ridge, cold and strained, and put on down parkas, our last protection. The wind swept ridge led suddenly to the top of Canada. Emotion ran freely despite

desperate conditions as months of hard work and anticipation were culminated in a single moment.

Descent from the summit had some minor complications resulting mostly from fatigue. The remainder of the route down went smoothly despite heavy snow, accumulated since our ascent. Once at base we had only two hours to gorge out on food caches before another beautiful flight to Kluane. The only things remaining were the celebrations with real food, showers and other amenities of civilization. One would think an ascent of Mt Logan will never be forgotten by the participants, this climb being no exception.

Jim Haberl

Expedition members: Jim Haberl, Kevin Haberl. Pat Haberl, Matt MacEachern.

Mixed Climbing on Mt Logan

While thrashing around in the Coast Mtns spring 1981 I started thinking about flying in to do a climb somewhere. Mt Logan's east ridge came immediately to mind. I phoned all my usual climbing buddies but none wanted to go. Eventually I discovered four other people foolish enough to come along. A couple of us had seen a picture of Mt Logan before, so we were in good shape. Our two main climbers were soon eliminated complaining of bad backs. Amid promises of speedy recoveries we pretended to hunt for replacements. At the last moment a Smart Alec named Jane heard about us so we had to go after all. Having two women and two men along would hopefully keep us from turning into animals during the climb. Then again. . . Thus was born The Mixed Rude Noises Expedition.

The two lucky fellows with the sore backs saw us off on the long drive to Kluane Lake on 15 June. I wonder if Bow Mac ever got all that muck off their truck. We eventually reached Logan itself and began staggering in a generally uphill direction. "Hey Dave, ya wanna break trail for a while?" Our adventure was highlighted by a Hell of a good storm at 14,000 ft. All our tents and stuff were buried under about 15 ft of snow. We moved into one of those snow caves which one never quite digs properly at times like this. After the storm we dug around for a couple of days, found most of our stuff, so had to set off climbing once again. The east ridge route provides many fine views of the surrounding peaks. The changing mountain scene was enough to make me just want to sit in the snow and enjoy the view.

Soon we met the Coloradans whom we impressed. "Yeah, like we got some pretty nice glaciers here, eh." All their gear was buried in the big storm too. But they had a radio and when the Park Rangers heard about the lost gear they came in like the cavalry in choppers and dropped about 200 Ibs of old ice axes and used tents on the Coloradans. Those poor guys had to abandon the summit and lug all this junk back down the mountain. Oh well, they had some killer weed to keep them going. "Y'know Nona, at times I'm glad you brought all that popcorn." We reached the east summit on 7 July (Happy Birthday Warren, wish you were here) and had some real fun on the way home. Half the expedition tumbled ass over tea kettle right past the high camp. A regular riot.

Two incredibly long days saw us back down to where the plane would pick us up. Waiting for our ride gave me lots of time to realize what a beautiful climb the east ridge is. The St Elias Range defines mountain scenery for me. It won't take much convincing to get me back up there again.

Brent Ash

Participants: Brent Ash, Nona Rowat, Dave Timewell, Jane Weller.

Logan East Ridge Attempt

Our party of four arrived at camp 3 on the east ridge of Mt Logan after 16 days of rather slow but entertaining climbing. Our camp (at about 16,250 ft), just below a large dome which marks the end of the east ridge and the beginning of the large plateau below the east summit, was at the site of a large cache left by the Canadian Bailey Expedition. We dug a platform for our two tents near the ridge, on the lee side of the dome.

On the evening of 29 June, after carrying four days of food and fuel to the site of camp 4, the winds increased and high cloud appeared from the north. Next morning we woke to extremely heavy snowfall and moderate wind. On the third attempt to shovel out the tents the slope above the platform sloughed, breaking some of the wands of our Mountain Dome and collapsing our VE 24. We immediately decided to dig a snow cave. Because of continued sloughs and heavy snowfall much of the equipment left in the tents was unretrievable and only one stove, three sleeping bags, a small amount of food and fuel, and minimal clothing were salvaged. We completed the small cave around 7.30 pm, too late for our evening radio call to our pilot Andy Williams.

Heavy snow fell all evening and it was necessary to tunnel out the snow cave entrance in excess of eight feet next morning. While clearing the entrance yet another slough nearly caught two members. At this time a phone patch radio message was relayed to Alkan Air advising them of our situation. As the storm continued heavy snow, small avalanches, and spindrift caused the entrance to the snow cave to constantly fill up. Finally on 3 July the storm broke and Parks Canada, using an Aloutte 3 from Trans North Turbo Air under the direction of Willie Pfisterer, attempted a hoist rescue. That failing, they made two passes to drop food, fuel and equipment.

After allowing the estimated 12 to 15 ft of new snow to settle we embarked on a somewhat tiring but otherwise rapid descent. Along the way we were dismayed to find that many of our food cache wands on the lower mountain were nearly or completely buried by the storm. In addition, in at least one case, our wands appeared to have been removed by the party that was below us on the same route.

As controversy and debate continue over the issue of park regulations regarding the use of a radio, we must say that we are thankful we did have one. Without it we would not have received the air drop and not fared quite so well in our ordeal.

Griff Smith

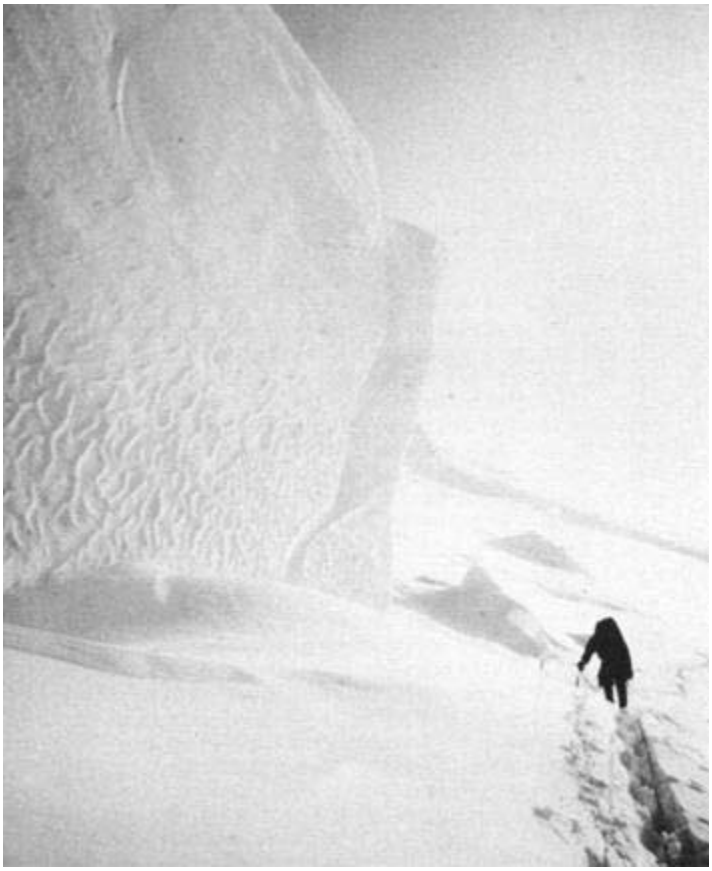
East ridge Mt Logan attempt. Craig Blockwick, Scott Edmundson, Boots Ferguson, Griff Smith. 12 June to 8 July 1981.

Touring at 16,000 ft with St Elias and King Peak in background. John Rehmer

Ski descent from 16,500 ft camp 4 with St Elias and King Peak in background. John Rehmer

Charlie Sturgis skiing above King col. Bill Cardozo

Returning from summit under plateau séracs at 18,500 ft. John Rehmer



Heebla II-Mt Logan's East Ridge: camp 7 at 16,200 ft showing the snow wall constructed to shield the tents from the high winds. Jim Haberl

Logan East Ridge Attempt: east ridge Mt Logan from Hubbard Glacier base camp. Boots Ferguson

Another Ascent of Logan's East Ridge — 1980 Style

On 16 July 1742 a ship of Bering's expedition first sighted Mt St Elias, in the range now bearing the same name. This part of the North American Pacific Cordillera contains one of the largest concentrations of snow and ice in North America and Canada's highest mountains as well. The highest and largest mountain in the range is the multi-summited massif Mt Logan, named after the founder of the Geological Survey of Canada. The mountain was probably not seen until 1891 and not climbed until 1925 when the main peak (5951 m) was ascended via the King Trench route. The first successful attempt on the east summit via the east ridge was made in 1957. This effort involved some 20 days on the mountain, 13 of which were spent in actual climbing on mixed rock, snow, and ice. By curious coincidence our own ascent lasted about as long as this first one, proving perhaps that routes may be done faster but that they seldom become much easier.

The only feature to emerge from all successful ascents of Logan is that the time spent on any one summit is a very small portion of the total effort expended in reaching it. I suppose one had better add that this all too brief reward is usually sufficient despite all the work required to move climbers and supplies towards an ever elusive goal. Our own expedition spent at least a year in preparation. 1979 and 1980 were years of increased activity on the east ridge; almost everywhere you looked there was another report of an ascent. One had the impression that the only ascent left which might be worth doing had best be done blindfolded, in a wheelchair, and in the dead of winter. A closer analysis indicated that most ascents were fairly recent and ours could possibly be the ninth if all went well. With all the exposure there was a pervasive feeling that we could well be waiting our turn in line for a chance to get onto the ridge. As events turned out, this was not far from the truth.

Despite all our organization there was still the usual rush to the airport the morning of departure. An added element of uncertainty was our rendezvous with Dave in Vancouver and Saul in Whitehorse. Neither had been heard from in recent weeks — either everything was fine or our expedition would be reduced to four. Remarkably we left Montreal on 7 June 1980 and arrived in Whitehorse early on the 8th, having stopped over in Vancouver to pick up Dave. Saul greeted us at the airport in perfectly clear weather. In short time ourselves and equipment were on the way to Kluane and that same day we settled in on the shore of the lake near the Arctic Institute. With the continued good weather it was virtually certain we would be able to fly in to the east ridge the following day, barely two days out of Montreal.

We spoke with a party abandoning their Catenary Ridge attempt. They assured us that there were so many climbers on the east ridge we would have a staircase to the east summit and beyond. This news was not greeted with a great deal of enthusiasm but we all enjoyed the spectacular trip in to the base of the mountain in near perfect weather. How impressively large the mountain appeared from the air, and particularly from the landing site at about the 6500 ft level on the Hubbard Glacier. We established our base camp at a little over 7000 ft and about five miles from the landing site. Regardless of what was to come we were glad to be there and too tired to think of anything else except sleep.

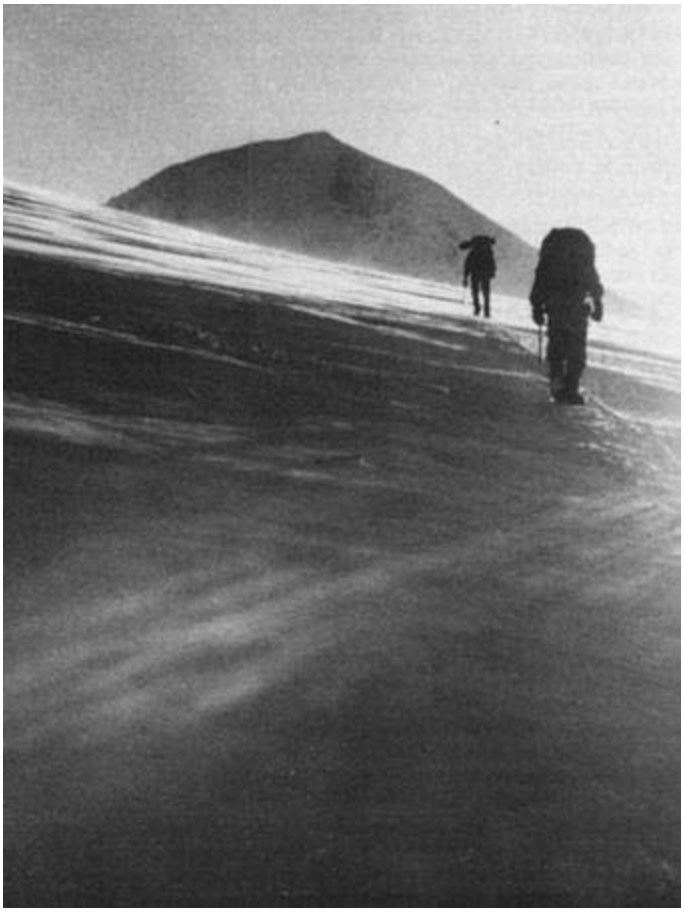
The weather gradually deteriorated over the next few days and we found lots to keep us busy. In our spare time we listened to the regular chatter over the SBX-11B which kept us informed of conditions and progress higher up. In the next few days we repacked and hauled supplies up to the base of the ridge and established a route up to the ridge proper. On the morning of the 13th we were preparing to leave base for the ridge when two large rescue choppers descended, blowing everything away that wasn't tied down. Apparently two of the Park Wardens party had slipped off the ridge below the 10,000 ft level and taken a 2000 ft ride down on the top of an avalanche. Miraculously the two survived. We postponed our departure until the following day, now certain that we had the ridge to ourselves. On the 14th we hauled ourselves and the remainder of our supplies up to a 9000 ft saddle on the ridge proper and began our ascent. The looseness of the rocky lower portion surprised us but the route firmed up as we progressed. At no time did we find the staircase of tracks however the route was pretty obvious.

We reached camp 1, at 10,300 ft, astride a hanging glacier on the ridge above the rock and just at the start of the steeper snow and ice. On the way we inspected the point at which the two Wardens began their rapid descent and then proceeded a little more cautiously. I promptly stepped into a small crevasse, thinking the bridge had been firm. So much for caution. Camp 1 was complete with chopper pad and a large supply cache left by the previous party. We had hauled up enough supplies to ensure we would not have to return to base camp no matter what the mountain had in store for us and sure enough, the weather changed for the worse. Early on the morning of the 17th a terrific storm hit and lasted most of the day. The main activity was digging out the tents. Visibility was so poor it was a major task just finding the biffy. Howard found it quite by accident, literally falling in, but thought he had dropped into a hidden crevasse. It is still uncertain whether the crevasse would have been the worse fate.

On the 18th, driven mainly by a lack of available reading material at camp 1, Carl and I pushed on to camp 2, fixing certain sections of the route between camps with some polypropylene. Camp 2 was located on an 'Eagle Aerie' at 12,000 ft just beyond the first knife-edge. The rest packed up some loads shortly afterwards but it wasn't until the following day that we established ourselves at Camp 2. Once here the inevitable deterioration of the weather began. On the 21st we were able to establish a route up the next section of the ridge and reached camp 3 at 13,500 ft, immediately above the last technical difficulties of the lower section of the ridge. June 24 found all established at camp 3 and part of the day was spent finding a route through the séracs and crevasses on the ice dome above. This camp had all the earmarks of a windswept plateau so all hoped that the weather would improve as we went higher. Fortunately it did and on the 24th we were also able to establish a supply cache at 14,000 ft. With dawn on the 25th came the clear sunny weather we knew we deserved. While it was evident that the séracs negotiated the previous day were moving down the mountain, we dismissed any thoughts of disaster and packed up to our next camp. A rather long day but the upward progress and spectacular views clear to the Pacific made it all worthwhile. We lunched in the sun and noted that finally we were above the summit of McArthur Peak. To the south we could clearly see Mts Cook,

On east summit near midnight note Logan's shadow; Mt St Elias and Seward Glacier in background. K. O'Connell

Above camp 4 heading towards the east summit. K. O'Connell



Augusta, and St Elias. After lunch we pushed up a difficult section and discovered to our chagrin that a 20 ft section of snowbridge had collapsed in front of our proposed route. Several tracks could be seen approaching the gap; the last party down had probably used this route, for the last time. In short time we found a detour and pulled into the site of camp 4 at 16,500 ft. A hard day but all worthwhile when the east summit came into view for the first time. June 26 found us both settled and socked in at our new home, a routine which had become a normal part of our ascent. We decided on a quick trip down for a few supplies from the food cache to relieve some anxiety and spent the rest of the day building snow walls around the tents. Saul estimated that with food relays we would probably climb the route three times! Fortunately this cheery bit of news did not occupy our thoughts for long.

On 27 June the winds subsided to the point that we engaged in a debate over which summits to climb first. This issue was finally resolved by everyone agreeing to pack up supplies to a higher camp on the plateau below the east peak. This we did, and in good time. Dave and I felt so good that rather than return to camp 4 we decided to push on to the summit. When we announced our intention to the others the issue of which peak to climb first quickly faded. No one it seemed wanted to miss a good opportunity to make the east summit, whatever the merits of the main summit might be. Dave and I reached the summit at 11 that night, tired but elated. The others soon followed and, in the reddish glow of the sun just above the horizon, we all stood silently on that summit, happy to be in such an inhospitable place. In the -22°C air we watched Logan's great shadow stretch across the Seward Glacier to the mountains beyond and out to the coast. The summit plateau lay before us, cast in an eerie glow which highlighted the central and western peaks. All the magnificent peaks of this great range could

be easily identified but it was clear that none was higher than our vantage point. In the silence of our own thoughts, each was deeply impressed, and I am certain this was the highlight we had all hoped for. If the memory lingers on, it is also certain that the moment was brief, for there was general agreement that it was time to go down. We reached camp 4 very early on the morning of the 28th to rest and celebrate. Later that day we returned to camp 5, in position to climb the central or main summit. It was the coldest and windiest site of the entire climb. On the 29th a tremendous gust blew down one snow wall and demolished one three man tent. The occupants slumbered on while the rest of us frantically dug them out. The overnight low was recorded as -26°C and the wind continued to blow the following day. Cloud caps began to form on the westward peaks and it became clear that the weather was taking a turn for the worse. Few of us were prepared to wait out a storm and some had other commitments. With a last look at the Hummingbird Ridge sweeping to the main summit we began our descent and reached camp 3 later that day. Our feeling about the state of the weather was soon confirmed. Moving down the ridge proved to be almost as difficult as climbing up. We managed to keep at least one step ahead of the lowering ceiling and reached the Hubbard on 3 July. On the descent we recovered all our equipment and stripped off a lot of old rotting rope on the fixed sections. As we left the ridge another party of four was on the way up and a second party was prepared to fly in, testifying to the popularity of the route in '80. As a parting gesture, just after rappelling over the bergschrund for the last time, the ridge dropped a barrage of rocks one of which missed my head by inches. It was time to get out. July 3 turned out to be good enough weather for a flight out and so, with the upper parts of the mountain still in cloud, we bade farewell.

The shock of civilization overwhelmed our senses upon arrival at Kluane. Soon however we were all heading south, happy to be back and wondering in what high and remote places we would next find ourselves. The satisfaction produced by the climb might soon wear off but we would all share in the memory of a fine ascent of an undoubtedly challenging and classic route on this country's highest mountain.

Kevin O'Connell

Expedition members: Howard Bussey, Saul Greenberg, David Hobill), Card Lund, Kevin O'Connell, Paul Ritzema.

Mt Steele East Ridge

Four of us arrived in Haines Junction on 18 May 1981 in great weather and high spirits. An estimated cost of $1300 to have Ron Eland fly down to Burwash Landing and ferry us in from there to the base of Mt Steele quickly dampened our spirits. We looked for potential routes on the frontal ranges.

As we waited next day at the Kluane Warden Station for Lloyd Freese to arrive and approve our attempt Rick Shakely generously volunteered a slide show of the warden's ascents of the east ridges of Mts Steele and Logan. It was an informative and much appreciated show. Lloyd arrived and gave us an indication of the conditions; it had been a dry winter and a warm spring so we could anticipate exposed rock lower down and ice higher up. He wished us well and sent us on our way mentioning that a helicopter was working somewhere near to where we wanted to fly in from.

On our way north to find this chopper we stopped in at the Arctic Institute and arranged a radio schedule with Phil Upton. In a pipe line camp on Quill Creek we spotted a Bell Jet Ranger and quickly made arrangements with pilot Mat Conant. By 11.15 next morning all were taking in the view from base camp (ca 7300 ft) about 1 km from the base on Steele's east ridge. Cost of two flights in — $750. Things looked great!

Over the next eight days we established camps at approx 10,500, 12,500, and 13,400 ft. The weather for the most part was sunny and warm. Below 12,000 ft it was almost too warm, particularly on our descent, and relatively calm even on the crest of the ridge. Above that the wind blew constantly, sometimes fiercely. The route to about 10,000 ft was a typical treadmill of dry scree. Above that we encountered alternating sections of firm and soft snow (never more than knee deep) and only a few short sections of ice. There was one awkward step at about 11,000 ft, a short pitch of front pointing to a very narrow ridge at about 12,800 ft, and a couple of pitches of moderate ice climbing around 14,000 ft. Otherwise the rope was security only against crevasses.

Avalanche conditions prompted Jim and me to turn back one day and Norm and Dean were turned back at the same spot the following day after they became lost among crevasses in a whiteout. One very heavy cloud clung persistently to the ridge where they were. Below Jim and I rested all day in the sun.

The only storm confined us to camp 2 for 30 hours. At one point the flapping sidewall of the McKinley snagged on an axe and gave the tent a back door, forcing Jim and Dean out to resecure anchors and improve the wind wall while Norm and I steadied the centre pole to prevent a total collapse. Our efforts failed to increase our comfort so we dug a snow cave, collapsed the tent, and moved in. By morning of the second day we were treated to clear skies above and a view of freshly coated peaks piercing a sea of clouds all around.

The sun soon dried our gear so we packed and headed up. About 13,400 ft we dug a trench and spent the night. A tremendous blast of wind sent us scampering back to the trench just as we prepared to leave in the morning. It became quickly apparent that the four of us couldn't spend all day in a trench and within a few minutes the wind became the lesser of two evils. We set off and after a long day reached the summit at about 1800 hrs.

The weather on the peak was as clear and calm as any yet encountered. Logan stood out sharply 30 miles to the south. We were all delighted. Only one of us was too ill to dance the summit jig.

We descended to base the next day and found the snow cover had dropped two to three feet during our absence. On the way down we contacted Phil Upton who arranged with Mat Conant to pick us up the following day. To our great good fortune Mat happened to be flying back to Quill Creek that day. That saved us a bundle. Cost of the flight out, again $750.

Our ascent of Mt Steele allowed us to achieve all the objectives we had set for ourselves: to experience the effects of altitude

and continuous climbing over several days, to climb a scenic route relatively free of objective dangers and not too technically demanding, to do it all in an area of suitably stable weather. On this last point our experience, confirmed by the Park Wardens and area pilots, is that the north end of the St Elias Mtns enjoys much better weather than do the southern peaks including of course, Mt Logan.

If you're planning something similar I suggest you drive up — the Alcan is an adventure in itself and having our own transportation saved us roughly $1200 in helicopter expenses. One more thing — take aluminum shovels not plastic ones; if you forget your pot at the camp below you can still melt water, fry sausage, and roast almonds on your shovel.

Dick Ireland

Participants: Dick Ireland, Jim Rennie, Norm Brown, Dean Eilertson

More Rock Climbing in the Whitehorse Area

Rock climbing in the Whitehorse area saw the discovery of new major climbing areas (see CAJ 1979:82). It all started when Mary Whitley reconnoitred a crag we had all seen but never checked out. She reported some very nice looking lines on good granite. This crag is located about three miles past the Takhini River bridge on the Alaska Highway west of Whitehorse.

Alan Dennis and I drove out one summer evening and found that indeed the climbing and aesthetics were superb. In fact so good that we only managed to get up one climb, an easy but pretty line up a large chimney (Chimney Sweep 5.5). The rest of that evening was spent walking and gawking and backing off. Appetites whetted we returned eventually to complete the following climbs.

TAKHINI CRAG

EARFUL 5.9, 80 ft. A superb line that starts with a thin hand traverse up to the overhanging ear which is very interesting. Excellent climbing continues above. Destined for classic status.

Eric Allen, 1981.

CHIMNEY SWEEP 5.5, 70 ft. A fun climb to the right and around the corner from Earful.

Eric Allen and Alan Dennis, 1981.

UNFINISHED BUSINESS 5.10, 80 ft. Numerous attempts finally resulted in the completion of this delicate jamming problem with some serious off width above.

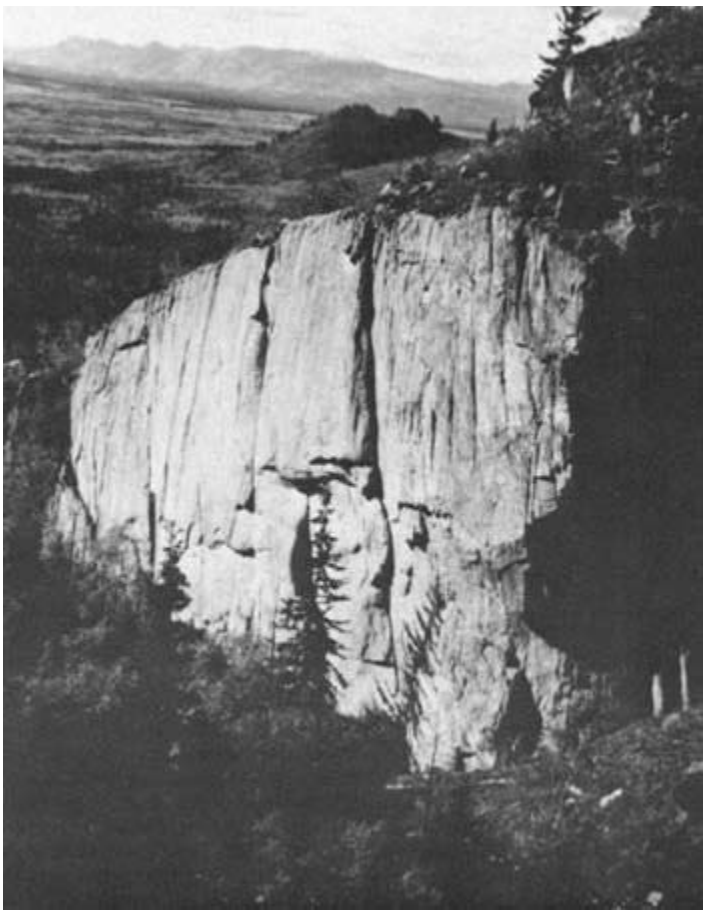
Eric Allen and Alan Dennis, 1981.

FOOLS GOLD 5.10, 80 ft. A fine and somewhat terrifying route to lead. Chimneying a wide slot to start that eventually narrows to shallow flaring cracks.

Eric Allen, 1981.

While driving back and forth from Takhini Crag we spotted some more rocks in a series of canyons across the valley to the north. Closer investigation revealed a climbing area beyond our wildest expectations. Very easy access, good rock, numerous lines all add up to the makings of a major area of similar magnitude

More Rock Climbing in the Whitehorse Area: general view looking down Takhini Crag. Eric Allen



to Tahquitz or Suicide in California. There is real potential for the super hero. Overhangs and roofs both with cracks are quite common. So come North young men and women and do some first ascents.

GOLDEN CANYONS

GRANDE FINALE 5.9, 80 ft. This desperate looking route is not quite as bad as its continuous overhang looks. The final jamming out and over the chockstone at the top is superb.

Eric Allen. Steve Robinson and Louis Hannenberg, 1981.

SLOW BURN 5.8, 80 ft. Enjoyable hand jams with short overhangs characterize this route.

Eric Allen, Steve Robinson, Louis Hannenberg, 1981.

For more details on access and new routes contact Eric Allen, 14 Tamarack Street, Whitehorse, Yukon, Canada. We are all indebted to Mary Whitley for triggering these new developments.

Eric Allen

Climbs in the Tombstone Mountains

After our Mt St Elias Expedition we went to the Tombstone Mtns north of Dawson City, Yukon. On 15 July 1981 we travelled by bus from Whitehorse to the junction of the Dempster and Klondike Highways. The following day we hitch-hiked to the Tombstone campground. Now we walked in, following the upper fork of the North Klondike River. After a very exhausting walk through the bushes and swamps we reached the west side of Mt Monolith on 19 July. It is the most beautiful peak in this range. Our camp was sited at about 1500 m. We made the following climbs.

CANDLESTICK, 1890 m. West corner, 200 m, 5.3. New route. Because of a thunderstorm we turned back just 10 m from the summit.

Wolfgang and Richard Feichtner. 18 July.

Three UNNAMED PEAKS, ca 2000 m. South of Mt Monolith.

Herbert and Bernhard Feichtner, 19 July.

Two UNNAMED PEAKS, ca 2000 m. South of Mt Monolith.

Richard Feichtner, 19 July.

CANDLESTICK, 1890 m. West face, 200 m, 5.5 A2. New route, second ascent of summit.

Herbert and Bernhard Feichtner, 20 July.

MT MONOLITH, 2165 m. East face, south ridge, 500 m, 5.8. Second ascent.

Richard and Wolfgang Feichtner, 22 July.

FIVE FINGER PEAK, 1920 m. South face, 300 m, 5.3. First ascent.

Herbert and Bernhard Feichtner, 22 July.

UNNAMED PEAK, 2100 m. 1 km south of Mt Monolith. 200 m, 5.0. First ascent.

Wolfgang and Richard Feichtner, 23 July.

SLEEPING INDIAN, 2000 m. 1/2 km south of Crematorium. 300 m, 5.6. First ascent.

Wolfgang and Richard Feichtner. 24 July.

On 25 July we walked out to the Dempster Highway because we had run out of food. The Tombstone Mtns are wonderful; clear lakes and sharp rock needles in untouched wilderness.

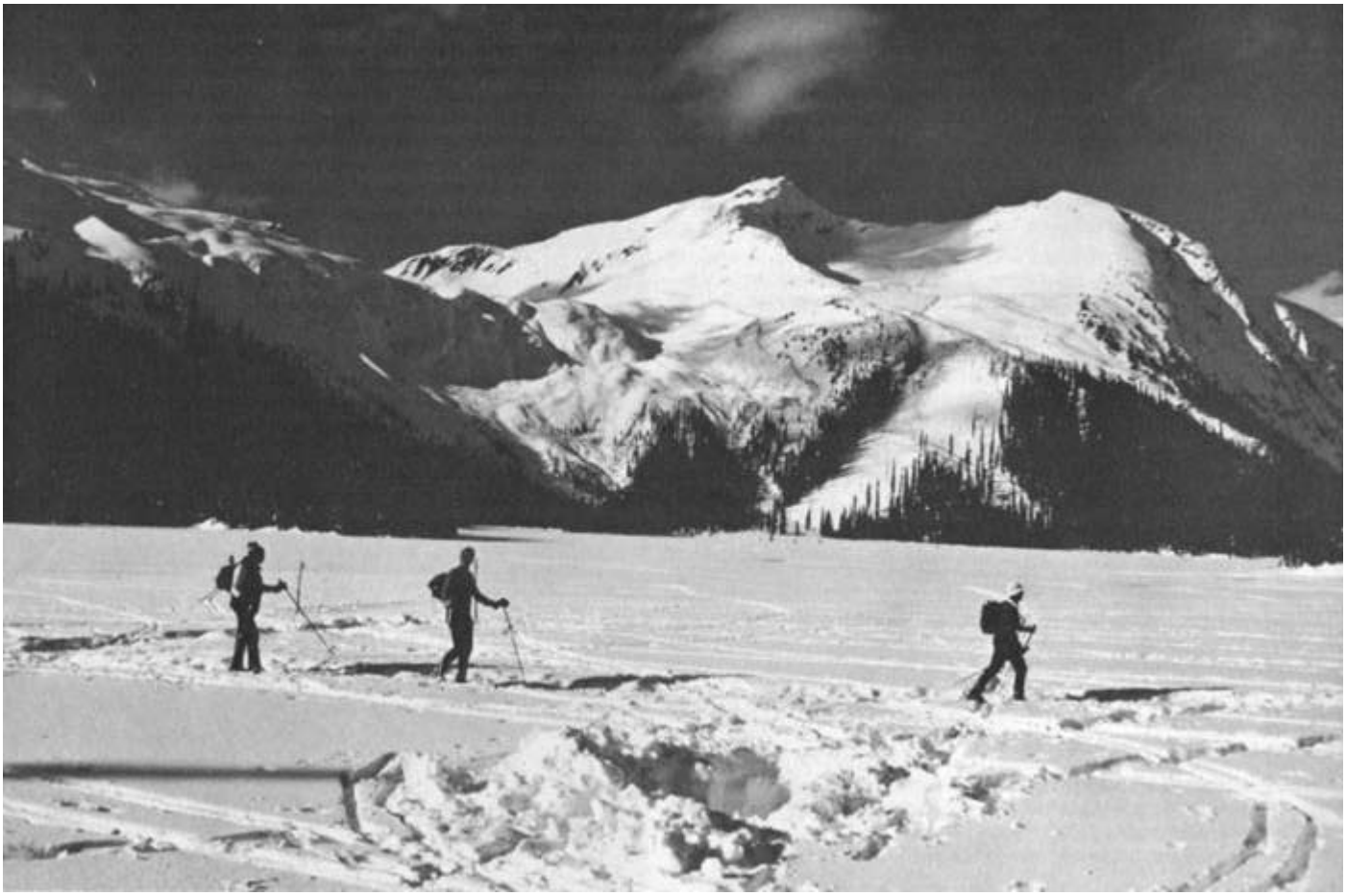
Richard Feichtner

Participants: the Feichtner brothers — Richard (leader). Herbert, Wolfgang, and Bernhard.

Climbs in the Tombstone Mountains: from left to right Candlestick, Five Finger Peak, Budilia, Monolith, Crematorium. R. Feichtner

Candlestick and Five Finger Peak. R. Feichtner

Azure Pass ACC Ski Camp: Peak 8400 and open meadows from main camp. Doug Herchmer



Interior Ranges

Interior Report from Kamloops

Climbers from the Kamloops area enjoyed another good year during 1981. It is gratifying to note the increase in ACC membership from this centre; to my knowledge at least seven joined in 1981. Rock climbing got under way in January near Logan Lake but icy fingers soon brought home that the first two months of the year are much more suited to cross country skiing so quite a number of trips were made to Porcupine Ridge and the Trophy Mtns as a tune up for a long weekend at the Stanley Mitchell Hut at the beginning of March, when Vice President and the McArthur Glacier were skied. The ACC Camp at Azure Pass was enthusiastically acclaimed by a group of eight Kamloopsians. Egypt Lake was the venue for further skiing in March and a party of eight spent a week in the Assiniboine area in April. There was a fair amount of activity on the local rocks during the summer and there was also some work done on the Wheeler Hut; Jim Milligan and assistants repaired windows and screens and installed a new stove.

Some of the more notable summer climbs were made by Colin Zacharias. He and Bob Boonstra climbed Edith Cavell via the east ridge; they overnighted at the col and next day pushed on to the summit in about five hours. Weather and snow conditions were good apart from breakable crust on the final peak. The descent was made by the west ridge to the hostel in seven hours. Colin with Tim Pochay next tackled Sir Donald by the north-west arête. The weather was again perfect and from the col to the summit took about two hours which, according to the summit log, is about average for free climbing. They then descended the south arête, traversed Terminal and reached Pearly Rock in five hours. The same duo followed up with the ascent of Hungabee by the west ridge from the Elizabeth Parker Hut; the descent by the north-west face was not enjoyed due to severe avalanching; their comment, "Hungabee is a pile of rubble outstanding even for the Rockies." Colin and Tim were joined by Dylan Saunders for their next foray on Mt Robson. They elected for the Emperor Ridge and encountered no real difficulties; a bivouac was made at 12,000 ft which provided them with the most spectacular sunset and sunrise they had experienced. After traversing the summit they descended the Kain face and eventually reached Berg Lake after having made a 2 1/2 day circuit. Again the weather was perfect for the whole trip; Colin commented on the many footprints in the summit area, many leading to where the cornice had broken away.

The local club utilized the Wates-Gibson Hut for their annual summer camp. Ten attended and successful climbs were made of Bennington (east ridge) Paragon, McDonnell and some lesser lights. The season ended with an unsuccessful attempt on Albreda and some jaunts into the Mt Revelstoke and Marble Range areas. My own highlight of the season was the Hutchinson Mt Noel expedition.

Hugh Neave

Azure Pass ACC Ski Camp, 7 to 14 March 1981

A new location has been added to the growing list of ACC ski

camps. Azure Pass, 45 kms south-west of Valemont in Wells Gray Provincial Park, was a different type of camp with accommodation provided in small, heated, double walled canvas tents erected on wooden floors. A pot belly stove easily kept the 5 or 6 occupants per tent cosy and a Coleman lantern provided light for reading late night mysteries. The camp was also unique in that Canadian Mountain Holidays organized and set everything up the previous week. They had all the tents erected, wood chopped and split, food organized, and even provided a cook for our group of 17. The only thing CMH did not supply was week long bottomless powder but considering the fact that we had sunshine every day except one they can be excused that minor inconvenience! Cathy White's superb cooking more than made up for the lack of fresh snow which some of the powder hounds eventually found underneath the treed slopes south of our camp. Many trips were made to the surrounding peaks east and west of Azure Pass with ascents of Peaks 8900, 8600, 8400 and Trigon among the most popular. The area has excellent potential for both ski mountaineering and cross country skiing due to the numerous accessible mountains, wide open slopes and expansive valley bottom. There are also many slopes below timberline which offer good tree skiing if visibility becomes limited or the open slopes crusty. These were amply sampled by Ron, Doug and Ralph on many occasions as they attempted to perfect their powder/tree skiing technique. A Friday evening 'Performance' topped off the great week of skiing and sunshine with entertainment provided by two of the tents and an unexpected contribution (?) by Ralph 'Punk' Nelson who deserves an Oscar for his fine performance.

Many thanks to our cook Cathy White and to CMH for transporting all participants and for setting up the camp in such good fashion.

Doug Herchmer

Austerity Glacier, Adamant Group

Summer 1981 five of us spent two and a half weeks climbing from the Austerity Glacier on the south side of the Adamants. The first week (end of July) the weather was generally poor but during our last week we were treated to brilliantly sunny skies. We found the dark, fine grained granite to be of excellent quality and especially suited to difficult free climbing. The rock, being softer than most granite, has weathered to produce unique ripples and pockets normally only associated with sedimentary rock. During our stay the following routes were climbed.

IRONMAN SOUTH-WEST BUTTRESS

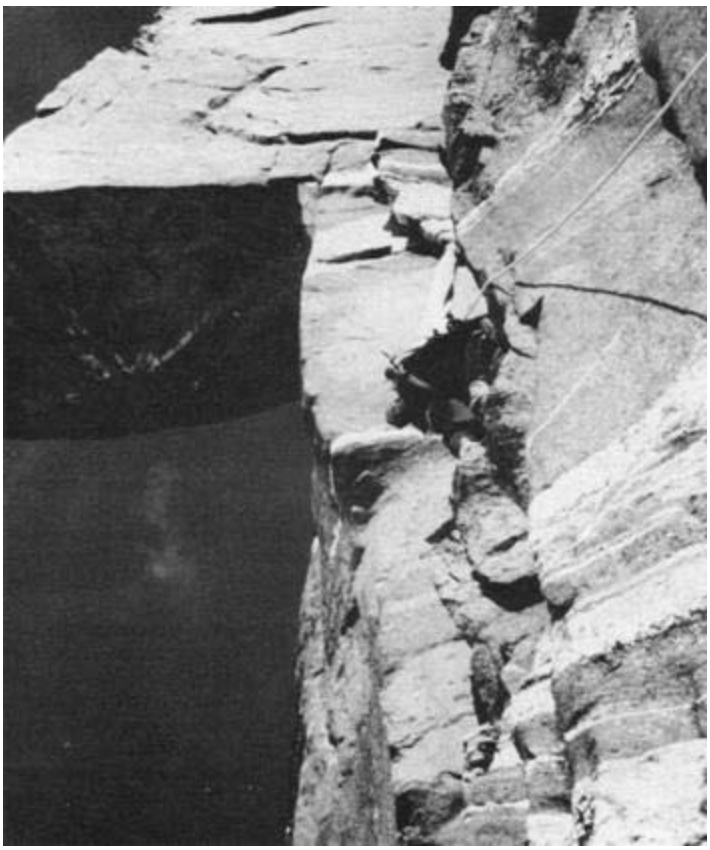
Destined to become the classic route in the area and deserves to be enshrined in the next edition of Fifty Crowded Climbs. The climbing is continuously interesting and varied on the finest rock in the area. Eight long pitches and some scrambling with the crux on the seventh pitch, thin crack and face climbing on a steep headwall. We climbed a variation to the somewhat dirty looking flakes and corners of the first two pitches of the original route by following beautiful face cracks around the corner to the right. Also one afternoon we climbed the obvious right facing corner system just left of the regular route to the huge, prominent ledge at mid height; 5.10+ with a tricky bit of face climbing just below the ledge.

First free ascent, IV 5.10+, Tom Gibson and Rob Rohn.

Mt Sir John Thompson on the left with Trigon Mtn on the right. Doug Herchmer

The impressive walls of Ironman, Austerity, and Turret as seen from the summit of Belvedere (south). Rob Rohn

Steep cracks on lower section of the south-west buttress of Turret. Rob Rohn



TURRET SOUTH FACE

This was the prize wall in the area, bagged after three days of nailing and a spectacular thunderstorm on the summit. They followed a system of flakes and cracks just right of centre and described the climbing as continuously difficult.

First ascent, V+ 5.9 A3-. Scott Flavelle and Mike Down.

TURRET SOUTH-WEST BUTTRESS

This elegant buttress is another classic, though a more serious undertaking than the route on Ironman. The line, climbed in 15 long pitches, has two distinct halves. The more gently angled lower section starts with two steep pitches in cracks (5.9 to 5.10) followed by generally moderate climbing except for a short, poorly protected bulge. This leads to a broken area at mid height below a prominent pillar and the huge vertical headwall. The rotten pillar was climbed via its incredibly loose right side. The crux free pitch was next; a steep fingertip to one inch crack followed by an unprotected lay back and an undercling out a huge, perched, and near the end, wafer thin flake. (Don't grab the end unless you want to take it home as a souvenir.) The next pitch featured 25 ft of rurps and knifeblades, the only aid on the route, followed by a spectacular, dangling hand traverse and an off width crack to a hanging belay. An obvious corner system above started with a small roof and finished on a great ledge. A final difficult headwall with intermittent finger crack and face climbing brought us to two moderate pitches and the summit. We descended by rappelling down the rocks on the side of the Austerity/Turret gully.

First ascent, V 5.11 A3, Tom Gibson and Rob Rohn.

AUSTERITY NORTH BUTTRESS

The companion route to the Nesters Buttress, forming the right side of the huge wishbone shaped north face of Austerity. The crux is the first pitch in a corner/gully. Interesting climbing but no classic.

First ascent (?), Ill 5.10-, Tom Gibson and Rob Rohn.

Also Scott and Mike climbed the south buttress of Adamant and continued on the classic summit traverse of the group to Ironman. Scott and I had a pleasant afternoon on the long south ridge of Belvedere, mostly scrambling with one rappel necessary from a minor summit along the way. And en route to paying a social visit to the ACC camp we circumnavigated the range via the Adamant/Blackfriar col, Thor Pass, Fairy Meadows, and Ironman col — a beautiful hike.

There are still many grade IV and V routes in the area waiting to be climbed. The more broken walls in the Adamant cirque remain untouched. It's a great place to enjoy reasonably accessible alpine granite away from the hordes in the Bugaboos.

Rob Rohn

Mt Damon North Buttress

During the second week of the 1981 GMC, Wayne Saunders, David Lloyd and I put up a new route on Mt Damon. Starting at the Damon/Gog col Wayne led the first two pitches up a shallow gully that he exited to the left near the top on rather loose rock. The next pitch was solid and Dave quickly led through a brief 5.6 section which was followed by a long and delightful lead by Wayne to a point from which it was possible to walk off the climb to the left. However I was appointed 'honorary leader' (on two ropes, no less) to complete the ridge with one fourth class pitch.

George Wallerstein

Rogers Pass ACC Montreal Section Camp, 17 to 31 July 1981

Initial response to the proposal for a first Montreal Section camp, to be located in Glacier National Park operating out of the Wheeler/Michel Hut, was not very encouraging but in February '81 our first meeting produced over 35 interested individuals. It was clear that not only did we have an excellent nucleus for the camp but also would be able to hire a cook for each of the two weeks. The area selected offered a wide range of activities which it was hoped would match the interests of the participants. As well the camp would give many section members an opportunity to upgrade their membership in the National Club. While many section members could only remember the rain at the pass on private outings, the records for this area show that there are only about 14 days in July with measurable precipitation, one of the lowest for any month. Unfortunately this seemed to coincide with the time proposed for the camp! In the end however concern over the weather was all but forgotten as interest in the trip increased. Our next meeting was held in May, when it became clear that we would have close to 34 participants. A revised camp cost per person of $120/week was presented and it was explained that the camp would operate on the principle of no profit or loss.

Prior to departure two weekends were organized at the Keene Farm to review rope and mountaineering skills and check out equipment. By departure there was a great deal of excitement; everyone was anxious to get to the mountains, despite the reputation this part of the park has for bad weather and hungry bears constantly prowling the trails.

On 18 July everything came to fruition. Margaret, Anne, and Andy had arrived a day earlier to get the cooking organized. Chris and I arrived from Vancouver after a delightful two weeks on the west coast. Martin, Sylvie, and Jeff arrived around noon, followed shortly by everyone else. Having survived the rigors of the flight out, the airport pick up and night at Canmore, they were greeted with brilliant sunshine and spectacular views. A few days were set aside for some rest, orientation and review of mountaineering technique.

On 19 July in still excellent weather Peter, Paul, Martin, Howard, Jeff, and I left for a possible climb of Uto and Sir Donald via their connecting col. Carl led a party of 13 to Abbott Ridge for a snow school, then went on to Abbott Peak with a smaller group. Immanuel led a small party up Avalanche Crest.

The snow school was more successful than the Sir Donald attempt, although on the 20th in improved weather our party climbed Uto. On the same day Carl and Immanuel took a party to the Illecillewaet Glacier for an introductory ice school. By this time Margaret's cooking was matching everyone's ravenous appetite, a tradition carried on in the second week when Larry took over the pots.

On 19, 20, 21 July a number of parties visited the Great Glacier Trail, Avalanche Crest, Glacier Crest, and Sir Donald Trails. On 21 July Anne and I hiked to the summit of Abbott in drizzle and whiteout. As the weather continued to improve, we made an unsuccessful attempt on Afton. The knowledge gained from this outing was to prove most useful a few days later.

On 22 July a large party was organized for the Avalanche/Eagle area. Eleven made it to summit of Eagle. Carl, Carolyn, Blake, and Immanuel left to climb Uto. As we prepared to descend Eagle we could see some of Carl's party arriving at the summit of nearby Uto. They were forced to bivouac and didn't return until 1 pm the following day, to the concern of many. Fortunately the only injury was to somebody's pride but the incident did serve to underline the fact that mountain weather and composition of the party must all be taken into consideration on such a climb.

On 23 July a party of ten all made the summit of Avalanche in fine weather. On the descent we suffered the only serious accident of the camp when a good sized rock slid over Dee's "pinky", giving it a bad crush. A number of others hiked the Avalanche Crest trail.

July 24 was wet so a trip was organized into Revelstoke for supplies and a good soak at the Canyon Hot Springs where our ACC cards got us a 10% discount. A number of trips were made to Perley Rock, Marion Lake, and the Asulkan Valley on both the 23rd and 24th. On the 25th Martin, Peter, Anne, and I made a grand traverse from Asulkan Pass to the summits of Leda, Jupiter, Sapphire Col, Dome, Rampart, and Afton, returning via Abbott Ridge in the dark. What started as a recce turned out to be a long but thoroughly rewarding day. A number of our party hiked the Asulkan valley that same day with the park naturalist. On the 26th a party was organized to Mt Revelstoke Park for a trip into Eva Lake while another group led by Immanuel went off to Asulkan Pass for some snow work and possible ascents. Carl, Carolyn, Blake, and Paul climbed Mt Tupper and attempted Sifton in the Hermit Meadows area. Margaret accompanied them for the two day trip but did not climb. On the 25th a party climbed Abbott via Abbott Ridge. On 27 July Sir Donald was traversed via the north-west arête to south buttress by Howard, Martin, Peter, and me with a few hail and lightning storms thrown in for good measure. Paul and Anne had to turn back along the ridge due to the weather. Ours was the second recorded ascent of the year. We had only a minute on the summit to admire the view before making our descent over snow, ice and rock. While we found the route description in the guide book to be quite inadequate, we located a large cairn to the extreme right of the prominent cliff band above the Sir Donald/ Terminal col. Here we made a 165 ft rappel then worked our way down along the ledges to a 50 ft rappel almost directly below the previous one. At this point we traversed horizontally along the ledges towards the col and reached a chimney. An 80 ft rappel brought us to a large ledge. From here a 100 ft free rappel brought us down to the headwall below the col. We worked our way down steep snow slopes to the cliff bands just above the glacier. A 165 ft rappel got us over the bergschrund and onto the Terminal Glacier. We arrived back at the hut at 10 pm after a long but rewarding 17 hour day.

On 28 July another large party was organized for Mt Revelstoke Park and Eva Lake. The same day Carl, Carolyn, Blake, and Andy traversed Jupiter from Asulkan Pass to Sapphire Col where bad weather the following day forced them to return by the Sapphire Glacier.

July 29 saw yet another ascent of Abbott Peak. July 30 was a rest day, limited mainly to easy hikes. On the 31st Martin, Howard, Peter, Anne, Immanuel, and I made an unsuccessful attempt on Mt Tupper from the highway. The same problems we encountered also terminated an attempt on Lookout Mtn but Pat and Geoff made a successful Balu/Cougar circuit.

In summary many peaks were climbed, trails hiked, and valleys explored. The weather was surprisingly good and there were few days when little could be done. The hut facilities are excellent and provide a good base from which to operate a camp of this type.

Kevin O'Connell

Participants: Margaret Bishop, Andy Bishop. Immanuel Braverman. Howard Bussey, Margaret Draper, Dee Gaiger, Larry Garmaise, Mary Schaefer, Carolyn Schaefer, Ed Kilmartin, Pat Higgs. Emil Koller, Hazef Lee, Carl Lund, Carolyn Lund, Blake Lund, Ron Mason. Simon Mason, Micheline Sold, Christine McNamara, Kevin O'Connell, Sylvie Segers. Martin Taylor, Jeff Seaton, Peter Solomon, Geoff Webster, Joan Smith, Brian Welch, Norma Welch, Sandra Welch, Vivian Welch, Eliane de Visscher, Paul Ritzema, Anne Gillespie.

Organizational committee: Kevin O'Connell, chief co-ordinator; Martin Taylor, treasurer; Carl Lund, ground transport; Howard Bussey, food selection and purchase: Immanuel Braverman, map purchase. All deserve thanks for their efforts.

An additional note re the topographic maps. Most if not all glaciers are shown inaccurately. Since the maps were produced the glaciers have all receded, leaving approaches somewhat more difficult than one might expect.

Skidaddling on the Deville

In early March 1981 Scott Duncan and I spent a pleasant week skiing through some of the southern boundary country of Glacier National Park. Our route included a bit of touring on the Deville Icefield and a winter ascent of Mt Wheeler (from the north). And it was sufficiently rigorous to bring on the demise of two pair of Epokes (literally demolished 'em). We started off up the Beaver River valley bound for Glacier Circle. On skiis this is a really nice alternative way of getting into this area and it can be very quick (one day or so) with good conditions. You can cut out a few miles right off the bat by starting where the highway leaves the valley for Rogers Pass and drop directly to the river. If needed there's a footbridge just upstream; it's best to cross over and find the trail if you don't want to get caught up in a nasty little canyon. The only other bit of advice we can offer is to stay on the south slopes (above the canyon) of the creek which spills out of Glacier Circle until you reach the foot of the basin (above the waterfalls). We found the Deville headwall to be very easy going as the rock was covered in water ice and consolidated snow. Crampons most useful here! A very spectacular vista from the top of Wheeler; clear as a bell but bloody cold (Br-r-riskl). Our exit off the Deville was interesting. Down the Bishops Glacier and Mitre Creek to the Incomappleux River. This route has wicked potential. The creek bed is flanked throughout its entirety by massive avalanche slopes and it collects

an astounding amount of debris. Better stay clear under all but the stablest of conditions. Then we skied downriver for several miles and up and over Flat Creek Pass, heading for the highway. Our consensus on this little excursion? A real classic with haute route flavour but a minimal degree of commitment.

Steve Smith

Bugaboos

During a brief visit to the Bugaboos in August 1981 Tom Gibson and I managed two good firsts. On day one we climbed a line that I had attempted twice previously on the west face of Snowpatch Spire — Direct North Summit, IV 5.11 + . This superb, sustained route follows, in the upper half, the leftmost of three obvious white cracks below the north summit of Snowpatch. Starting from a good ledge at the base of a large triangular block with a chimney on its left side, we climbed a pitch of leaning flakes (5.9) and a right facing corner topped by an awkward overhang (5.10) to an area of broken ledges below the perfect cracks. Easy flakes led to the base of the long right facing corner which was quite dirty initially and featured tricky fingertip climbing (5.11-) to a hanging belay at a wide point in the crack (a full rope length). Next was the incredibly sustained crux pitch, a badly leaning and flared fingertip to hand crack without so much as a foothold for a rest in the entire 160 ft to a small ledge. Guaranteed to bring you to the puking point. I was totally wasted and dehydrated from the last lead and hoping for a mellow 5.5 cruise to the summit. But no such luck. A tiring off width led to another 5.11 fingertip crack and much whimpering. One more pitch in 5.10 cracks spit us out on a ledge just below the north summit and a lightning fast descent in search of water. After a day of recuperation we set out for the south face of Snowpatch (with extra water bottles this time) acting on a tip from Alex Lowe that the route might go all free. It did. The crux was found on the long second pitch, the prominent double cracks. The climbing at 5.11 or 5.11+ featured a flared and bottoming finger crack on a vertical wall. Above a short corner at 5.10 to 5.11 and the long traverse left. From here a small deviation from the original line was necessary. We followed the flake 15 ft right of the large, right facing aid corner and made a scary overhanging face traverse (5.10+) back left at the top of the flake. Another difficult pitch in a thin corner, an off width, and a perfect finger to hand face crack was followed by two less difficult rope lengths and the first false summit. This is another highly recommended climb, though we figured only a grade IV as a free route.

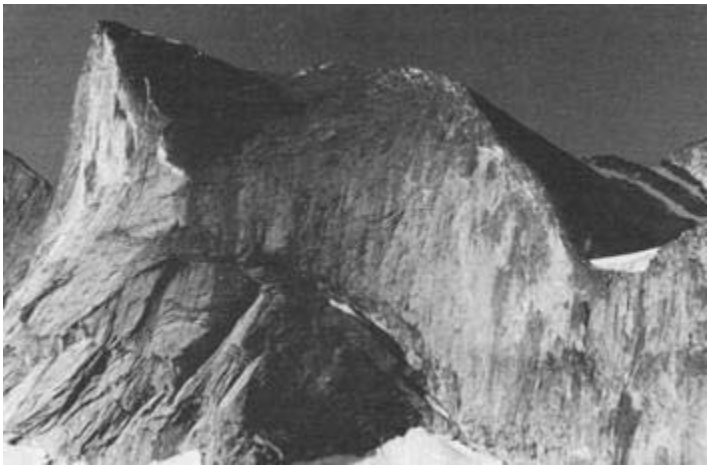
Rob Rohn

The Leaning Towers

The Leaning Towers are a beautiful group of granite peaks in the Southern Purcell Range of south-east BC. Someday the Towers will be ranked with the Bugaboos as one of Canada's finest rock climbing areas. There are extremely fine lines in there just waiting to be done, and certain to become classics one day. Until now the group has seen few visitors. In fact almost no one goes there. Probably this is due to the Leaning Towers reputation for difficult access, now entirely undeserved. It has become a simple matter to reach the Towers, now only a pleasant one or two day hike, mostly on a trail with less than 1/2 km of bushwhacking. There is even a comfortable hotspring five miles up the trail.

The east faces of the Pulpit (left) and Hall Peak (Leaning Tower).
Gabrielle Korell

The Leaning Towers: north face of Wall Peak 9600 ft
New route goes up north-west ridge seen at right, starting from the upper glacier.



The Leaning Towers: looking up into north face of Peak 8800
Jones/Campbell route goes up the black cockscombs on the north-east buttress: Evans/Jirasek route is partly out of sight on the right. Jim Jones

To get to the Leaning Towers, from Kimberley drive 40 kms (25 miles) up the St Mary's River Road to a junction and take the right fork, Dewar Creek. Drive another 26 kms (16 miles) to where Dewar Creek meets Wesley Creek. The trail begins here. Follow the trail up Dewar Creek to the hotsprings. There is a fine camp site with a sweeping view about ten minutes above the hotsprings. Or you can camp right at the hotsprings in a disgusting inferior camp site in thick brush with a lousy view. Immediately after the fine camp site with the sweeping view, cross to the other side of the creek and ascend a grassy hillside to a 7300 ft col separating Dewar Creek drainage from the Upper Fry Creek drainage. Stay high and traverse around the cirque under some glaciers to a 7300 ft camp site on an alp beneath the east face of Leaning Tower (called Hall Peak on the map). This camp site gives good access to the east faces of Hall and the Pulpit but there are usually mosquitoes here and the ground is like a sponge if it rains. For a better camp site continue on over the 8400 ft col on the north ridge of Hall Peak (cross this col at the lowest point). Descend to two small moraine dammed lakes beneath the north face of Wall Tower. There are never mosquitoes here. The camping is on dry sand, there are numerous fine boulders for bouldering, and one of the lakes is warm enough for swimming. From this site you can gaze straight up into one of the largest unclimbed granite walls in Canada, the 1600 ft north wall of Wall Tower, certain to become classical one day. We climbed the righthand edge of this wall (the north-west ridge of Wall Tower) in 1980. By the time you finish reading this we hope to have completed the elegant friction line directly up the centre from the glacier. During the summer of 1981 we also did the north face of the unnamed 8800 ft peak immediately to the right, the double summited outlier on the west ridge of Wall Tower. We call this Peak 8800.

We have visited the Leaning Towers two summers in a row now, in August of both 1980 and 1981. Considerable credit goes to Frank Campbell for organizing both ventures and reconnoitering the way in.

On our first visit, on 5 August 1980 Frank Campbell and I made what is probably the first ascent of Peak 8800. We climbed it from the west, over another unnamed (8400 ft) summit further west. The next day Arnim Haase made the second ascent, repeating our route over the 8400 ft outlier. An amusing conversation took place after Arnim returned to camp. "Did you reach the summit of Peak 8800 Arnim?" "Yes." "Did you find our cairns?" "No." "Why not Arnim, did you really reach the summit?" "Yes I did. I destroyed all the cairns." "Why did you do that Arnim?" "To prove I was there."

In addition to putting up three new routes our party repeated many fine existing old routes eg Sharkshead (by the south Ridge, F7), Hall Peak and Block Tower by the standard routes, and Wall Tower by the standard route. It should be mentioned that in respect to the standard route on Wall Tower the Climbers Guide to the Interior Ranges of British Columbia -South (1977) is seriously in error. Putnam and Kruszyna describe the standard route as going up the south ridge, probably because the first ascent party, McCoubrey and Neave in 1933 (CAJ 1934 and 1935:12) claim they went that way. However this is certainly incorrect. They could not have climbed the south ridge of Wall as it would involve hundreds of feet of direct aid. Furthermore all the features mentioned by them, the à cheval etc, are found on the west ridge, not the south ridge. Detailed descriptions of our new routes in 1980 and 1981 now follow.

WALL TOWER, 9650 ft, NORTH-WEST RIDGE

This new route goes up the righthand edge of the face, on a small nose, an aesthetically beautiful line, in first rate granite. It is seen clearly from the camp at the two moraine dammed lakes. It is about 15 pitches, some 1600 ft. We rated it grade IV, F8, A1, but it is almost entirely free; beautiful free climbing, the kind of climb one wants to repeat again and again. At the top . the route joins the standard west ridge route, just at the à cheval pitch. Access to the base is from the right, above the glacier. We were four on the route. The very first moves are hard, F7. Then begins difficult F8 and A1 climbing in a moss and lichen filled dihedral. In fact most of the cracks are filled with thick black lichen making nut placements difficult. Above the dihedral the climbing eases somewhat to F6 through slabs and flakes. This part is extremely enjoyable and interesting to lead. One has to go back and forth trying different ways; route finding abilities are taxed to the utmost. About half-way up the ridge we came to another aid pitch. A shaky pin pulled on me here, just before I stepped off it onto a tricky friction move. After this the climbing eases a bit then begins to get hard again. Finally high up on the ridge a smooth crackless gendarme blocks the way. We tried this first on the right, finally doing it on the left side on aid up an overhanging crack which fortunately went free at the top, F8. Jim Palmer was really impressed with this. He could barely clean it. In fact he couldn't get the aid pin out. He said later he had never been on such a climb where he had to hang on all the time; his standards were raised. Above the smooth gendarme the ridge began to ease off again. Our anxiety about not getting off also began to ease and everyone was high. But now it was beginning to get dark. We did a few more pitches, mostly third classed them to save time. Then Palmer and Roxburgh announced that they wanted to bivouac. Campbell and I didn't want to. I was hypnotized from leading all day without a break and couldn't stop climbing if I had wanted to. I told them to follow us in the twilight, that I could see the top only a few rope lengths away. As it got darker and darker the conversations at the belay ledges became more and more heated. "Come on, only one more pitch to the top!" "Nuts to that, that's what you said at the last belay. We're not going a step further!" "Aw come on, you don't want to bivouac do you?" "We sure do, that last pitch was F6 in the dark. You must be nuts or at least a crazy bastard." "Aw come on, it's only one more pitch to the top." Finally I actually was on the ridge top but the others wouldn't believe it. They actually bivouacked one pitch below the top, on an airy ledge where they had to sit up all night watching an approaching lightning storm. Campbell and I rappelled off down the normal route in the dark (having been to the summit a few days before after we did Peak 8800). It turned out that eventually we had to bivouac also, in the wretched wind blown col between Wall Tower and Peak 8800. I had no duvet. The next morning we all descended the col down the north couloir to camp.

New route, Jim Jones and Frank Campbell first rope, Peter Roxburgh and Jim Palmer second rope.

PEAK 8800, NORTH-EAST BUTTRESS, GRADE III, F6

The route goes up the middle of the black buttress on the left side of the north face. Approach is indirect. From the glacier at the base of the north face an amazing ramp diagonals upward and leftward

for many hundreds of feet. It is 3rd class. This ramp ("Crowchild Trail"), gives access to many other possible fine routes on the north face of Peaks 8800 and 8400. Followed all the way it leads to the black north-east buttress of Peak 8800. This was followed to the top. The strange cockscombs near the summit are loose, so nuts are recommended rather than pitons.

First ascent, Jim Jones and Frank Campbell, 5 August 1981.

PEAK 8800, NORTH-WEST BUTTRESS, GRADE III, F7

Access from the above mentioned ramp. (Get off two stops sooner.) The route takes a line on the smooth granite shoulder at the extreme right edge of the north face. The rock is excellent. The last two pitches are difficult, F7.

First ascent, Dave Evans and Ivo Jirasek, 5 August 1981.

Jim Jones

August 1980 party: Jim Jones. Frank Campbell, Peter Roxburgh, Jim Palmer. Peter Haase, Arnim Haase, Ed Forster, Eliz Morton, Al Sitter, Bob Oldham (killed the next winter in an avalanche on Mt Thompson).

August 1981 party: Jim Jones, Frank Campbell, Dave Evans, Ivo Jirasek, Jana Cakl, Paul Cakl, Gabrielie Korell, Frank Campbell. (Fuad Abboud was with us for a couple of days but went out early to play tennis.)

Rocky Mountains

Mt Sir Douglas North-East Face

During the period of 13 to 14 September 1981 a new route was done on Mt Sir Douglas, 3386 m in the British Military Group. The north-east face of Sir Douglas was climbed, apparently for the first time, although low down on the route the climbers passed on old piton. The route starts up the right side of the triangular icefield that lies on the left side at the base of the north-east face. This is about 50 degree ice. The route zigzags to pass crevasses and séracs. From the top of the icefield a system of snow ramps was followed left to the base of a deep chimney. Two pitches of ice lead to overhanging rock, F6. The route goes up through the overhang from the right (the crux, F7) staying in the chimney which eases off slightly to become a gully. After two more pitches one comes to a good ledge on the right side of the gully. Above this there is more rock and also another ice wall. The route tops out on the east ridge at the point where it ends just below the summit. Descent was made down the north ridge. Two days with a bivouac on the face.

Jim Jones

Leszek Wozniak (Calgary) and Kazimierz Glazek (Wroclaw, Poland). IV, F6.

Mt Assiniboine ACC Ski Camp, 26 April to 3 May 1981

There were still crowds of skiers at Sunshine and lots of snow cover. Alas the snow was deeply iced, the legacy of a recent thunderstorm. This unforgiving surface soon took its toll, with a heavy fall resulting in a wrenched shoulder for Paul K. At Citadel we chatted through a pleasant afternoon before our chopper finally passed overhead with the cook and food on board. In due course we all rode in and arrived at Mt Assiniboine Lodge all agog and out of film.

Monday was clear and sunny. After exploring Wonder Pass we returned to climb Cautley in the afternoon. Another party was going up, clad only in shorts. The weather turned colder and all of us put on more clothes. On the way down we encountered whiteout conditions — hard to handle on skiis.

Fresh snow was needed more than ever so after supper Tina performed her snow dance. Although Bob, our resident actuary, felt that the odds on snow were only about one in ten next morning there was indeed snow, about an inch of it. Ruthie joined us for a grand trip around Sunburst, Cerulean and Elizabeth Lakes and a gorgeous run down towards Wedgwood Lake. On the way back, Gordon demonstrated the art of jumping cornices with style (elan?).

Wednesday it was up to the Nublet; chilly on top and no easy line beyond so we were happy to descend. The broad open slopes of the Nublet are ideal for telemark turns and with Peter's coaching some of us became — well perhaps virtuosi is too strong a word — but we certainly made our mark, as it were! Lunch was a leisurely affair. Too leisurely for some; it ended in a strenuous snowball fight that involved even the pacifist bystanders.

The next day was a broiler and most of us put on klister, a rash move much regretted for the remainder of the week. The high tech freaks with their double cambered skiis were clearly at an advantage in being able to handle a variety of snow conditions. From Og Pass we had a long run past the towers of Cave Mtn down into Bryant Creek, then a tiresome climb back up to Assiniboine Pass.

By this time certain rituals had been established — afternoon tea, the daily chess duel, etc. One ritual centred around The Marten who regularly found his way into the kitchen at night. (Erling Strom, where are you now?) Invariably friend Marten wound up in a trap, there to curse and rage at his misfortune in quite human tones until morning brought release.

Mt Assiniboine ACC Ski Camp: Gordon Venn at Og Pass. DM Sloan

Friday there was some rain but we had a tour of Terrapin basin. After a week of warm weather the snow base was beginning to crumble. On the last full day it was colder and snowing lightly as we climbed the col between the Nub and Jones Peak. Another fine run, down to an area above Og Lake.

Sunday it was clear and there was fresh snow. We packed and then went back up to the meadows below Cautley for an hour of superb skiing on the best snow of the week. Then it was back down for a chopper ride, back to crowds and cars and crises. ... A week out of this world.

DM Sloan

ACC Leadership Training — Cross Country, 21 to 28 February 1981

Larry stepped out onto the wind crust of an alpine slope. The day was overcast and it was still snowing but we had felt no instability on the way up. We were 400 m beyond the rest of the party about to head out onto a short, narrow scree slope sandwiched between two cliff bands.

"Hey, stop!" Bernie Scheisser, our guide, caught us up from below. He looked across the slope, then waited for the rest of the group to catch up. "I want to turn around." "What???" "Aw, come on!!" "Conditions are critical, remember that fracture plane we saw yesterday?" "You mean that snow pit is related to this place? No Alpiner pays attention to those things. You do it to show off your knowledge of the shape of snow crystals, convince everyone of how brave you are and then go on anyway." "Let's head back down."

On the way back down everyone was ahead of me. I had just dislocated my shoulder (chronic) the day before. The way was steep and I was nervous. "Where are those guys? What if I fall and dislocate? Couldn't someone have waited. Damn prima donnas. Oh hi, Bernie." Thanks for waiting.

That night in the bar, a warden. "Bernie, four dead this weekend, worst avalanche conditions of the year. Why two guys were up on. . . ." "Yuk, yuk, we never would have done that. What a bunch of dumb. . . ." Maybe I'm finally taking the right course. Leadership? Thanks Bernie.

Cameron McGregor

ACC Leadership Training Week, 11 to 18 July 1981

The training week ran true to the prospectus in a manner of a well made clockwork. Designed for a group of varied ability, experience, age and stamina, it provided all participants with the opportunity to improve their mountaineering skills, be brought up to date with new developments in techniques and, above all, to acquire and/or improve safe leadership skills while deriving enjoyment from the activities, environment and new friendships.

There were four participants from BC, five from Alberta, three from Manitoba and one each from Ontario and Quebec, indicating that efforts should be made to find transportation subsidies to increase representation from the eastern and maritime provinces. Lack of female participants was surprising.

High instructor/student ratio allowed close personal supervision and control of progress. Exposure to at least two instructors provided a welcome cross pollination of personal variants in approach to the valid, standardized techniques. Input by participants was considered in day to day programming so that individual preferences were met within the overall objectives.

Review of basic rock craft was made at Wasootch Slabs. Rescue techniques and some aspects of advanced rock craft were practiced on Yamnuska. Basic snow techniques were reviewed on Wenkchemna Glacier and ice work polished on Athabasca Glacier. Party control, rope management and leading were practised during half day and full day climbs. Most participants climbed Grillmair Chimneys (Yamnuska); one group climbed The Guides Route (Mt Rundle). The major climb for two of the three groups consisted of a two day climb of Athabasca via the north face, with descent via Silverhorn, glacier navigation and snow cave and snow house (igloo) construction being practised the first day. The group under Albi Sole's guidance elected to climb the Sky Ladder on Andromeda, followed the next day by the Red Shirt route on Yamnuska. Throughout the outings, practice climbs and major climbs teaching continued unobtrusively, by personal example, by word of criticism or praise, by advice, discussion, explanations.

The day's activities were followed by debriefing sessions with free exchange of constructive criticism by instructors and participants; lectures followed the debriefing sessions, supplemented by slide shows if applicable. Discussions were fruitful and the language sometimes esoteric (remember that single sentence in which holistic entity and spatial heterogeneity were mentioned?).

Some memorable events occurred: an unscheduled demonstration of the consequences of hauling a pack secured with a single non-locking 'biner (did you recover it next week, Tom?), a practical demonstration of navigation through whiteout on Andromeda, a fall through a cornice, a rappel off an ice bollard, a leader's fall on the Red Shirt, two second's falls on Athabasca, a sloshy glissade off Silverhorn, nearly falling into a 'schrund by the undersigned — and throughout the unruffled calm of the instructors though at one occasion Don allowed himself a very, very mild expletive when a careless (non-participant) climber loosened a human head sized boulder which whirred within inches past him.

A private exchange of personal criticism and evaluation followed the general wind up session on the morning of 18 July. That almost all participants availed themselves of the opportunity for private evaluation testifies to the high esteem for the instructors' integrity and understanding. Don Vockeroth, John Lauchlan, and Albi Sole deserve praise for their highly professional attitude, good humour, and high sensitivity to participants' needs and weaknesses, and for well prepared written, visual and oral presentations in addition to the primary instruction on rock, snow and ice. To Sheila Vockeroth go thanks for excellent meals and for patience in accepting our lateness, to Ron Matthews and staff for behind the scenes preparatory work. Mike Wingham combined participation with

camp manager duties, diligently assigning dish washing tasks and performing such other advisory work as was required.

Immanual Braverman

ACC Training Week, 18 to 25 July 1981

Twenty participants began the week learning basic rock climbing technique, with the added bonus of good weather. The first day's instruction concentrated on knot tying, followed by climbing at the Wasootch Slabs and east Rundle on Sunday. The rock climbing portion of the week culminated on Monday with ascents of Mts Norquay and Edith, and Yamnuska by the Grillmair route.

The rains began on Tuesday but this did not slow the pace of activities. The second part of the week was devoted to snow and ice climbing. A very damp snow school was held at Wenkchemna Pass. The day was a complete success as far as testing rain gear is concerned. Wednesday, a nice day, was spent practising crevasse rescue, prusiking, and rappelling methods.

Wednesday night it was announced that Mt Athabasca would be climbed next day. Everyone was depressed by the 2 am wake up call and soon very depressed when we arrived at the point of departure to the tune of falling rain. Despite last minute whining the decision was made to try for the peak in the hope that the rain would stop. By the time we reached the summit the rain had indeed stopped and it was snowing hard. The clouds did part momentarily at the end of the day to reveal a glimpse of the snow laden peak. Many people were then impressed by what they had accomplished.

Friday offered a choice of activities — including spelunking to those who dared the weather.

Instruction was provided by guides Don Vockeroth, Albi Sole, and Ottmar Setzer. The cooking, handled by Sheila Vockeroth, was excellent. Despite the few bad days of weather everyone agreed that they had learned a great deal about climbing and enjoyed the experience.

Doug Leach

Little Yoho ACC Ski Camp, 7 to 14 March 1981

It was a perfect week; seven continuous days of sunshine, good snow, warm temperatures and, best of all, excellent company. After early morning coffee at Wapta Lodge we set out for the long trip up to Stanley Mitchell Hut. The ski into Takkakaw Falls went quickly but climbing up the headwall was an experience most of us would rather forget. By late afternoon we made it to the hut; our cook Eric had an enormous vat of hot broth ready which we devoured with great relish. The next morning we dug a snow trench to check out the avalanche risk and practised our avalanche rescue skills by locating buried beacons. In the afternoon we took a leisurely trip up the valley to Mt Kerr. The perfect weather continued throughout the week and besides Kerr we conquered The Vice President, McArthur. President Pass and Emerald Pass.

Our group was about evenly split between cross country and mountaineering skiis. The cross-countriers seemed to have no problems bagging the peaks and made turns just as graceful but a bit wider as the ski mountaineers. Life in the cabin was enjoyable. Eric's cooking kept us going back for seconds and there was lots of wine to wash it down with. Our only complaint was the stove, excellent at smoking but not very good at burning.

Being one of the die-hards who refused to take a rest day for fear that the weather would deteriorate thereafter, I was happy after seven days of skiing to be heading back home. The trip down the headwall turned out to be even worse than the trip up. There's nothing quite like trying to negotiate steep hairpin turns with a heavy pack. Many thanks to our camp manager Walt Davis, our cook Eric, and all the other participants for a superb week.

Mike Wingham

Mt Hunter: The Fine Line

A classic route located two miles west of West Yoho Park Gates on Trans Canada Highway. 11/2 hours walk on north side of the highway up a subsidiary drainage. Pitch 1 — 160 ft. Climb steep ice then move easily to gain a snow bay 20 ft below a huge chockstone. Peg belays. Pitch 2 — climb chimney and surmount chockstone, continue up steep snow to a wide open gully. Ice screw belays, stone fall. Pitch 3 — climb the screen of ice at the head of gully to gain a huge upper bay (avalanche beyond). Pitch 4 — climb the huge cascade of ice on the right in two pitches. On the left there is a direct finish (grade V) up a steep pillar of ice. Descent — rappel route.

Bill March

New route, grade IV, March 1981.

Mt Trutch North-East Face

During late July 1980 Rudi Kranabitter and I did what we believe to be a new route, the north-east face of Mt Trutch. We approached from the east after having traversed Nanga Parbat. Five pitches of moderate steepness led to the summit. No difficulties were encountered. Three hours from base to summit.

Richard G Estock

Mt Wilson: Damocles

An interesting and varied climb with a five crux pitch. Location 1 1/2 miles north of Rampart Creek Youth Hostel on the Banff/Jasper Highway. 3/4 mile east of highway in a large open gully. Pitch 1 — climb the first ice seepage direct up a series of short steps. Pitch 2 — walk up snow avoiding a rock step on the left to arrive at the foot of a 70 ft free standing pillar of ice. Climb direct to tree belay on large snow ledge. Pitch 3 — climb a short steep pitch to gain a large open snow gully. Pitch 4 — climb the final ice pitch on the left. Descent — rappel route.

Bill March

New route, grade IV, January 1981.

A First Ascent in the Mt Amery Area

Even short breaks from the storms that plagued the Rockies all the spring and early summer of 1981 were few and far between.

When one sunny period did arrive Mark Dahlie and I rescued ourselves from becoming permanently attached to our bar stools in the Outpost and drove up the BJ Highway to look for new climbing adventures. Our high hopes for launching an assault on one of the many fine alpine faces en route to Saskatchewan River Crossing were quickly dashed since new snow at higher elevations had all but completely covered the rock. So we settled for a "lesser" summit. One just south of Mt Amery which the guidebook promised had not yet seen a first ascent.

The peak, actually peaks since there are three or four separate summits all rising to above 10,000 ft, is almost completely visible when looking south from the Sunset Pass turnoff on the BJ Highway. A deep snow/ice couloir in the north face separates the two more easterly peaks and provides access to the upper slopes of both peaks through a difficult looking face. The couloir looks much more ideal than it actually is, a conclusion that we arrived at very quickly and to which prematurely aged helmets testify. Of the two peaks, we climbed the one just to the right (west) of the couloir, a pinnacle that looks vaguely like Brussels Peak only smaller.

As with all memorable mountaineering trips this one included a river crossing. More explicitly it started with a fording of the swollen and muddy North Saskatchewan. Next a fairly short thrash (three to four miles) in moderate bush brought us to just below the north side of our objective. From here we climbed directly upwards through a deep and wet gully to a large boulder field. Here we found an ideal bivy spot amongst stands of alpine fir, enclosed by flat meadowed areas. A great view of the south face of Mt Amery and a clear, ice cold spring bubbling up from the alpine turf contributed even more to a superb setting.

Our route from the bivy initially follows the central couloir. Isothermal slush in the lower section gave way to solid snow/ice higher up where the angle attained 55 to 60 degrees for a 100 feet or so. We traversed out of the couloir and onto terraced slopes as soon as possible and climbed up and right on these until we arrived at a deep cleft in the north face of the summit block. A short pitch led up through this cleft to the west ridge, followed by three more pitches to the summit, the route alternating between the north-west face and the north ridge. The last few hundred feet of climbing was pure joy — the rock was generally excellent and the climbing never exceeded 5.6. On the summit we took turns at constructing an obscenely lop-sided cairn which later proved to be visible without binoculars from the highway. We returned to our starting point beneath the summit pinnacle with a couple of long rappels.

Phil Smith

Future parties attempting this peak may be interested in the following observations. An easier approach to the base of the pinnacle would likely be on the south side of the massif. However this would mean thrashing about in the swamps of Arctomys Creek. Also our route on the final summit block was by far the easiest. Other routes would probably encounter lots of manky rock and likely necessitate aiding in some sections.

Mt Cline North Ridge

On 10 July 1981 Bruce Hart and I climbed the north ridge of Mt Cline (11,027 ft, 3361 m) in the Whitegoat Wilderness in 51/2 hours from the Cline/Resolute col during good weather, after approaching via the east fork of Thompson Creek from David Thompson Highway to camp below the great east wall of Cline. The climb was mostly on good moderate ice (gullies) with two short sections of reasonable rock, alternating with rock rubble and snow. It provided more in length, challenge, and enjoyment than we had expected from previous (foreshortened) views, and we recommend it (12, F5). We claim the first ascent of this route but I'm surprised if it has not been done before; an attractive route in scenic surroundings, to a prominent summit, the highest for many miles in all directions. Descent to the south via the standard route and the west branch of Thompson Creek.

Orvel Miskiw

Mt Cline North Ridge. Orvel Miskiw

Mt Andromeda

In July 1978 Leon Kubbernus and I climbed the unnamed 10,600 ft peak between the Saskatchewan Glacier and the long south-east ridge of Mt Andromeda. At that time the summit of the unnamed was only part of our goal, for we had planned to traverse that peak and continue up the unclimbed south-east ridge of Mt Andromeda.

In CAJ 1979:38 the article The Forgotten Peak describes that climb very briefly, but being a sneaky devil the south-east ridge of Andromeda was not mentioned for some equally sneaky devils would have gone and climbed it. To get on with the story, we ran out of time on that occasion because of a late start due to bad weather.

Leon and I, wanting to complete this little project, set off from the Jasper Highway late one Friday night in September 1981. Stumbling along in the dark with the odd flick of our flashlights we made good time to the last trees before the Saskatchewan Glacier where we bivouacked. At first light we set off across the flats and mounted the snout of the Saskatchewan Glacier. The nature of the glacier snout had changed so much on the south side since our last visit it was hard to believe it was the same place.

As on our previous climb of the unnamed peak, we attacked it via the glacier between the south and south-east ridges. The glacier, now bare and hard, glistened in the warm morning sun; but this was not what disturbed us. As we put on our crampons rocks on the steeper ice higher up were loosened by the warmth and came bounding down around us. Requiring some fancy stepping, we quickly climbed the ice to where the glacier abutted the rock, then

Looking down south-east ridge of Andromeda at right with Unnamed 10,600 to its left; Mt Saskatchewan at upper centre. Glen W. Boles

continued up the rock to ledges which we traversed to the south ridge. We followed along up a shale slope to the next phase of the climb which we would as soon forget, for we bantered over one scree slope after another while traversing the west side of unnamed to reach the col between it and Andromeda. The south-east ridge proved to be very easy but enjoyable on a perfect fall day. We reached the snow capped summit at 3.30 pm, eight and a half hours from our bivouac.

The icefields as always, presented a fascinating sight in the late afternoon shadows. The cool temperatures didn't hamper our enjoyment of the summit; we lingered for an hour, wandering around the large summit snowcap, peering down from our sunny dome into the shadows below. We helped ourselves to an "Alberta 75th" pin left the previous year in a canister to commemorate that occasion. We retraced our steps by the same route with some slight time saving variations. At 9 pm we arrived at our bivouac, in need of a meal.

Glen W. Boles

Clemenceau Icefield High Access Routes

The beautiful Cummins alp, location of the most recent addition to the ACC huts system, has been a traditional camping spot for mountaineering parties due to its ideal setting amidst many of the finer peaks of the Clemenceau area. Undoubtedly the number of visitors to the region will magnify considerably; the prospect of a hut based mountain holiday is very attractive to many folk. As in the past, to spare the effort and time consumed on an overland approach, most will presumably gain access via helicopter. It is worth noting however that ground travel to such a place is unquestionably worthy of consideration in itself and highly satisfying. As seems typical of remote areas, access to the Clemenceau region offers tremendous challenges and passage through spectacular wild country.

Basically there are four main high routes to Clemenceau and the Cummins alp, all of which have their origin at some point on the Banff-Jasper highway. Each offers a number of interesting variations. Depending upon season and mode of travel, some are more favourable than others; some are possibly unexplored as yet. Western approaches are not reasonable for summer access, with the possible exception of the Kinbasket River valley, due to severe bush and steep sidehilling. Unfortunately future logging action will almost certainly open up a lot of this country, though it will eliminate much of the thrash. Valley travel west of the divide is best with good snow cover; ski passage into Clemenceau from the Rocky Mountain Trench is definitely worth looking into.

ATHABASCA/CHABA

The most rapid means of access — under good conditions it's possible to exit the Clemenceau area in one day using this route. The Athabasca River ford nine miles up from Sunwapta Falls can, if high with run off, pose the most serious obstacle. Evidently fly in Hamber fishermen would like to keep it that way — Jasper has been wanting to put in a footbridge here for some time. The West Chaba Icefield affords the easiest, most direct passage. There may be some tricky places getting past a couple of canyons but once at the foot of the West Chaba Glacier all is reasonably straightforward. The 8700 ft pass at the north end of the icefield gives access to a much higher pass just south of Mt Brouillard. The west side of this is excessively steep; stay on the ridge and continue south (along the Divide) for several hundred metres to where a broad snow couloir leads directly to the Peary Glacier below. Alternatively the Peary Glacier may be attained directly from the West Chaba Icefield via a steep 9600 ft col north of Mt "Amundsen" (432895). Mt "Peary" (423898), the south retaining wall of the Peary Glacier, has a small but prominent knob on its westernmost end. Contour across the Peary Glacier, then climb up through the gap just east of the knob. A scree run leads down to the Younghusband Glacier below; cut across, skirt over the intervening shoulder, and gain the Clemenceau Glacier.

The East Chaba Glacier may also be used to enter the Clemenceau Icefield region. The spectacular icefall should still be negotiable via its eastern margin and upper centre, though certainly not without hazard or difficulty. The upper névé is easily crossed to the divide. It is a pleasant crossing to the East Chaba Icefield via the West Chaba Icefield, amid sensational icefalls. The pass, north of "Noel" (496835), is quite steep on the north and the bergschrund may prove interesting. From the upper névé of the East Chaba Icefield cross to the Clemenceau Icefield. A col south of Mt Apex is the gateway to the massif itself.

WOOLLEY/WALES

Start by scrambling up over Wooley shoulder, as if approaching Mt Alberta. Follow Habel Creek down, ford the Athabasca River,

and take its west fork up over the "Toronto Glacier" to a col at the head of the Wales Glacier. There is a superb spot for a camp on a small alp just above and to the south of the col. Regarding passage over the Wales Peak/Chaba Peak col, it is important to gain the lowest point of the pass, difficult to discern from the east. The pass is broad and quite heavily serrated. If in doubt continue northwards before ascending the final slopes. Otherwise you may be in for a fine time on the west side, ie steep rotten slabs with a gaping bergschrund in plain view of a gentle snow slope. Past this point it is an easy but long snow trudge to the Clemenceau massif, four good days from the road. The eastern foot of the Wales/Chaba col has also been reached from the East Chaba valley head via a glaciated gulch which tops out on a col just east of Chaba Peak. A good way to by-pass the formidable East Chaba icefall!

COLUMBIA/CHABA

The basic route follows the divide from the Columbia Icefield to Clemenceau. Though described in some detail previously (The Great Canadian High Level Ski tours, CAJ 1978:2-4) there are some variations worthy of mention to the summer traveller. Allow at least four full days to the Clemenceau Icefield. The gulch due south of Mt Columbia poses the greatest obstacle. Ski parties have circumvented the steepest portion of the escarpment by dropping right to the valley floor at the 4500 ft level. When avalanches are not a threat there appear to be two alternatives to this. A small, lightly laden party might best pass just south of the summit of Mt Columbia and descend the great west ridge to the col adjoining Mt King Edward. Allowing for much rappelling, this should still be the quickest and most direct way through. The easiest course however is to head for the north end of the south-eastern satellite of Mt Columbia (ca 10,400 ft). Here a formidable icefall drops into the great gulch. Descend the east margin of the icefall along the base of the spur. Once off the glacier skirt west below the ice to the edge of the escarpment where a series of slabs and scree ramps lead down the cliffs to the 5600 ft level of the small glacier due south of Mt Columbia (in the gulch). Cross this and scramble over a steep moraine. From there head for the divide glaciers, either by climbing up the western slopes along a ramp or by continuing up the gulch through some beautiful alp land to a huge, mile long, 30 degree slab at the valley head One of the most astounding spectacles to behold, this the south flank of mighty Columbia. The easy snow col a few miles north of Triad Peak is the last barrier on the Columbia Icefield; the Wales Glacier pass is just a hop, skip, and a jump away.

HOOKER/WOOD

The northern divide route to Clemenceau has also been outlined in the previously mentioned CAJ 1978 article. The ski route described there crosses over the Hooker Icefield from the Scott Glacier to Serenity Creek, then goes down to the Wood River and up Clemenceau Creek. Bush alone presents a serious impediment to summer travel. As well the ford on the Wood River is at the least formidable and perhaps impassable. There is another way which minimizes bushwhacking and provides direct access to Cummins alp. Gain the Hooker Icefield via the traditional Scott Glacier route. Cross the névé and drop directly to the Wood River via the glacier south-west of Serenity Mtn. A steep bushy ridge leads down to a creek, just before the creek enters the Wood River. The Wood River here is heavily braided and can, even at high water, be forded channel by channel. Across the river is another creek which drops down from a glacier between Mts "Mallory" (304941) and "Bruce" (282927), both satellites of Mt Clemenceau. Steep bushwhacking for a good mile here. The upper portion of the glacier is quite broken, however there is a narrow but easy passage between the westernmost icefall and the steep central headwall. The Mallory/Bruce Pass (9000 ft) offers direct access to the Bruce Glacier, on the north-west side of Mt Clemenceau. A most spectacular entry to this area; the relief of the Wood River valley alone is tremendous! Allow four to five days in good conditions. In bad weather it is possible to by-pass the Hooker Icefield altogether. Hike over Athabasca Pass and angle east over another pass to the next basin east of Pacific Creek. Contour above tree-line along the western side of the valley and, after attaining the promontory overlooking the Wood River, drop down a 3000 ft alder slide to the valley bottom, just down river a bit from the route of choice.

Steve Smith

Hut Construction at Mt Clemenceau

During the summer of 1981 the ACC built and officially dedicated the Lawrence Grassi Hut on wind swept Cummins Ridge near majestic Mt Clemenceau. This hut is the first new one to be erected since completion of the Mt Assiniboine Hut ten years ago in 1971.

Although patterned after the Assiniboine Hut, this 20 person, curved arch hut is more than three times as large, incorporates many design improvements, and is roomy enough to dispel any feelings of claustrophobia. Its feeling of spaciousness is enhanced by the large double glazed windows and interior layout. The sleeping platform and loft are at one end, the entry and eating area on the other, while the kitchen area with stainless steel countertops, sink, and both propane and Coleman stoves are nestled in a nook against the entry and under a window. Comfort is enhanced by the R-28 insulation, an oil heater, and the 10 cm thick foamies. The hut was prefabricated in Cochrane, disassembled and driven on a 45 ft flat bed truck to Mica Creek in April 1981, and flown to the site. During the last week of July and first week of August a team of ACC members, mainly from Calgary, completed the on site construction. Pat Coyle, the builder, also donated his time to work on erecting it.

The structure is supported on stone pillars and anchored to the rock with heavy bolts. Perhaps the most difficult part of the construction was lifting and putting into place the twelve 20 x 4 ft roof arch sections, some weighting well over 600 Ibs. Fortunately the basic work was done during sunny weather, before the all too familiar Rocky Mtn monsoon settled in for the better part of a week.

The hut is named for Lawrence Grassi, well known to the climbing community, who died on 5 February 1980. Born in Italy in 1890, he worked as a miner with Canmore Mines Ltd but he was best known as a mountaineer, guide, pioneer, trail builder, and friend of all mountain travellers. Prior to his death he made a substantial donation to the ACC for the construction of a hut. It became apparent during the planning stage that the amount would be inadequate. Edmund Hayes Sr, a former president of Canmore Mines Ltd, expressed a desire to recognize Grassi's achievements. In earlier years Lawrence had acted as a mountain guide for Mr

Hayes and they completed many ascents together. Contributions towards completion of the hut were received from Mr Hayes and several members of his family, making this essentially a Canmore funded project.

Although it took only ten months from deciding to build the hut to its dedication, eight years of prior planning were required to reach that stage. Early planning had involved listing possible sites and selecting suitable alternatives, carrying out reconnaissance's, considering funding possibilities and other related matters. The last hectic phase included obtaining permission from the BC Department of Lands, Parks and Housing, having Mike Simpson draw final plans, getting the hut built, purchasing the items to go into it, and tending to a myriad of details. For more information on the planning, construction, and funding see the November 1981 issue of The Gazette.

The views of the mountains and icefalls are magnificent. It is particularly awe inspiring when a storm from the west sweeps up the Cummins River to engulf the entire ridge and towering Mt Clemenceau in thunder, lightning, and pouring rain. Mt Clemenceau (3658 m) and the neighbouring peaks are all within an easy day's climb of the hut. These peaks include Mts Stanley, Livingstone, Rhodes, Pic Tordu, Shipton, Chettan, Irvine, Tusk, and many lesser summits. For winter use the large glacial systems are ideal for cross country travel as the glaciers are rather flat and not too broken up, although there are a few large mill holes to be watched for. There is ideal downhill touring on the peaks, among the cols, and on the other slopes. The avalanche hazard may be minimal on the glaciers but the cornices on the ridges and the slopes require careful consideration before venturing forth or descending from the heights to the glaciers.

Although the hut was built and will be maintained by the ACC in reality it can only be properly looked after with the assistance and co-operation of all. Hence all users are requested to keep the hut clean, learn how to adjust the oil heater properly, and be considerate in other ways so as to help make the experience pleasurable for everyone. Bookings must be made through the ACC office in Banff. Propane and heating fuel need to be taken in.

Access is by helicopter from Golden or Mica Creek or from the Banff/ Jasper highway (see Clemenceau Icefield Access Routes this volume). Eventually it may be possible to take a boat across Kinbasket Reservoir and hike up the ridges from Wood Reach.

Herb Kariel

A Ski Trip to the Clemenceau Area

On 25 April 1981 The Grizzly Group, minus Don Forest and Gordon Scruggs but plus Ron Matthews and Dick Roe, helicoptered from Mica Creek into the Clemenceau area. We had planned to camp on the glacier at the south-east end of Reconnaissance Ridge so that good skiing as well as ski mountaineering would be accessible. However bad weather in the form of low clouds restricted the chopper from even accomplishing a sit down on Cummins Ridge. So somewhat disappointed at first we were dropped at the foot of the basin just west of Cummins Ridge right at tree-line.

We soon organized our camp site, erecting two McKinley tents with three bodies to a tent and another tent for supplies. We reckoned we were on anywhere from six to ten feet of snow. As the tents were going up we eyed the bowl above us with envious eyes, hardly able to contain ourselves, for enthusiasm was rising fast. After lunch all climbed to Cummins Ridge then made a run back to camp. Used to snug plastic boots for most of the winter, we left a lot of craters in the snow, to peels of laughter. The following day we travelled north-west along Cummins Ridge, picked out a slope to our liking (the choice was endless). Here we spent the rest of the morning, skiing into the early afternoon. Then the snow got too heavy. We repeated this same trip a few days later but were disappointed to find the snow much too wet.

In March the prefab sections of the Grassi Hut were flown in to Cummins Ridge. One load of sections with Dormer windows had been landed in haste on the Cummins Glacier side of the ridge. With the spring thaw Ron Matthews had visions of this load skidding down to the glacier so we spent a day on the ridge, shovelling the sections out and hauling them up to a more stable location. It's interesting to note that a 15 ft, two by four, left in the snow at that time showed only a foot above the snow.

Most of our days were spent skiing in the bowl above camp which was excellent. We would usually ski until early afternoon then relax the afternoon away. Thursday evening we were surprised when a gripping thunderstorm moved through, followed by a steady rain. This triggered most of the slopes that were ripe to slide. Avalanches thundered for most of the night. Daily the snow on the ridge west of our site wrinkled and slumped, exposing smooth rock slabs. The rain was all that was needed; as the snow thundered to the slopes below it woke us all from a deep sleep. Next day Leon and I were sitting on a timbered ridge below camp when the remainder of this slope let go. We had a ringside seat but wouldn't you know it I was changing film.

We had a great relaxing week but realized we were too late for the extraordinary skiing this area has to offer. We didn't range far as the unseasonably mild days and nights kept conditions unfavourable. We would recommend March and now that the Lawrence Grassi Hut has been constructed the area will be a haven for ski mountaineering.

Glen W. Boles

Precariously balancing and placing the first arch. Len Gottselig

Hut Construction at Mt Clemenceau: the hut in its setting. Len Gottselig

A Ski Trip to the Clemenceau Area
Our camp site in the bowl west of Cummins Ridge which starts at upper left and ends in a buttress two-thirds of the way across picture. Grassi Hut is located on Cummins Ridge above the lefthand tent; peaks are, from left to right, Shipton, Shackleton. and Pic Tordu. Glen W. Boles

An avalanche below and west of our camp site. Glen W. Boles

From Cummins Ridge looking south-west toward the Windy Group in the Northern Selkirks; our camp site at the front of the bowl. Glen W. Boles

Climbing up onto Cummins Ridge late in the afternoon. Glen W. Boles

Eremite Tonquin ACC Ski Camp, 21 to 28 March 1981

The 1981 Eremite Ski Camp was blessed with a number of strange occurrences, including a one hour beastie visitation, a pun-full cook, a knicker-bashing bout, and the 25 lb chocolate bar plague. Before the 17 participants had skied enough to become fetchingly filthy, we were "Martenized" — in less than one hour. Fortunately with a total loss of one pound of bacon we were not completely cleaned out! (Thank you, Rory!) After a particularly fine day spent storming Thunderbolt peak a number of us fell prey to "Telemark crotch" — a knicker splitting disease caused by deep telemarks. Despite lingering indecency, we proceeded directly to the delights of tea and Happy Hour, during which Rory attempted unsuccessfully to enlist a volunteer cake better beater. He promptly accused us of being a bunch of deadbeats. In our defence we must say that the batter looked as limp as we felt! Much to our initial delight and subsequent dismay we found 25 pounds of chocolate bars in our food cache. One for breakfast, one for lunch, one for dinner, and we still weren't even making a dent in the pile. Even the Chocoholics slowed down after the fourth day of this ration and you'll never guess what we carried out. Our dauntless group delighted in spring sunshine and a day of fresh powder, and braved wind, cloud, wind crust, and sun crust during trips to Angle-Alcove col, McConnell Peak (almost), Thunderbolt, Maccarib col, Tonquin Hill, Eremite Pass, and an overnight tour behind the Ramparts. A congenial group, a superb cook, fair weather, and the serenity of the Eremite winter wonderland contributed to a first rate Spring Fling. The recently installed insulation, stairwell doors, and new stove made the living area noticeably cozier than on our 79 trip — we ate dinner in shirtsleeves! A warm thank you to everyone who helped with the hut renovations.

Mary and Alan Baker

Québec

Québec Report 1981

After much searching and many telephone calls I finally managed to get a hold of most of the very few and very silent persons who have been in the forefront of Quebec climbing these last few years. The following information can thus be considered an update of what has been done in hard rock and ice climbing since 1979 in «la belle province». The order followed is first of all by season and second by region, as in the climbing guide Parois d'escalade au Québec by Eugénie Lévesque and Jean Sylvain.

Louis Babin of Quebec City has been very active in both rock and ice and the Vallée de la Jacques-Cartier has been his area of choice insofar as the latter is concerned. In February 1980 he and Alain Desranleau put up "Ekwatek", a 1000 foot climb including seven pitches of ice (III). One year later two new routes were done. The first, an alpine style ascent named "L'autoroute" by Louis, Yves Tremblay and Mario Savard, consisted of five pitches of ice (IV) and six of snow. The second route, "Cascade" was a 900 foot ice climb (V) done by Louis Babin and Bernard Mailhot. To reach the first two climbs a day of skiing was required, whereas "Cascade" involved a five to six day expedition.

Three areas of the province have been the scene of interesting developments in rock climbing. The highlights were new routes on big walls and artificial climbs done free. The latter accomplishments mean that 5.10 and 5.11 routes are being climbed regularly now by the aforementioned elite.

In the Saguenay/Lac-St-Jean region a new route on Cap St-François at Chicoutimi, "La marée basse" (5.4), was put up by Régis Richard and François Garneau in the summer of '81. The name is obvious as the start of the climb is under water at high tide. Moving down river to Ste-Rose-du-Nord, an attempt was made in 1979 by Léopold Nadeau and Guy Gilbert to complete the unfinished route "La marée" on the Tableau. The line is the obvious crack in the centre of this 350 foot block rising straight out of the river. They climbed slightly higher than the previous high point of 300 feet, reached by François Garneau, Réjean Bouchard and Pierre Pilon in July 1973, but were unable to complete the route. On October 10, 1981 Jacques Lamontagne and Gaétan Martineau successfully completed the mainly artificial ascent of "Cyclope" (5.6 A1) on the Tableau. It follows a thin crack system just slightly to the left of "La marée". Following the current a few miles further, one arrives at the spectacular Cap Trinité. Here, during two days in May 1981, Gaétan Martineau and Louis Paré achieved the first all nut ascent of the "Dièdre Robert Vezina". Later on in August Gaétan teamed up with Jacques Lamontagne to put up the new artificial route "Expresso" (two days) just to the left of "Les grands galais". About a week later Gaétan, this time with Bernard Mailhot, climbed the artificial "Gladiateur", a new route just to the left of the "Directissime". Turning to the Quebec region, one new route was put up on the Mont du Gros-Bras at St-Urbain by Louis Babin and Hubert Morin during the summer of 1980. It is located between "Li-Do" and "All Fine" and was named "Harmonie intérieure" (5.9+). Concerning the second ascent of "La tache blanche" on the Dôme in 1979, Louis Babin pointed out that as only the first 20 to 30 feet and the white spot itself are the same as the original route, the climb he did with Claude Bérubé should be considered a new route and was in fact given a name "La variante du capitaine". Two new climbs were done in the Rivière Malbaie area. One on la Muraille to the right of section B of the wall, "Secundo" (5.8) by Jacques Lamontagne, Gaétan Martineau and Serge Roy in the summer of 1979. The second route was on l'Écluse, on the right side of section C, "D'ou avantage" (5.8, A2) by Gaétan Martineau and Louis Paré during the same summer. "Le pilier" at Les Palissades, St-Siméon was freed completely (5.11) by Louis Babin and Hubert Morin in the fall of 1980.

Yves Laforest has been very active in the Eastern Townships. At Lac Lyster on Mt Pinnacle, with various partners, he free climbed "En vain" (5.10), "3146" now called "Confusion" (5.9), and did the second ascent of "Variante Coté-Coderre" (5.9) during a storm. Two new routes are "Pégasse" (5.10) and "Retour" (5.10+). At Orford, on Larouche, he did the third ascent of "Liberté" (5.10).

During the winter of 1981 Simon Duquet, Michel Pelletier and Daniel Vachon successfully cross-country skied the roughly 200 miles from Schefferville to Wabush in the north. The expedition

experienced temperatures of -70°F (including the chill factor). The Fédération Québécoise de la Montagne (FQM) held a wide variety of rock and ice climbing schools throughout the year and held their mountain jamboree in the Eastern Townships at Mt Pinnacle, Lac Lyster. The club Ti-Roc Lamontagne helped the FQM organize the event. This report would not be complete without mentioning a new publication of the FQM entitled Le ski de randonnée. This 60-page book covers just about all the facets of cross-country skiing and should be of tremendous value to beginners.

François Garneau

Aid Crash Course

Recognize the line "We should do something together some day"? Wrong! Not a cruising line but a climbing line. Summer 1981 I exchanged a similar line with a friend from Quebec City while enjoying a good summer away from home with great people. That is why Gaétan and I canoed to the base of Cap Trinité in near darkness on 1 September, my partner assuring me that our planned route didn't share some of the cliff's reputation. Question: How about nasty mosquitoes? Gaétan: Not in September. Q: Dirty cracks? G: Not on that part of the wall. Q: Steep. G: Always. . . stop worrying and sleep.

Next morning waking up at the base — talk about a bedroom wall! The kind you don't get tired of staring at. I somehow got the first lead then realized that this is probably the horror pitch from which the Cap achieved its reputation. Fairly easy free climbing up dirty cracks, moss gullies and cedars — nothing really solid. Gaétan's turn to lead up an overhanging corner and nice dihedral. Wow! This is getting clean and we are already 250 ft off the floor. One more pitch brings us to a very comfortable belay, a kind of historic belay. An old rope dangles from the lip of a big roof, left there to assist the first ascent party in case of retreat from "Les Grands Galets", one of the best routes on the cliff. From here on we will cover new ground, leaving the dihedrals for thin cracks up an otherwise blank wall. Menu for tonight cold rice and dynamite snacks — curious home made energetic morsels. Before dozing off we perform the first of a series of beer testing rituals. Our venture has a scientific mission to fulfill.

The next two days consist of pure wall, slow progress, exposure, air time, hauling, etc. Waking up hanging in a surreal atmosphere, engulfed in the mist of the Saguenay River to witness the sun dissipating the fog. Later in the day enjoying the daily visits of "La Marjolaine", a tour boat. And at night sucking on an empty beer can, slowly, so slowly drifting away. The third night was somewhat special.

Table for two with a view please! The perfect place for a candle-light supper, a nice windproof alcove for the canoe. A very special place indeed; outside our hammocks dark prevails, except for our light playing with a draught on the immense roofs just above. My body is totally reclined, my mind at ease (only one pitch to go) and my whole soul slightly high. . . from the experience?. . . the ale?. . . or was it just from the ocean level?!

On the morning of the fifth we by-passed the roofs to the right and topped out dirty and happy, knowing very well that everything would be finished only when the gear was in the car and the canoe on top. Gaétan carried a pack and a big haulbag down while I canoed the waves of the Saguenay alone. Having started climbing in the free era I was kind of prejudiced against aid.

This immersion course proved me wrong. The feeling is different and quite worthwhile where it applies.

PS. As far as the scientific aspect of our venture is concerned we both agreed that "light" beer is as heavy as normal beer to haul! We still wonder where the name comes from.

Bernard Mailhot

Labrador

Northern Torngats: 1981 "Four Peaks" Expedition

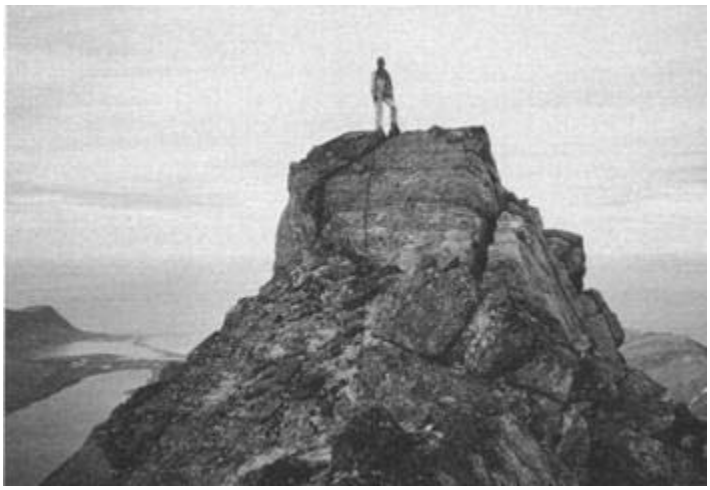
In 1981 Ray Chipeniuk organized yet another mountaineering expedition to northern Labrador, this time to an area centred about 40 miles north of Nachvak Fiord. We reached the area by chartering a Beaver floatplane from Fort Chimo, Quebec, to the head of Miriam Lake, where a base camp was established (1:50,000 map 14 M/12, grid ref 447959). Miriam Lake is situated in what is known as the "Four Peaks" area between Ryans Bay and Kangalaksiorvik Fiord in the northern Torngat Mtns. The Four Peaks country is characterized by narrow valleys and steep sided peaks, the highest of which are over 4000 ft. (It was these mountains which, because of their impressive profiles, as recently as 1930 were believed by geographers to be the highest in eastern North America, attaining elevations of 7000 or 8000 ft.) To the knowledge of our group the only previous mountaineering activity in the area was by Noel Odell and companions in 1931. Odell probably climbed peaks 454992 (map 14/M5) and 434983 (map 14 M/12). What follows is a diary of our 1981 group's major activities.

August 21. Incidental to their attempts on other higher summits, Ray and Sonia climbed "Mt Ravensfeather" (3000 ft+; 24 P/8, 433963) and Jim and Greg climbed "The Dome" (3200 ft+; 14 M/5, 443931). Matoshi and Neil took on "Mushroom Peak" (14 M/12, 468973), one of the most striking peaks in the area with a fine pyramid summit reaching just over 4000 ft. Their route involved climbing onto the south-west ridge from "Roaring Cirque" (14 M/12, 467963) and following the ridge to the summit (12 pitches of 160 ft to the ridge and 18 more to the summit). The climbing was on generally good rock and was up to 5.4 in difficulty. The length of the climb and the fine positions it offered were reminiscent of the northwest arête of Mt Sir Donald in the Selkirks. "Mushroom Peak" earned its name from the precarious shape of its summit and the fact that there was not mush room on top of it. Matoshi and Neil descended by the long north-north-west ridge and bivouacked at col 481996, 14 M/12. The next day they climbed the satellite summit 483005, 14 M/12, and returned to base camp via Iron Strand and the lower end of Miriam Lake.

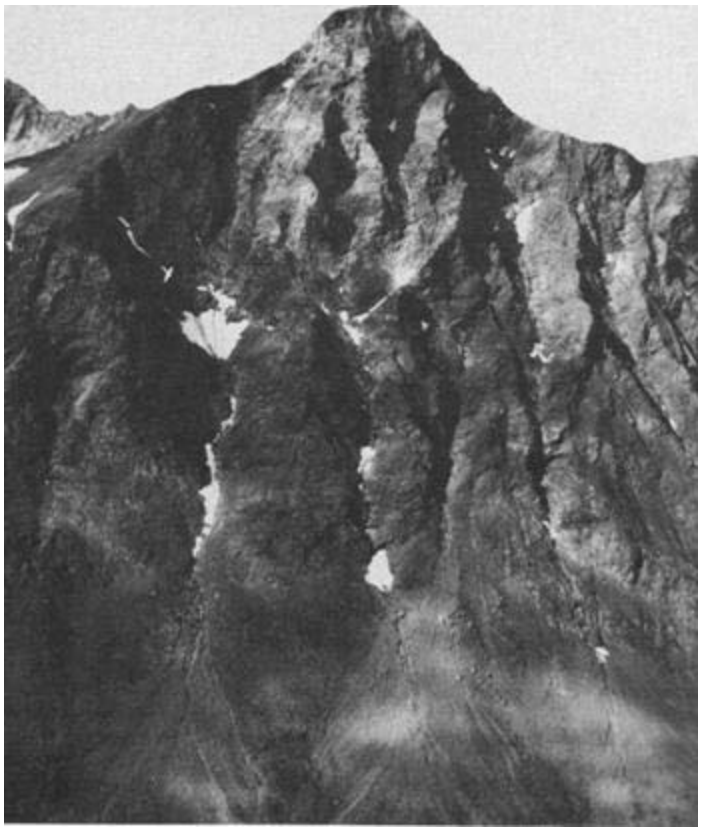
August 23. Jim and Greg climbed "Shutter Peak" (3500 ft+; 14 M/12, 447019) by its north-east ridge. Several pitches of technical climbing were encountered. The mountain was named after Jim put a finger through the shutter of his camera when the two were

Northern Torngats: “The Horns”, “Storm Range”. Ray Chipeniuk

Matoshi Asano on “Mushroom Peak” with Labrador Sea in background. Neil Stuart



East face of “Shittamat”, relief over 4400 ft. Matoshi Asano



on top. Descent was by a hair raising gully on the south side of the peak, with a bivouac at “Sweettea Tarn” (14 M/12, 478967). On this day a horrendous landslide raked the north-west face of “Mushroom Peak”. Many tons of rock thundered down 3000 vertical feet from not far beneath the summit all the way to Miriam Lake. It was 15 minutes before the dust cleared away and much longer than that before our nerves returned to normal.

August 24. Matoshi and Neil climbed “Shittamat Peak” (14 M/12, 434983) via a satellite summit (24 P/9, 432971) and the south ridge. Several hundred feet of low grade rock climbing were involved. The summit is over 4400 ft, the highest point in the area. The party then traversed “Snowbird Ridge” to peak 495973, 24 P/9. This traverse took seven hours and required many pitches of technical climbing up to 5.6 in difficulty. Descent was by way of the south-east ridge coming off summit 405973, 24 P/9. August 26 to 27. The whole group packed about 16 miles to the “Storm Range” (24 P/9, 302057 to 307092) via passes at 415947, 24 P/8 and 318995, 24 P/9. The “Storm Range” was so named after the group encountered several days of bad weather there, including a tent destroying Chinook which was estimated to gust up to 80 mph.

August 29. Jim and Greg climbed “North Horn” (24 P/9, 312067) from the bowl above camp (24 P/9, 316071), reaching the summit by the north-north-east ridge. Exposed but not technical climbing was encountered. The summit has a mapped spot height of 3793 ft. Matoshi and Neil climbed peak 313075, 24 P/9, from the same bowl. There was no technical climbing on this ascent either though several inches of fresh snow slicked the rock. It is worth mentioning that the “North Horn” has two big walls of flawless rock on its west and south-west sides. Each is over 1700 ft high. The north-east face of the “South Horn” (24 P/9, 311059) also offers a very steep wall over 1200 ft high. There were several other very challenging rock climbing opportunities in the “Storm Range”.

August 30 to 31. The group hiked to Ryans Bay via pass 365032, 24 P/9, then Ray, Jim and Sonia returned to base camp by pass 415947, 24 P/8 and Matoshi, Greg and Neil by way of “Cottongrass Pass” (24 P/8, 425005).

September 3. Matoshi, Ray, Greg and Neil climbed “Turret Peak” (14 M/12, 478967) via “Roaring Cirque” and the col between “Turret” and “Mushroom”. The col was reached by a snowfield and some easy scrambling. The west ridge linking the col and the summit offered about 15 pitches of roped climbing up to 5.3 in difficulty. The summit is at 3800+ ft. The party descended the east side of the mountain and returned to camp through passes 480950 and 449940, 14 M/5, after a 151/2 hr day.

No cairns were found on any of the peaks climbed by our group and we left only one cairn ourselves, that being on “Shittamat”. All place names enclosed by quotations marks are our own and as yet unofficial.

Neil Stuart

Participants: Matoshi Asano, Ray Chipeniuk, Jim Firstbrook, Sonia Sawchuk, Greg Siren, Neil Stuart.

Eastern Arctic Mountains

Auyuittuq Report 1981

The 1981 climbing season opened with fine weather in early spring, however conditions deteriorated rapidly after the last week in June. Continuous record rainfall occurred throughout July, August, and September resulting in flood conditions, damaged bridges, mud and rock slides — overall extremely poor weather for any climbing or mountaineering parties. Luckily no fatal accidents occurred and only one minor injury evacuation was necessary throughout the visitor season. Visitation was somewhat lower this year, possibly due to increased travel costs and poor weather conditions.

RE Redhead, Park Superintendent

Armadillo in Baffin

The 1981 Armadillo Baffin Island Expedition visited the Pangnirtung Pass area during July and August, putting in three ascents and many river crossings. The team was made up of six climbers, primarily from the north-east US. Long spells of rain limited the number of climbing days for the group; little did we know that the summer would be one of the rainiest on record.

Much time was spent ferrying 80 Ib loads up Weasel valley to Summit Lake. A good deal of time was also spent submitting to voluntary imprisonment in the various emergency shelters found along the way, eating, reading, and generally going crazy. Some of the time was actually spent climbing.

Mt Overlord (5500 ft) was climbed on 23 July by Jerry Cinnamon, Scott Kimball and Christopher Wejchert. The trio took advantage of the 22 hour daylight and left camp at the crack of 1 pm. The summit was reached six hours later after snow and rock climbing on the west basin and the north ridge. An impromptu descent was made by way of a glacier on the north-east side of the mountain.

On 4 to 5 August PT Davis and Jon Leonard climbed Mt Thor from the north-east. The climb gave interesting route finding problems on multi-rock pitches of intermediate difficulty. The pair bivouacked on the summit and had a stunning view down the 4500 ft west face for breakfast.

Mt Asgard was climbed on 9 August by Cinnamon, Davis, Kimball, Leonard and Wejchert, making for a merry party. The north summit was climbed via the Swiss Route in fine weather. There were a couple of difficult mixed pitches on ice and rock, but the summit tower gave 5.7 to 5.8 climbing on fine granite.

Overall the trip offered a rich variety of experiences and good possibilities for climbing. The Weasel valley area is becoming increasingly popular with backpackers since the opening of Auyuittuq National Park. Few other climbing parties were encountered.

Christopher Wejchert

Baffin Island

We flew into Pangnirtung on 22 April 1981 and by the 26th base camp was established at the intersection of the Caribou and Kings Highway Glaciers. The Swiss Route on Mt Asgard was climbed on 27 April. This route ascends the north pillar from the col via a traverse of a shallow snow filled cirque. This snowfield was very unstable and prone to slab avalanche. Fracture lines were abundant. Access to the col was gained by 80 ft of steep mixed climbing. Above the col, despite cold temperatures, climbing was moderate and on good rock. Round trip was 22 hours from base camp.

On 30 April Sevigny and Pelchat climbed the west face of Freya, opposite the Kings Parade Glacier. This route ascends a steep broken ramp to the right of the summit. Moderately difficult mixed climbing was encountered for two pitches followed by a short ice filled dihedral (A1). Eight pitches of snow and ice broken by three rock bands lead to the summit ridge via a snow filled chimney. The summit was gained via class 4 climbing. The climbing was interesting, typically mixed, but not particularly sustained (5.8 A1). Round trip 18 hours from base camp. On the same day Corbin and Tirey retreated from below the summit of Mt Adluk due to very unstable snow conditions.

An attempt on the south face of Turnweather Peak was aborted because of poor weather and time limitations.

James Sevigny

Participants: Mike Pelchat, Jeff Tirey, Jack Corbin. James Sevigny

Arctic Lobsters

The climbing history of the area now occupied by Auyuittuq National Park in Canada's eastern arctic goes back almost 30 years. The Penny Highlands is probably the greatest granite range outside the Karakorum and is becoming justly famous as one of the world's finest alpine climbing areas. In the past two or three years a few parties have come to the park on skiis and returned to their homes in Canada, the US, France, and Norway with tales of ski touring on par with the climbing. In response to this growing interest by skiers Parks Canada decided to do an evaluation of the ski touring potential of the area and publish a booklet on the subject. Park Superintendent Robert Redhead and Chief Warden Pat Rousseau selected the areas they thought most promising and hired Corina Acheson and me to see if the dotted lines they had drawn on the map could be followed by a party on skiis.

We persuaded our friend and fellow member of the Red Lobster Mountaineering Club, Ryan Shellborn, to come and made plans to leave Vancouver in mid April 1981. At the last minute Corina fell victim to a potentially dangerous illness; so on 16 April only Ryan and I boarded an eastbound 747.

21 April, "Here we go, round again". The Second Red Lobster Mountaineering Club Expedition to the Cumberland Highlands has somehow managed to survive four days of partying in Montreal and Frobisher Bay and Ryan and I are now securely bivouacked in the Parks Canada garage/warehouse in Pangnirtung.

Pangnirtung is the usual blend of seal carcasses, 24 hour a day skidoo races, and friendly people. We spend our time running around doing all the things that have to be done when someone says "We're leaving tomorrow morning," and you thought you weren't going to leave for three days. At ten that night came the too good to be true call from Vancouver. Corina's voice was fractured and delayed as it rebounded from the satellite but the message was clear. The doctors have given her a clean bill of health and she can come after all. We agree to meet at Summit Lake in about a week and I return to our warehouse bivi whistling.

April. Today Ryan and I were rodeo cowboys. We straddled the loads lashed on the komituks and the skidoos blasted off over the rough sea ice at about mach 2. The komituks buck crazily and I am glad we had a day off from the partying. About noon we reach the falls at Windy Lake and spend a few sweaty hours getting the loaded komituks (they weigh about 250 kgs each) up and over. The falls are still solidly frozen but the weather is unusually warm and no one seems sure when they will melt out.

April. Being a cowboy for an hour yesterday was kind of fun. Today we did it for about eight hours and it was no fun at all. We reached Summit Lake fairly early and left a big cache of food and equipment at the wardens' hut and then carried on north. As soon as we entered Owl valley the snow changed and our broncos started bucking again. Early afternoon saw us on north Pangnirtung Fiord and the ride got even lumpier. When we finally turned west up Coronation Fiord our punishment took on a new twist. Between the ice and snow was a layer of slush and every so often the skidoos would break through and slap our faces with a great rooster tail of salty mush. Finally the skidoos could penetrate this bog no further so we said goodbye to Pat and Peter and skied off up the fiord into the murky twilight, mostly staying on top of the snow but occasionally sinking almost to our knees in the underlying slush.

We made about 3 or 4 kms and are now camped on the solidest looking snow we could find, eating a big meal of curried chicken and thinking peaceful thoughts about the pleasant days of skiing that wait for us in the coming month.

24 April. We are camped a few kilometres up the Coronation Glacier after a day of terror and exhaustion. We slept in a bit this morning to recover from the two days of komituk riding so it was not until 11 am that we started skiing. The Coronation Glacier flows right into the fiord and presents a solid wall of ice over 1000 m across; we had decided that the best way up onto it would be at its extreme left (true right) margin.

With about 100 m to go to the end of the fiord I saw two sets of fresh bear tracks going up the moraine on our left. We drop our packs and I ski out from the shoreline to see if I can see where the tracks go. I look up but instead of tracks disappearing into the distance I see a little white cub staring down at me from only 30 m above. Fear blankets my mind. We grab our packs and begin skiing away along the wall of ice toward the middle of the fiord. Fifty steps and look back. The cub is still there. Fifty more steps. Now his mother is beside him. "Oh Christ no." Fifty more steps and they are still watching. We are getting closer to the most broken area of the glacier — the only place that isn't a wall of vertical blue ice rising straight up out of the fiord — but the mother is starting to descend toward us. She is huge. "Dear sweet Jesus." We ski in slow motion, sinking to our knees in a porridge of snow and slush, mired by our heavy packs. Another 20 m and she is down to the fiord but we turn in behind an iceberg which blocks our view. She is only a few 100 m behind but we can no longer see her and somehow that alters my mental condition. I know that in the next few minutes a polar bear is going to come from behind the iceberg and kill us. She has been denned up all winter and must be ravenous. I hope that there will not be too much pain and reflect that in dying I will become part of the food chain. This thought is strangely comforting and my fear is no longer such a terrible thing. The last 10 m is bottomless slush and then we are clambering over the first ice blocks. Off come the skiis and we begin a tottering dance through blocks of ice with just a thin covering of snow. "No sign of the bear yet." We are stumbling and falling, slipping down between little blocks and sliding off large ones, making virtually no progress. We need crampons and ice tools and all we've got is cross country shoes and ski poles. But there is still no sign of the bear and we realize that if we can only get a little further we'll be hidden from her view when she rounds the corner of the iceberg. "Please."

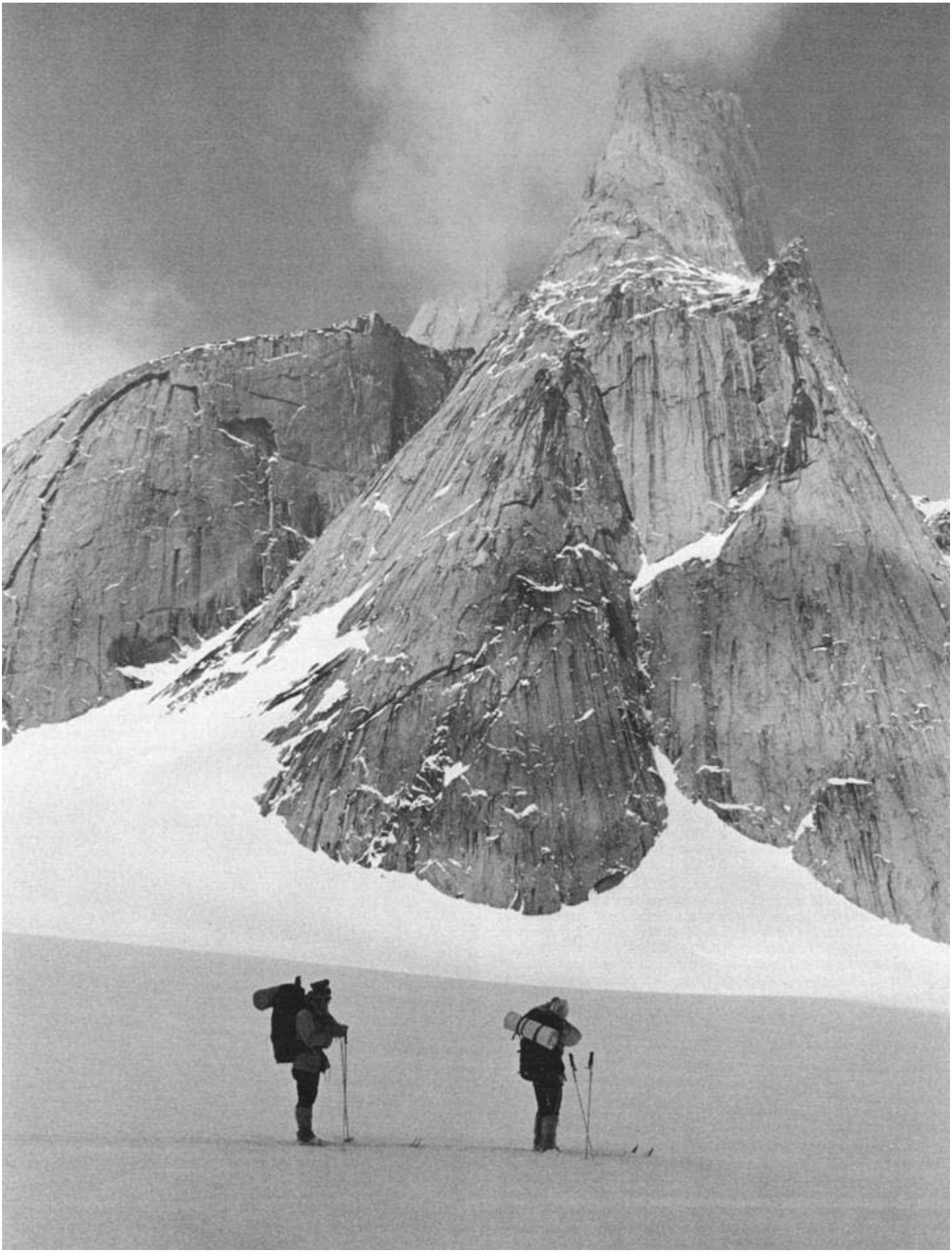
During the next hour the crescendo of fear gradually diminishes only to swell again as we realize that we are trapped in a glacial maze. At first it didn't seem too bad. We were skiing the bottoms of crevasses not more than 20 m deep and rarely less than 2 m wide. We were both still strung out, expecting the bear to round a corner behind us, and neither of us considered the impossibility of a huge icefall composed of shallow little crevasses with nifty ski trails at the bottom. Then I punched a ski pole through the floor and was looking down into the dark blue forever. Our brains start working again and we realize that crevasses do not have wide level floors and that perhaps we ought to put on the rope. We spend several hours wandering around in this icy labyrinth expecting the bottom to drop out at every step but eventually find a ramp that leads to the surface and a safe route out of the icefall.

April. I'm still not completely over yesterday's terror. Ursus maritimus is the complete predator, has no natural enemy, and is afraid of nothing. I have no idea why we weren't killed then and I'm not sure we won't be killed today or tonight. We see tracks several times today and since early afternoon have been skiing in a whiteout. We would have to be within 15 m of a bear before seeing it. Not a comforting thought. At least we've got enough Valium to get us through the nights.

April. I feel safe for the first time in three days. There might have been a bear around last night's camp but there won't be here. We have reached the point where the Coronation Glacier flows down from the Penny Icecap — about 40 kms from the ocean and well out of bear territory.

The whiteout continues through the day allowing only occasional glimpses of huge walls looming out of the mist and we take turns telling one another how outrageous the view would be if only there was a view. Skiing by compass is the shits but we don't really have any choice. I pulled the wrong can off the komituk and we've only enough fuel to last a couple more days.

Arctic Lobsters: the east face of the north tower of Mt Asgard. David Harris



27 April. We wake to a cold blue morning and our first view of the valley in which we have spent the last three days. It is a canyon stretching almost 40 kms to the fiord head with clean granite towers and walls rising over 1000 m straight up out of the ice.

We plod steadily uphill with the Coronation walls slowly shrinking behind until we are in a vast sea of rolling white hills and skiing by compass again even though the sky is blue and visibility unlimited. At one point we can see a huge rock wall off to the west. A few minutes with the map and we have it pinpointed. If it looks this big from 12 kms what must it be like to stand beneath it? Suddenly there is no more uphill and we look across at the north-west flank of the Tête Blanche group, a massive and complex array of faces, walls, and ridges through which there is no obvious passage. We turn left and ski another 200 m up onto a knoll which turns out to be the eastern summit of the icecap.

In addition to the Tête Blanche massif we can now see the mountains on the east side of both the Weasel and Owl valleys, a whole range of unnamed peaks to the north, and dozens of peaks to the west of Asgard. Some view. Eventually we sort out our exact position and find a way down to the Highway Glacier. It is a 1200 m descent and there is a choice of routes varying from stupendous to orgasmic. We choose the southernmost route and manage to get most of the way down unroped. There are occasional crevasses and one small icefall higher up but always a way around. A few hundred metres from the bottom though we are confronted by a band of crevasses that seem to go all the way across. Our decision to rope up is precipitated by us both, side by side, slowly sinking into a loosely filled hole.

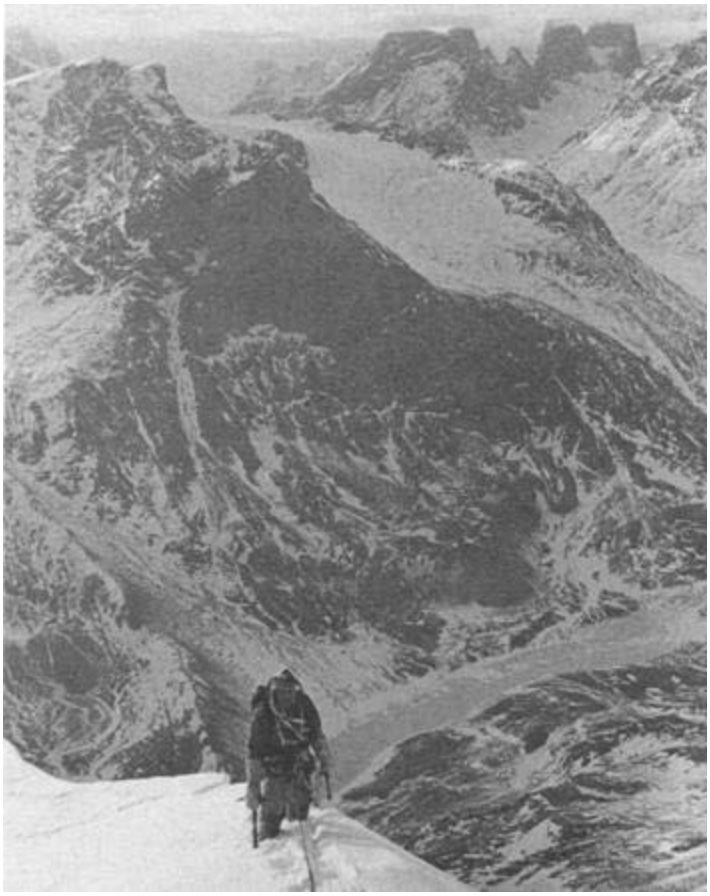
We made camp on the Highway Glacier and are now sitting in our tent secure in the knowledge that we can get to our cache tomorrow in any weather. During supper we try to catalogue the climbing potential of the area we've skied through but that potential is too vast and we are too tired; we fall asleep before getting properly started.

April. We had planned to make a short trip up the Highway Glacier to have a look at the northernmost route down from the Penny Icecap (which we hadn't been able to see from above) but a combination of whiteout, sloth, and my desire to see Corina again soon had us heading down the glacier. It was an ugly journey. The Highway Glacier 41/2 kms of trap crust, Glacier Lake a horizontal mogul field, Summit Lake an increasingly icy skidoo track, the wind reaching gale force, the light so flat that the limit of visual discernment about 21/2 m. And when we finally reached the hut the fucking lock was frozen shut and we couldn't get in. After a lot of cursing and door kicking we roasted the lock with the MSR stove and got the key turned before it froze again. Chocolate cookies. No wind. Six inch foam mattress.

April to 6 May. Low key, adrenalin free touring. We explore a new ski route to the west of Summit Lake and add several hundred more entries to our catalogue of "climbs waiting to be done". And Corina arrived. As far as I know we are the first people to visit this area and that adds a certain effervescence to our days.

7 to 9 May we ski through some of the area to the east of Pangnirtung Pass and further thicken our catalogue.

Ryan coming over the cornice on the summit ridge of Mt Bredablik Summit Lake 1300 m below and Mt Asgard in background. David Harris



12 to 13 May. After a couple of days of R & R at Summit Lake Ryan and I set out to climb Mt Bredablik. We finish the climb on a buttress above the precipitous south-west face with four pitches of technical climbing on rock to 5.7 and ice to 75 degrees.

14 to 17 May we take our time on the walk out to the fiord head. Most of the snow has gone from the lower Weasel valley and the first buds are appearing. I wish I could stay up here forever.

David Harris

1981 Bylot Island Expedition

In 1974 at the close of our expedition to North Baffin three of us (Curt Saville, Caroline Cochran, G Cochran) were dropped by boat on Bylot Island. We travelled up the Narsarsuk Glacier to make a first ascent of "Peak 5064" (VR205965) (CAJ 1975:95-98). At that time few others had climbed on Bylot. Later Dexter's expedition of 1977 traversed the island making many ascents (CAJ 1978:44-45).

In May of '81 we returned for a brief ski mountaineering expedition in association with some work on measurement of mechanical strain in ice that we were conducting at Hermann Steltner's Arctic Research Establishment in Pond Inlet. On 29 April we camped at the foot of the Narsarsuk Glacier after an easy 20 mile komatik-skidoo trip from Pond Inlet. Rick Vosburgh and I had been north for a week but Eric Rosenfeld and my wife Caroline had arrived the same day, only 36 hours after leaving New York. With temperatures hovering just above 0°F conditions were ideal. We ascended the glacier using Head Alpinist skiis, Ramer bindings, and pulling fibreglass sledges. Base camp was

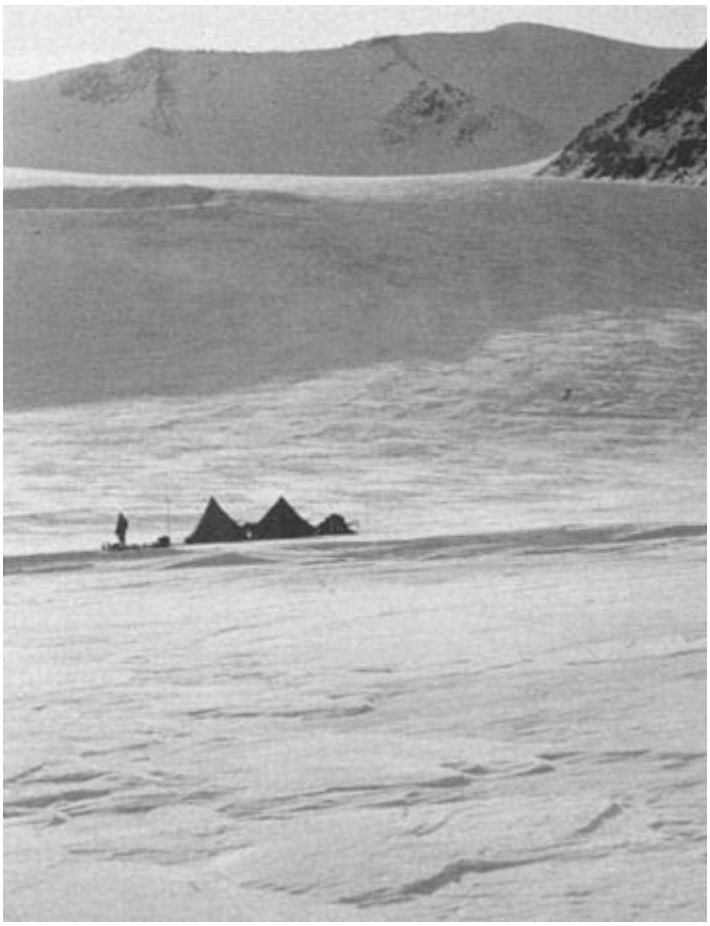
made seven miles inland at about 2400 ft. Successful ascents were made of two peaks on crampons after an approach by skiis. One summit lay two miles north of our prior climb of "5064" and the other, "Peak 5332", was four miles north-east of camp at the very head of the Narsarsuk Glacier. This climb represented also the first complete ascent of this glacier. As in CAJ 1974, altitude references are from NTS 1:500,000 Pond Inlet sheet. The Expedition carried Flag 200 of the Explorers Club.

George Van B Cochran

Expedition members: GVB Cochran, C Cochran. E Rosenfeld. F Vosburgh.

FIRST ASCENTS
Unnamed peak, ca 5100 ft, VR205990, 4 May 1981
"Peak 5332", VS205030, 7 May 1981.

1981 Bylot Island Expedition: high camp with unnamed peak 5100 ft in background which we climbed. GVB Cochran



Canadian Nuptse Expedition 1981 Post Monsoon

A group of seven climbers attempted Nuptse from the south side. A high avalanche hazard excluded the possibility of climbing Bonington's original south face route and the expedition requested and received permission to attempt the west ridge from the south side by a new route. A 3000 ft buttress on the western section of the south face was climbed and fix roped to 21,000 ft just below the west ridge crest and camp 1 was established at 20,000 ft. The buttress gave difficult mixed climbing over steep rock steps and unstable snow/ice mushrooms. On 28 September severe storm and heavy snowfall necessitated a retreat to base camp at 17,000 ft. The following day an immense rock slide wiped out advance base camp at 18,000 ft at the foot of the buttress resulting in a great loss of equipment and food but fortunately no loss of life. The camp was covered by a 30 ft high layer of rock. The expedition was subsequently abandoned with the team retrieving as much gear as possible from the mountain.

Bill March

Participants: Jim Elzinga (leader). Bill March (deputy), Rusty Baillie, Dwayne Congdon, John Lauchlan, Dave McNab, Laurie Skreslet.

West ridge of Nuptse with south-east buttress in profile. Jim Elzinga

Laurie Skreslet stands by a large boulder, part of the debris that fell on base camp. Jim Elzinga

Khumbu: ACC Nepal Trek, Spring 1981

While autumn attracts the majority of trekkers to Nepal if one is blessed with good weather, as we were in the spring of 1981, the late spring in the Himalayas can be most rewarding. The mountain forests and alpine meadows come alive with a wide variety of flowering trees, shrubs, and flowers. The climate, especially in the high mountains, is considerably milder, the mountain regions are less crowded with tourists.

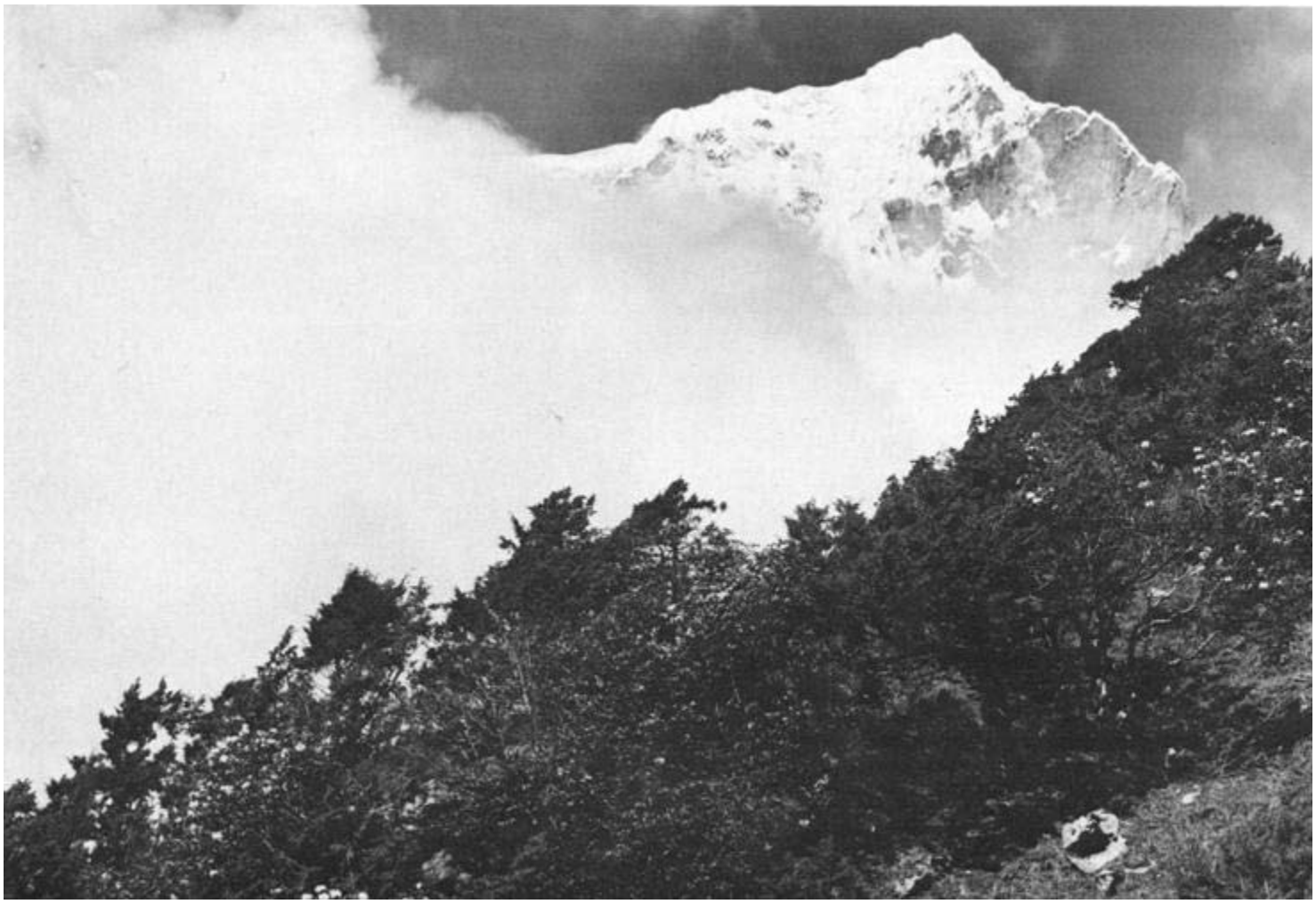
Our trek to Khumbu took a considerable amount of advance planning. We wanted to combine trekking with observing Mani Rimdu, the most important annual festival, held at either Thami or Tengboche monastery. In the past we have tried to have our Khumbu treks coincide with Mani Rimdu at Tengboche but the event has eluded us since the date of the festival is not made known too far in advance by the Head Lama. The Head Lama of the monastery in Thami, one of the two principal monasteries in Khumbu, is a personal friend and through his co-operation I was able to learn the date of the festival in advance and have it included as part of our itinerary this time.

We left Canada on 1 May for Nepal. On arrival in Kathmandu it was hot summery weather. Next morning we flew in perfect weather to Lukla and the start of our trek to Gokyo. Our porters had left for Lukla one week earlier and met us there. The preceding two years have seen a lot of emergency construction work between Lukla and Pangboche. In 1978 a glacial lake at the foot of Ama Dablam suddenly drained into the Imja Khola which flows into the Dudh Kosi below Tengboche. The entire shoreline was washed away for many miles down stream, destroying all the bridges and huge sections of the trail that is a vital link between Solu and Khumbu. Some sections of the river gorge were changed beyond recognition. Our previous camp site beyond Lukla on the shore of the Dudh Kosi near Jorsale had vanished. Where there used to be a small meadow and a roadside inn was a huge pile of rocks

Mani Rimdu in Thami. M. Rojik

Yak pastures along the Gokyo trail. M. Rojik

Spring in the Tengpo valley above Thami. M. Rojik



and some prayer flags planted into the ground to signify a loss of human life. In the two years since the disaster the Sherpas have erected new bridges and dug out new trails.

In spring 1981 Khumbu experienced well below seasonal temperatures in April, the frost destroying most of the blossoms. Even in May we experienced slightly below normal temperatures. However it was considerably warmer than in the fall. Our route took us first to Namche Bazaar, the largest village in Khumbu. The village has changed a lot during the past decade because of the tourist boom. From Namche Bazaar we went on to Tengboche and from there made a detour via Pangboche en route for Portse and the Gokyo trail. In Pangboche the custodian of the uninhabited and rather rundown gomba showed us the yeti skull and bones of the yeti's paw. From Portse we followed the trail along the eastern slopes of the Dudh Kosi valley.

The area around Portse abounds with wildlife. In the forest on the edge of the village we observed many Himalayan pheasants while on the cliffs high above the trail was a herd of ghoral or Himalayan chamois. The trail to Gokyo is quite easy with only a very gradual gain in elevation and passes through many yersas or summer herding settlements. Gokyo, also a summer herding settlement, lies beside the largest of a number of alpine lakes fed by the water draining from glaciers along the Tibetan border to the north. The lake is considered sacred by the Sherpas and is a wildfowl habitat. From the camp site at Gokyo only Cho-oyu to the north and a ridge of jagged peaks behind the lake are visible. The view toward Mt Everest is obstructed by a huge moraine of the Ngozumpa Glacier. About 2500 ft above the camp site is one of the most impressive panoramas in the Nepal Himalayas: the entire Everest group, Makalu, a whole range of 7 to 8000 m peaks along the Tibetan border to the north, many 21 to 22,000 ft peaks to the west that separate Khumbu from Rolwaling, and Jobo Lhaptsan, Taweche, Kangtega and Thamserku to the south. At dawn on the morning following our arrival all members who reached Gokyo ascended Gokyo Peak. From Gokyo we trekked along the western slope of the valley to Khumjung and on to Thami. The Mani Rimdu festival started the morning of the day our group reached Thami.

The Mani Rimdu as performed in Thami is a unique cultural experience. The changes taking place in Namche only a short distance away have not yet reached Thami. This attractive community still retains its ancient appearance and way of life. The monastery is on a steep cliff about 300 ft above Thami village. All around the monastery are about two dozen small stone houses inhabited by the lamas and by Sherpa families; in front is an open courtyard that overlooks the main village below and the Kwangde Peak a short distance across the narrow valley. In the distance to the south-east are Kangtega and Thamserku. One could not imagine a more perfect stage for such a special occasion as Mani Rimdu. Because Thami and Tengboche are the two main spiritual

centres in Khumbu, Sherpas of all ages from near and far make the pilgrimage here to observe Mani Rimdu. The festival spans a total of four days. On the third day, when the lamas perform dances in colourful costumes and masks, several hundred Sherpas jam into the monastery courtyard.

Mani Rimdu is a series of acts in which masked figures depict deified personages in struggles of a religious nature. The legends they present are excerpted from Tibetan history and the history of Buddhism in Tibet. To observe the performance of Mani Rimdu in Thami is to witness a vanishing past. Only in a monastery with resident lamas could the dances be so well rehearsed and so exquisitely performed. On the first day of the festival the lamas perform dances without colourful costumes or masks. Just the same it is a joy to see them dance with such precision. The second day is devoted to prayers followed by a blessing to the people of Khumbu by the Head Lama. A simple ceremony but, considering the elaborate ritual of the Buddhist faith, visually most interesting just the same. The third day is a high point, with the lamas performing the masked dances. On the fourth and final day the lamas conclude the festival with prayers and the burning of offerings. I doubt that one could see such a spectacle in other mountain regions of Nepal. The Sherpa lamas in Khumbu still observe a tradition that is already extinct elsewhere. I have already observed that the Buddhist monasteries in the Manang and Mustang districts are monuments to the past, with no resident lamas and the monasteries in a sad state of disrepair. It is currently only in the mountain regions of Khumbu that the true spirit of the Buddhist tradition prevails. If the trend towards rapid modernization in Khumbu continues the traditional values may soon become memories here as well.

Mike Rojik

Charming Chulu, or Climbing North of the Annapurnas

Where should we climb? Three options were outlined by Mike Cheney in his Kathmandu office. There was the Rowalsung, our long planned destination, but even if the long delayed climbing permits came through Cheney expected sharp restrictions as to where we could climb since the valley lies on the Chinese border. Second was the Khumbu-Hinku but our gear would take ten long days to get there, leaving aside problems with flights in and out of Lukhla. And there was the Chulus, East and West, and their mysterious companion, Narchili (7154 m),[1] on a major trade and trekking route north of the Annapurnas. Less remote than the Rowalsung but perhaps from a high camp on the icefield north of Chulu we could enjoy a wide choice of peaks and routes in sufficient privacy to avoid any embarassment to our host country, Nepal. Narchili and the Chulus won out. Three hectic days saw us through the formalities and fully equipped and provisioned!

We left Kathmandu at dawn on 28 September 1981 and got in a half day's march from Dumre after the long and often wild bus ride. We camped that first night amongst the rice fields of the Marsyandi River valley, our new kitchen gear, all the food and hardware, ten porters and seven Sherpas well organized; we five climbers snug in our mountain tents.

About 2 am rumblings of thunder were soon followed by an incredible cloudburst which by dawn had turned the entire valley into a lake. This same storm overwhelmed Bill March's base camp on Nuptse. Closer by two Japanese climbers died on the Annapurnas. The track behind us would not open for ten days. Inches of rain fell each hour, umbrellas and ponchos were useless; the uphill tunnel entrance of my tent became a fine storm sewer, boots, pots, and water bottles floating in the downstream end. Landslides took out acres of valley sides ahead of us. That afternoon some side streams we crossed were waist deep; the busiest day of the trip!

Every day saw us gain 300 to 500 m as we passed from the usually peaceful rice country, up the Marsyandi gorge with its dense jungle and incredible waterfalls, to the high Sierra country north and in the rain shadow of the Annapurna massif. Native marigolds and nasturtiums provided a splash of colour against the ever changing background of bamboo, cannabis and evergreens. Above floated the snow of Himalchuli, Peak 29 and Manaslu. All in all the eight day trip to base camp put the scenic beauties of anything in North America to shame!

A few kilometres beyond Manang we left the trail to Thorong La and turned up the righthand slopes about 300 m before an isolated two storey yak herders' hut, the only one of its kind on the trail. Our porters made the upward carry near the stream bed, towards a high cirque below the walls of Chulu West. The main face of Chulu West, heavily glaciated, soon came into view. We stayed well away from it as we climbed through pleasant meadows to a bleak, scree filled basin some 2'/2 kms east and north and perhaps a 1000 m higher than the turn off. From the recently glaciated basin, bounded on two sides by modest cliffs, we could look up scree slopes to a snowfield with a rock band which gave access to the lower north end of Chulu West's skyline glacier. This seemed to lead to a snow summit.

Only lichen and low scrub grew around base camp and water ran only the first day; after that we had to melt snow. Discouraging the Sherpas from gathering firewood in the meadows below, we relied upon the large kerosene stove. In typical Sherpa fashion, and possibly because of the basic antagonism to kerosene as opposed to wood, they lost first its gasket and then its screw lid. The fact that 40% of the Nepalese forests have been cut in the last 20 years is little appreciated! Kerosene was used only when we forced its use.

Although only at 4600 m at base camp the altitude started to take its familiar toll. Mike Badham had been feeling the height increasingly and took a couple of days to R & R and acclimatize at Manang (3600 m). The trots, particularly vicious in Nepal, made me do the same shortly afterwards. Most climbers are familiar with the incredible binding power of even a single Lomatil pill. Despite eight Lomatil a day (the toxic limit) I too had to retreat! Roel Tennissen, who had been higher than any of us (on Huascaran), was coughing. Kevin O'Connell and Bill Durtler were the only ones going really well!

An Austrian party with Sherpa climbers was already established here. They had probed the upper mountain so Kevin, Roel and Bill were able to follow and get a feel for the route. They organized loads for their carry up to a high camp. I reached base camp that evening, finding our climbers partying over smoked oysters and

Schnapps with the Austrians!

Morning broke as usual, bright and still. The climbers got away early, cramponned up on firm snow, through the rock bands onto the high snowfields, and then out of sight. There was much dallying by our climbers on the way to take pictures, for the scenery at 6000 m is spectacular. All around were the rolling glaciers of Chulu. To the north was the final barrier between Nepal and the high Tibetan plateau which stretched enticingly to the horizon, seemingly so close in the clear, still air. To the south and south-west across the Marsyandi, were the Great Barrier and the Annapurna Range.

Beyond the immediate problems of climbing the puzzle foremost on their minds was the whereabouts of Narchili. This 7100 m peak should have lain 2 to 3 kms from their position. The mountain simply did not exist! Where Narchili should have been Chulu's ice fields fell off into the final valley before the upthrust at the Tibetan border. Obviously there was not going to be any "bootleg" climbing of that mountain! At sunset rising winds brought in a few clouds, the temperature dropped 30°C, and the entire party turned in for a restless night at 6300 m.

The next day the Austrians and their Sherpas got away early. Our foursome — coughing, hacking, and panting — roped and followed. The deep snow from the big storm ten days before was well consolidated and the group had easy climbing to a prominent shoulder. Reel's heavy bronchitis finally caught up with him and both Bill and Mike, already a couple of thousand metres above their previous highest points, were feeling severe lassitude. Kevin climbed on solo after the Austrians and reached the summit of Chulu's snow peak; the others returned to high camp.

Meanwhile I had come up alone and finally huffed and puffed myself into high camp just as the sun set. Mike, with great fortitude, was out in the gusty wind leaning over our intermittent MSR and cursing the deficiencies of the fuel. Kevin had just returned from

Base camp lies below and behind figures, route swings to their left and finally up lefthand skyline but true peak is out of sight. Roel Tennissen

the climb up the snow peak of Chulu, reporting with chagrin that there was a further rock peak that seemed to be higher!

After supper we learned that the Austrian party were dissatisfied with their climbing guides' assurances that the snow peak was indeed the summit of Chulu West. Within our own party only O'Connell had got up so he decided that he would again follow the Austrian party if they went to the alternative rock summit of Chulu the following morning. Hamilton and Badham geared up to climb the snow peak, now known to be straightforward. Durtler decided to wait and see how he felt and Tennissen, between bouts of coughing, thought he would descend. O'Connell did follow the Austrian party and their route initially lay north of the route to the snow peak. Although fairly close, the line between the rock and snow peak contains a severe icefall. The party swept far to the north and up some large icefalls to the top of the rock peak, a summit so small that only three persons could stand on it. To accomplish this, one of the Sherpas stood down in favour of Kevin. The altimeter read about 100 m higher. Bill Durtler later followed O'Connell but, in an attempted short cut, found himself hung up in some badly crevassed ground and retreated. Counting on our good route knowledge and the marvelously stable weather, Badham and Hamilton took no equipment, not even a rope. The only untoward incident was an awkward step into a hidden 'schrund which fortunately did not result in a fall. Our climb took about six hours, O'Connell's about eight. Since we had eaten the last of the high altitude food we all packed up and descended the following morning. Puffed up with oedema and looking more like a piece of dough than a climber,[2] I felt real relief at the prospect of lower altitudes.

Two days later we caught up with the remainder of our gear and our porters at a camp about 4000 m on the east side of Thorong La (5300 m). Our sherpas, knowing the pass to be both high and long, urged a 2 am departure. We wanted to stay in bed until at least 6! Finally we set off at about 4 and reached the top of the pass around 7 am. We watched case after case of acute mountain sickness develop in a couple of trekking parties. Drunken walking, lassitude, incoherence and total collapse — all were there, a varied display of this acute and dangerous condition! The Nepalese donkeymen were busy and much climbing rope was used to tether less serious cases fore and aft so they could walk! By now fully acclimatized, Bill Durtler made a solo climb of the shoulder of the major peak which lies directly to the south of the pass. Although one should not climb actual summits not officially listed, it is all right to climb high on their shoulders. So up Bill went, a tiny fly moving gradually higher up the 1000 m, 45 degree, snow and ice wall! We waited around at the pass, wondering what on earth we would do if he got into trouble or ran out of daylight. Bill made his climb successfully and even though out of sight for some time did descend to meet with O'Connell and Tennissen in daylight. Very late that evening they joined the remainder of the party in the wonderful village of Muktinath.

Finally with lower altitudes ahead of us and our climbing over we gamboled quickly down the trail homewards past Dhaulagiri, the Nilgiris, the Annapurnas, and finally lovely Machapuchare.

DP Hamilton

Looking south-east from high camp on Chulu West
Route to snow peak is straightforward, avoiding a minor 'schrund by turning prominent knob on its left to gain final summit ridge; route to rock or true summit lies entirely behind this massif, starting with traverse to the left. Roel Tennissen

FOOTNOTES

1. For example, see Rojik, Mike, CAJ 1981:107.
2. See Hamilton, DR, Altitude and Eyesight: Changing Myopia After a High Climb, this volume.

ACKNOWLEDGEMENTS

The party wishes to acknowledge the kind help of the Thomas Lipton Corporation who provided many soup mixes, stroganoffs, and drink flavours: Kingsway Chocolate Co Ltd who donated powdered egg; Supreme Aluminium Industries Limited for a pressure cooker, and Lumsdens Wholesalers and Schneiders Meats for their whole hearted co-operation in assembling a wide variety of food products. Finally we wish to thank the ACC for its support.

SOME DETAILS

Air fare from Toronto about $1930. Total expedition land costs $670 each for ca 32 days. We took Canadian food: 15 lbs dry egg, 10 lbs canned ham, 15 lbs Cheddar, 20 lbs gorp, 15 lbs misc luxuries. Used our own tents, bags. The agent, Mike Cheney, supplied the cook and sirdar, and handled the permits.

Around the Annapurnas: ACC Nepal Trek, Autumn 1981

From reading reports in the Gazette of past ACC Nepal Treks, ours seems to have been exceptional at least in regards to the weather, surprisingly wintry for half of the three weeks. There were two falls of snow and wet rain, ten days of winter camping, Thorong La (17,700 ft) covered in four feet of snow, and a treacherous walk down a steep icy jungle trail.

Our route went anticlockwise around the Annapurna massif. The portion of the trail crossing the pass has only been open to tourists for four years. We gained altitude gradually, reaching Manang on the eighth day. Here most plan a few days' stay in order to acclimatize to the altitude, 11,810 ft. We wander first through rice fields and tropical villages with clay and thatch roofed bi-coloured houses, then through corn fields and pine forests, the villages using more wood and stone in their buildings. Everywhere the people are friendly and the chickens spectacular! The camps could be on the bank of the Marsyandi River, in a harvested rice or corn field, or a school yard, and eventually in Manang on the clay roof top of a house. We are treated in turn to views of Lamjung Himal, Manaslu, Peak 29, Himalchuli, Annapurnas II and IV as we progress up the valley. But the climax is the incredible setting of

Manang itself, a dun coloured village with prayer flags fluttering from all houses, blending into its harvested buckwheat fields, which appear to be nothing but rubble, serviced at this time by innumerable multicoloured goats. Opposite the village (to the south), is the massive wall of the valley formed by Annapurnas II, IV and III, Gangapurna with its spectacular S shaped icefall, and Glacier Dome, with Grand Barrier in the distance. Behind is Chulu, to the right the route to Thorong La.

Manang was where we had our first snowfall. Several tents were not equal to the test so some of the party moved to rooms for a while. During our five day stay in Manang the party made daily trips, sometimes to challenge their altitude tolerance and get even better views, sometimes to investigate monasteries in neighbouring villages, sometimes to get closer to the icefall. The mountainsides were covered with familiar garden shrubs. One day three separate small groups set out to scout the route to the east end of Tilitso

Annapurna III and Gangapurna. Jack McGhee

Lake which leader Mike Rojik had wanted to include in this trek. The conclusion seemed to be that three days would be necessary to move a party of this size to the lake.

After Manang we trekked to Phedi pasture at over 14,000 ft for a bitterly cold night before tackling the pass the next day. All crossed the pass safely in spite of the snow but all but three found it more or less unpleasant and some continued to have symptoms of altitude sickness for two more days after we were 'down'.

Once over Thorong La and past Muktinath our route descended into the Kali Gandaki River valley at the south end of Mustang province, bordering Tibet. One battles winds in the valley frequently, strong enough to prevent the daily flight into Jomoson from landing. We took ten days for the rest of the journey to Pokhara. Our second snowfall prevented a side trip to Dhaulagiri base camp and continuous rain and wet snow necessitated another stay in rooms, welcomed as an opportunity to see inside the buildings. After this we took two 'shortcuts' over beautiful jungle covered ridges with views of Dhaulagiri, Nilgiri, and lastly Machapuchare. Our last camp was in a field overlooking the Fishtail Lodge in Pokhara, from where we had an unbelievable view of the whole range we had just circled. A final word of warning: always put a new battery in your exposure meter before leaving on a trip of a lifetime such as this!

Carolyn McGhee

Chimborazo, Ecuador

During the last two weeks of February 1981 Rusty Baillie and I took a quick trip down to South America to climb Chimborazo 20,823 ft, the highest of Ecuador's volcanoes. The mountain is really a massif with five major summits: the highest, named after Edward Whymper, in the southwest; the Veintmille summit, 20,681 ft, in the north-west; the Abras-pungo summit, 20,460 ft, to the north; the central summit Club Politecnica; and summit Nicoles Martiniz. A possible origin of the name Chimborazo is from the Indian Shingbu meaning women and Razo meaning frozen — the frozen or white snowed women. The mountain was attempted many times before it was finally climbed on its south-west flank on 4 January 1880 by Edward Whymper and the Carrel brothers. A hundred years later a hut was built in the approach valley at 16,400 ft, below the Thielman Glacier facilitating access to this route. The Edward Whymper Hut is well equipped and has a guardian, a regular water supply and an access road to 15,150 ft. It is desirable to wand the route and be prepared for deep snow and heavy going on the summit plateau. There is a good bus service from Quito to Ambato where a bus is taken to the hamlet of Poggios on the north-west side of the mountain. Here we hired mules and made our way to the Whymper Hut. The ordinary route proved to be very long involving a traverse of nearly 3/4 mile at 18,500ft right across the face. The direct finish which avoids the traverse is technically more difficult, exiting up an ice couloir to the right of a sérac wall. We added on a direct start through the chaotic shambles of the lower Thielman Glacier which combined with the direct finish of the Whymper route gave a fine sustained line. There is plenty of scope for new routes on the mountain if one is prepared to traverse to less accessible sides of the massif.

Bill March

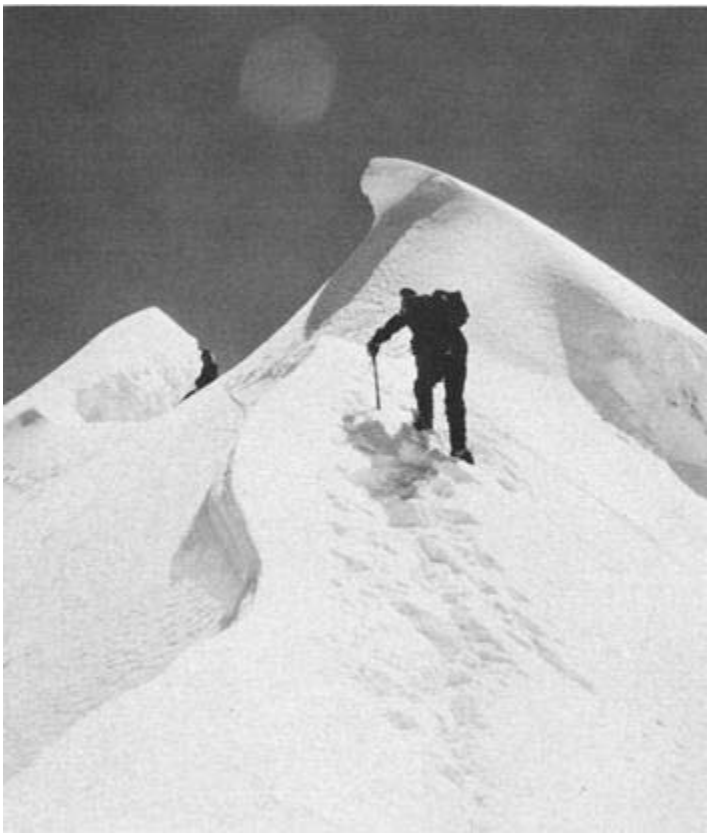
High in Peru

Our plane landed in Cuzco, the ancient Inca capital tucked away high in the Andes. It was 1 May 1981. We wouldn't set foot on snow for another three weeks. By spending a few weeks on the Alto-Piano at 11 to 12,000ft we planned to acclimatize, primarily to the altitude but also, just as important, to the strange foods, communicating in Spanish and a non-scheduled way of life. In Cuzco we explored the markets full of colourful weavings, alpaca sweaters and piles of produce. From here we caught a train to hike the internationally over used Inca Trail, a 36 kilometre ancient Inca highway over 14,000 ft passes to Machu Picchu. Our next goal was El Misti, Peru's second highest volcano. A 19,100 ft sand dune. What a nightmare; the loose volcanic ash entails two steps up and one down. Time to head to clean white snow. An eight hour bus ride from Lima brought us to Huaraz.

Climbers we talked to suggested we start with Pisco Oeste, a relatively easy 19,000 ft peak. Sounded good to us! Off to the market I went to buy oatmeal, nuts, raisins, oil and honey. I was preparing breakfast and decided to make granola, an all day project but well worth it for those 4 am summit starts. Jim and Christo took care of lunches and came back with bread, crackers, jam, margarine, cheese, and hard candies. (No peanut butter!) For dinners Jane and Matty decided to alternate with rice and vegetables, noodles and cheese or tuna, and potatoes and corn chowder, flavoured with Knorr dried soups. The only foods we brought from Canada were dried apples and lots of dried vegetables.

With seven days food we caught a local bus to Yungay and then a truck up to the Llanganuco Lakes. Three to four hours hiking got us to the lower base camp. Next morning, with bivy gear, we crossed an incredibly wide moraine, taking the better part of the day to reach the upper camp at the base of the glacier. Needless to say our first night up high was long. At first I had difficulty getting any sleep with those around me Cheyne-Stoking. My sleeping sense of time was completely distorted. The first time I checked my watch to see if it was time to go it was only 9 pm. I woke again

High in Peru: the sculpted corniced ridge of Yanapaqtsa Noroeste proved to be one of the most spectacular routes we climbed. Matty McNair



at what I thought to be a short time later and was surprised to see it was 1 am. Four o'clock finally came and we excitedly jumped out of our bags to strap on crampons with chilly fingers. In a couple hours we reached the col between Huandoy Este and Pisco Oeste. We followed the south-west ridge up and to our surprise were on the summit by 9.45 am. After enjoying the view for more than an hour we proceeded back to camp, a little sorry we'd spent so much time on the peak when our crampons began balling up and we started suffering from the intense sun reflecting off the snow.

From talking to French climbers in the lower valley we decided that Yanapaqtsa Noroeste would be within our ability and a bit more technical than Pisco. Leaving most of our gear with them we hiked to the cabin at the head of the main valley. What we particularly enjoyed about this climb was the 600 ft knife-ridge leading to the summit, requiring careful placement of snow pickets.

Our second adventure took us up to the Ishinca valley, north-west of Huaraz, where we set up a base camp (16,000 ft) to climb from for the next nine days. To make life easier we hired an arriero with a few burros to carry our gear 24 kilometres to the head of the valley. It cost us 800 soles ($2 US) apiece and saved us two days hiking with 60 Ib packs; certainly-worth it. To our surprise we found the valley to be a very popular place. One evening Christo counted over 30 tents and nine nationalities. Most climbers were from France, Switzerland, and Austria.

After four weeks of climbing Matty and I felt ready to do a longer and more challenging climb. We were well acclimatized to both altitude and mountain conditions. When Michael and Sidney, two California climbers we met in the Ishinca valley, suggested we join forces to try Huascaran the idea sounded good and we decided to go for it. We arranged for burros to carry our gear from Musho to the first camp three quarters of the way to the base of the glacier. A half day took us up to the second camp. That afternoon we hauled most of the climbing gear up to snow line 1000 ft higher and came back down to sleep. We finally put on crampons the third day and followed the trail through a maze of crevasses. Our third camp was pitched a few hundred yards from the steep walls of the "Garganta Route". We spent a pleasant evening sharing stories with the four or five parties camped here.

The next day proved to be hard and challenging. With our heavy packs we had to climb a few steep ice walls, cross slopes of broken sérac ice blocks, and navigate around huge crevasses before the sun started melting the séracs above. Camp 4 was above 19,000 ft. Everything at this altitude seemed to take a long time and a lot of energy. We were now within reach to push to the summit.

At 3 am I woke Matty. "Clear skies! I think we should start getting ready. Let's have a hot drink now and eat granola when the sun warms things up a bit." "OK, let's go for it!" was her response. We reached the saddle between the north and south summit by early dawn, leaving another 3000 ft to go up Huascaran Sur. Alternating the lead, we advanced at a snail's pace. One step, one breath. . . not much oxygen here. At 12.30 pm Matty reached the summit and waited for me with open arms. "We made it." I looked at the snowy peaks of the Cordillera Blanca and the darker peaks of the Cordillera Negra across the valley. I thought I could see the Pacific 110 kms away. A splendid view! What a great feeling to attain one's personal dream after months of preparation and anticipation. My thoughts immediately turned to the people who helped me — Matty, my family, friends. The support they gave me was invaluable. We arrived back at camp just before dusk. I couldn't tell whether I was more hungry or tired. We both lay down for a few hours before we gathered enough energy to cook dinner. While eating, a Peruvian guide came asking for medicine. Matty grabbed the first aid kit and hiked down to their tent to find an unconscious fellow strapped to a rope stretcher ready to be hauled down. His symptoms led us to believe it was cerebral oedema. Later that night we learnt they'd dragged him down 900 ft. Yohann, a 21 year old Belgian climber, had failed to take earlier signs of poor acclimatization seriously. It made me think of the risk we were taking, of the responsibility we have towards each other, and of the dangers involved in an evacuation. What risks should I take in evacuating another climber compared to my own team members? Is life so sacred that it should be saved at any cost? Throughout the night, whenever I woke, these thoughts were on my mind.

Early next morning we reached Yohann and his friend

bivouacked above the steep pitches. We felt a deep sense of relief to find him alive though barely conscious. After getting him to drink as much water as he could, we wrapped him in a sleeping bag and tent fly on ensolite pads and snuggly laced him with ropes. When Michael and Sidney arrived we set up ropes and started the long process of lowering him down the "Garganta". With the help of ten other climbers we got him down to the lower camp by late afternoon. As we sat on our packs gratefully gulping down water (melted for us by the climbers at camp 3) and sharing lunches, a large sérac came crashing down. Only an hour ago ten of us had been moving under those séracs! What a jolting reminder of the risk we take!

We continued as fast as possible in hopes of getting off the snow and to the lower camp before dark. As we descended Yohann's condition seemed to improve. We wished that 6000 ft elevation would get him back on his feet so come morning he could walk down to the first camp where a horse would take him to Musho.

Well he wasn't much better in the morning. We learned of a large French team at the lower camp so Michael hiked down to ask for help. They came up with a ski pole stretcher and carried him down all the way to Musho because he was unable to hang on to a burro. From there a truck drove him to the hospital in Huaraz. Two days later we met Yohann eating ice cream. He still seemed dazed and not sure of his footing. He told us that the doctor had insisted that he not climb for eight to ten weeks. A day later we saw him at the market. He was feeling much better and was going off to solo Allpamayo. We felt angry! Why had we spent so much time and energy saving his life if it meant so little to him?

Our time in the mountains had run out; it was time to head home to Canada. In five weeks we had climbed six peaks (up the standard routes). After talking to other climbers in Huaraz I was impressed by our success. We decided that it was because we had taken weeks to acclimatize, started off climbing relatively easy peaks, were never in a hurry, took lay over days when needed, and never committed our egos to reach a summit.

Paul Landry

Expedition members: Matty McNair, Jim Campbell, Jane Smith, Christo Grayling, Paul Landry

FURTHER INFORMATION

We were told that about 70% of the climbing parties hire guides, porters, cooks, etc. Many folks hire a cook who will watch base camp while they're climbing. It's not safe to leave an unattended camp below snow. We often alternated base camp watch with other groups on lay over days. Plus Jane who was having difficulty acclimatizing above 16,000 ft often stayed in camp. We chose not to hire guides partly to save the expense and partly for the adventure. We obtained the best route information from parties coming off the mountains. Plus with so many people climbing there was usually a good trail to the summit. Pepe's, on the 5th floor of the Barcelona hotel is a good place to gather information, meet other climbers and rent gear. Pyramid Adventures offers excellent service and reliable guides.

Weather patterns are fairly stable with five to seven days of clear weather at a time. Clouds move in for two to three days, dumping snow up high. Avalanches don't occur frequently but the danger is present. The snow is good and hard early in the morning and by midday it starts balling up. The sun is really intense during the afternoon. Because the Cordillera Blanca is situated close to the equator the sun rises and sets around six o'clock morning and evening, giving 12 hours of daylight year round.

In the upper valleys temperatures will sometimes drop below 0°C. On snow it gets much colder but we got by with three season sleeping bags, a good parka and wool or pile clothing. Adequate protection from the wind is necessary, especially in late summer. Double boots or single boots with supergaiters should keep your toes warm. White gas is hard to find so a kerosene stove is the way to go. Our small pressure cooker was very useful. Other than personal harnesses, carabiners, slings, ice axe and crampons, we used a 150 ft, 9 mm ever-dry rope, one ice hammer and two to three 2 ft long snow pickets and a dead-man per climbing team. One last word of advice: the Cordillera Blanca is easily accessible thus making it tempting to gain high elevation without proper acclimatization which leads to mountain sickness problems.

Most valued reference books were Trails of the Cordillera Blanca and Huayhuash of Peru by Jim Bartle, Cordillera Blanca and Rosko by John F Ricker, and Mountains of the World by William Bueler. We obtained topographic maps through Institute Geografico Militar, Calle Aramburu 1198, Lima. Peru.

Mad Dogs and Mexican Mountains

The thought of a return visit to Mexico's high volcanoes seemed unattractive in early December 1980 but the prospect of foregoing the opportunity altogether was too much to bear. By late December our decision was suitably rewarded as we read of the cold blanket of air which had settled on most of the east coast. If this had started out as a climbing trip by default our attitude was quickly changed as we stepped off the plane into the warm and sunny Yucatan Peninsula. The mountains could easily wait a few more days as we explored the class 3 climbing routes of Uxmal and Chichen Itza and spelunked our way through the Gruta Balankanchen. We spent an additional acclimatization day at the ancient Toltec capital of Tula and then proceeded to get lost on the way to Teotihuacan. We finally reached our destination at the end of a long but somewhat scenic day. The town of Perote was actually more attractive at dusk than in the harsh morning sunlight. Armed with the very latest information we were able to locate the local access road to Cofre de Perote which, to our surprise, was cobbled almost to the summit. The views from the summit plug were worth the effort as we had the north slopes of Orizaba in full view as well as Malinche, Popocatepetl and Ixtaccihuatl. To assuage our mild guilt we explored the area for the rest of the day and visited a beautiful little lake below the second summit, hidden among the open pines. It was a fun day and an excellent way to begin adjusting to the higher elevations. Later on the 27th we settled in for the night near Puebla and toyed with the idea of looking for a way up Malinche from the west. All previously reported access routes had been from the east but a route from Puebla would be a real time saver. We discovered the right road first time round and realized we would have a chance of making the summit that same day. The route on this side of the mountain is more interesting than that from Huamantla. In addition to the fine

Ixtaccihuatl with Popocatepetl in background. K. O'Connell

views of Popo and Ixta there is the added advantage of having a west facing slope in case of late descent. After Chris and I parked the car at a modest elevation we discovered that the cobbled road led much higher onto the flank of the mountain. However a four wheeler might well be required to take advantage of it. The walk from our parking spot to the summit turned out to be a mere five hours, almost all of which was interesting and enjoyable. Don't forget to bring water. There is absolutely none at this time of year.

On the 29th it was time to return to Mexico City for a rendezvous with a friend who was flying down from Montreal. We decided to visit the ruins of Cholula and while there discovered a road sign marked Paso de Cortes. This was too good to be true! It was clear that it did indeed head off towards the pass between Popo and Ixta and furthermore we found that one of our many road maps actually had it listed. This was like holding candy out to a baby so we roared off down the dusty roads, confident that we were on the short cut back to Mexico City. A few miles and a number of hours later our confidence was more than a little shattered as we negotiated our way around the nth VW size washout and watched the sun disappear around the western flanks of Popo. By the time we reached the pass the lights of Mexico City had been on for a while. We rolled in somewhat exhausted and discovered that Warren had arrived as promised which just shows that you can be twice lucky in the same day.

On the 31st all three of us were off to Paso de Cortes, this time from the easy side. Arriving before supper we had a chance to look around and realized that a lot of improvements had been made to the Vicente Guerrero hut. As it appeared that the overnight fee was designed to pay for the improvements we opted for the nearby woods and set up camp amidst some wandering cattle. At supper a stray dog behaved in a rather peculiar way when we tried to chase him off. A short time later Warren visited the refuge for water and noticed him nosing in some garbage and convulsing. It still didn't click. As we finished supper we heard several sharp firecracker like reports; the dog yelped off down the road. Ten minutes later while packing up in the dark I almost stepped on him. He had crawled under the car. A careful inspection showed he had been badly shot, was still very much alive, and in pain. Soon we were surrounded by most of the forest and park rangers from the refuge and enough guns to start a revolution. They were prepared to execute the animal where he lay but we managed to convince them to move him away from the vehicle. Using a ten foot pole they pried "pero" out. It was clear he knew what was coming; a fusillade of bullets ended it all. Rabies in the mountains of Mexico would have added

an exciting finish to our plans. After this episode it was not too difficult to convince us to move into the refuge. The trauma of the evening was softened by an invitation to join the refuge staff in a New Year's Eve party. We postponed our attempt on Popo by one day. On 2 January we made an attempt on the Ventorillo route but both Chris and Warren were experiencing difficulties and I was not prepared to solo. There were absolutely no takers for the mountain early the following morning either so I decided to climb by myself. As dawn broke I was well above the Ceveti Hut on the Los Cruces route and on the summit before 11.30. It was the first ascent of the day but not the last. There was ample SO2 from the crater to add to the rarified atmosphere. This is not my idea of a popular route but evidently a lot of people disagree. I was a little shocked to find that a summit bivouac hut had been built since I had last climbed the volcano. This bright red container, apparently erected in 1978, is called the Roger Coudert Hut. I noticed too that the beautiful crater lake had disappeared. I suddenly remembered a Mt St Helens poster I had seen in nearby Amecameca; little time was wasted in returning to the Refuge at Tlamacas.

We drove Chris to the Airport and returned to Tlamacas on 4 January for some more climbing. On the 5th Warren and I started another early morning climb, this time on Ixtaccihuatl. Progress was good until Warren hit the 4500 m level and was unable to go on. I decided to not waste the day and pushed on to the summit, alone once again. When I returned to the parking lot Warren had recovered but was openly wondering whether he would be able to get up anything this trip. The following day was declared an official rest day as we thought about what to do next. Finally we decided that the Ventorillo was the best of all possible worlds. At least there would be little sulphur to worry about! On the 7th we made our attempt and reached the summit. On the way down the mists began to settle, adding a surreal atmosphere. Two days later we were back in 'gringo land', wishing as usual that we had been able to stay for another week but also glad that we had made the trip and had returned safely.

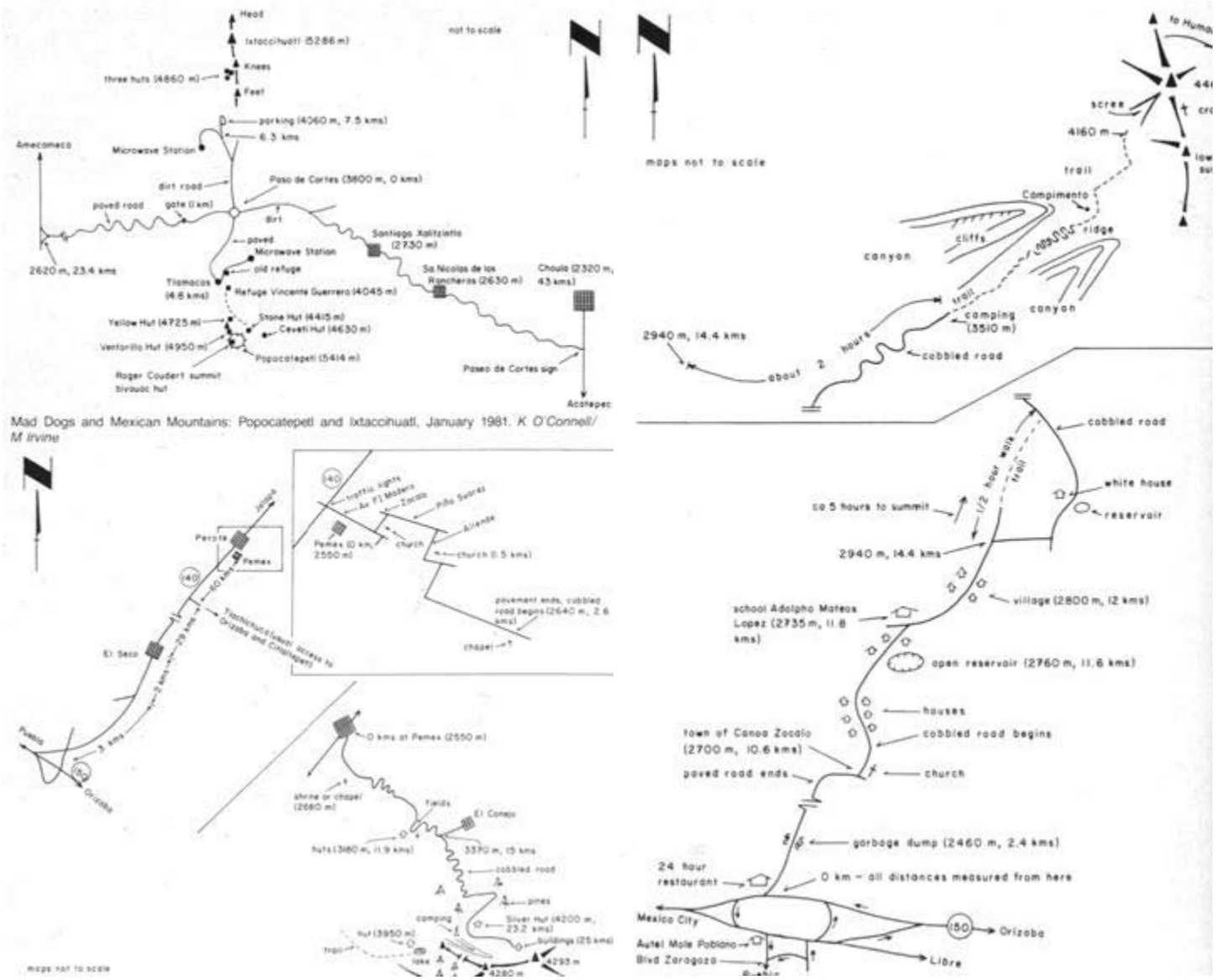
Kevin O'Connell

FURTHER INFORMATION

Since 1977 inflation has dramatically changed the cost of climbing and travelling in this area. In many places beer is now more expensive than in Canada and when you can't drink the water that really hurts. The Mexican people are still hospitable and very wonderful. This alone is probably reason enough for a return trip. It is hoped that the information provided on the accompanying maps will make for a more efficient and pleasurable climbing trip. They are the most up to date available but caveat emptor! Don't forget to ask the locals when in doubt and use some common sense. The cost to stay at the old refuge at Tlamacas is 20 pesos per night. The new hut is 90 pesos but has excellent washrooms, blankets and showers. You may find it well worth the price even if there are no cooking facilities. You can cook at the old hut or almost anywhere outside. Watch out for stray dogs! If you're not too worried about budget the new hut has a restaurant, open sporadically. Waffles, eggs and hamburgesas can be had for between 32 to 42 pesos, tea and coffee for 10 pesos, soup from 30 to 40 pesos, beer for 25 pesos. All charge cards are supposedly accepted but this sometimes seems to depend on the whim of the management. In addition to the article in CAJ 1977, there are some useful articles in Summit Feb/March 1978, June/July and Oct/Nov 1979. The elevations on the maps accompanying this article are about as accurate as I can ascertain, CA' 1977 article not withstanding. Of peripheral note is the news that the taxi ride from Tlachichuca to the Pedro Grande hut on Orizaba has cost some parties up to $75US return. Bring your own stove for cooking anywhere you go and never leave equipment unattended, anywhere. Aside from all that, just watch the water and have a good climb.

Nauncampatepetl (Cofre de Perote). January 1981. K. O'Connell/M Irvine

Matlalcuyetl (Le Malinche), western approach, January 1981. K. O'Connell/M. Irvine



Mad Dogs and Mexican Mountains: Popocatepetl and Ixtaccihuatl, January 1981. *K O'Connell/ M Irvine*

Looking north at Citlaltepetl (5746 m) from Cotre de Perote (4274 m) showing standard route. K. O'Connell