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THE

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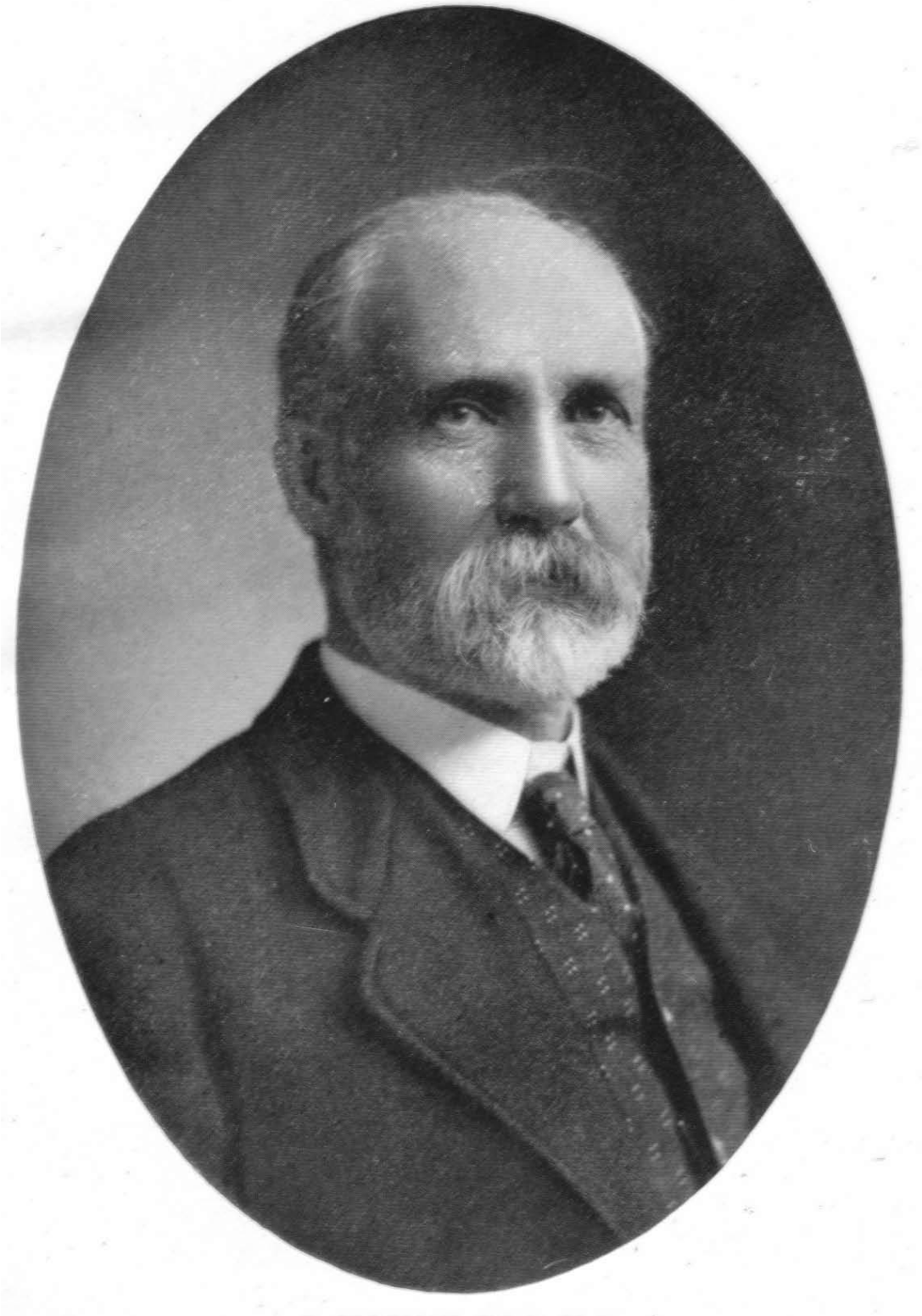

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Capt. E.N. White 1st Battn. Middlesex Regt.
Killed In Action At Ypres, 25th Sept., 1917

CANADIAN ALPINE JOURNAL

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Members On Imperial War Service

L. S. Amery..... 14th Royal Warwickshire
(Captain, General Staff)
W. A. Alldritt ..... 90th Regiment
(Sergeant, prisoner, escaped)
H. Anderson ..... 13th Can. Field Ambulance
(Lieut-Col, M.O., Croix de Guerre)
Mrs. H. Anderson .....Nurse
R. G. Annand..... 50th Battalion
(Sergeant)
I. N. Austin.....104th Field Ambulance
Rev. W. R. Ball ..... 49th Battalion
(Captain, wounded)
F. C. Bell..... Asst. Dir. of Medical Service
(Lieut-Col, M.O., wounded, mentioned in despatches twice)
H. Bennett ..... Divisional Signallers
(Lieutenant)
P.R. Brecken.....Y.M.C.A
M. Bright .....Intelligence Corps
(Lieutenant, wounded)
W. E. L. Broad……..... 137th Battalion
(Lieutenant, killed in action)
E. W. Bickle ..... 48th Highlanders
(Captain, wounded)
F. C. Brown ..... 1st Can.Reserve Batt. (B.C.)
(Lieutenant, wounded)
W. C. Bruce .....Canadian Engineers
Rev. E.M. Burwash.....
(Captain)
G. Cameron .... Royal Air Force
(Lieutenant)
K. C. Campbell..... 43rd Battalion
(Major)
R. J. Casement..... Canadian Engineers
(Lieutenant, D.C.M.)
C. G. Chinneck.....13th Mounted Rifles
(Sergeant)
J. A. Clark ..... 72nd Battalion
(Lieutenant-Colonel, D.S.O. and bar)

Sergt. R.C. Morrison 187th Battalion
Killed In Action At Lens, Aug 21st, 1917

R. P. Clark..... 14th Battalion
(Lieut-Col., Staff Officer, Military Cross, wounded)
J.H. Colville..... R.A.F
(Lieutenant, wounded)
J.H. Cuntz..... Signal Corps, USA
(Captain)
G. Darling ..... #9 Battalion, Tank Corps
(Lieutenant)
W.R.Dyer..... 1st Dept Battalion, Alberta Regiment
A. Eastham .....
J. E. C. Eaton..... Artists' Rifles
(Captain)
Rev. W. F. N. Fisher.....
(Captain, C.F.)
C. E. Fortin .....Lord Strathcona Horse
(Captain, M.O.)
H. W. A. Foster…….....20th Battalion
(Major, D.S.O., Military Cross and Bar, three times wounded)
W. W. Foster……...52nd Battalion
(Lieutenant-Colonel, D.S.O.and bar, Belgian Croix de Guerre, wounded, three times mentioned in despatches)
T. Fitzsimon ..... Royal Air Force
Rev. A. Gillies-Wilken .....Canadian Mounted Rifles
(Captain, C.F., prisoner, exchanged)
Rev. A. M. Gordon .....4th Canadian Division
(Major, C.F., M.C.)
C. W. Gray.....Headquarters Staff
(Wounded)
W. F. Guild..... 52nd Canadian Infantry
(Major, died of wounds, mentioned in despatches)
J. A. Gunn .... No. 1 Can. Gen. Hospital
(Lieutenant-Colonel, M.O.)
J. N. Gunn..... 8th Canadian Field Ambulance
(Lieutenant-Colonel, M.O.)
G. L. Haggen.....Oxford and Bucks Regt.
(Captain)
H.S. Hall Jr.....Inf.R.C., USA
(Lieutenant)
Mrs. J. W. Henshaw.....
(Hon. Captain)
J. A. Hesketh..... 11th Battalion, Can.Ry.Troops
(Lieutenant-Colonel, C.M.G., D.S.O., mentioned in despatches)
G. E. Howard……..... Artists' Rifles
(Quartermaster-Sergeant)
P. M. Humme ..... Canadian Machine Gun Corps

Corp. J.C. Oxborough 12th C.M.R.
Killed In Action, October 31st, 1917

(Lieutenant, Reconnaissance Officer)
J. R. N. Irven..... 3rd Battalion, Rifle Brigade
(Captain and Adjutant, wounded)
A. C. C. Johnston……..... 5th Battalion
(Captain, M.O., M.C.)
S. L. Jones…….....Princess Patricias L.I.
(Major, prisoner, died of wounds)
Mrs. S. L. Jones..... ..... Nurse, French Red Cross
(Lieutenant)
Miss M. H. Kilmer..... Nurse
W.S. Ladd..... Medical Reserve Corps, USA
(Lieutenant, M.O.)
F. V. Longstaff .....5th Batt., East Surrey Regt.
(Major)
T. G. Longstaff …….....7th Hampshire Regiment
(Captain)
A. J. B. Milborne..... 3rd Field Ambulance
(Captain, mentioned in despatches)
C. H. Mitchell..... Premier Staff Officer, Second Imperial Army
(Lieutenant-Colonel, C.M.G., D.S.O., Officer's Cross, Legion of Honour, Order of Leopold, Belgian Croix de Guerre, Order of Crown of Italy, mentioned four times in despatches)
Miss M. J. Monk…….....Nurse
A. B. Morkill …….....7th Battalion
(Captain, wounded)
A.H. MacCarthy..... U.S.N., R.F.
(Lieutenant-Commander)
R. C. Morrison..... 187th O. Battalion
(Sergeant, killed in action)
K.D. McClelland..... O.R.C. U.S.A.
(Lieutenant)
J. C. McHutcheon..... ……..... Sherwood Foresters
(Lieutenant, died of wounds)
W. C. McNaught..... 84th Battalion
(Captain)
Jas. G. McDougal…….....202nd Battalion
(Lieutenant)
Miss E. McPhedran…….....Nurse
E. S. MacGregor.....187th Battalion
G. L. Oliphant..... Battery 71, C.F.A.
(Corporal)
Sir James Outram.....
(Major)
J. C. Oxborough…….....12th Can. Mounted Rifles
(Corporal, killed in action)

W. Oxborough..... 12th Can. Mounted Rifles
(Wounded)
R. E. Patterson..... Fort Carry Horse
(Lieutenant)
W. F. M. Pearce ……..... 1st Montreal Regiment
(Major, mentioned in despatches, wounded)
Donald Phillips..... 78th Battery
Mrs. E.M. Phillips..... V.A.D.
E. F. Pilkington..... 6th Batt., Manchester Regt.
(Major)
J. M. Poucher..... 5lst Battalion
Rev. G. S. Provis……..... Attached 15th M.G. Co.
(Captain, C.F.)
R.I. Raiman..... Y.M.C.A.
C. B. Reilly.....69th Battalion
(Captain, wounded)
C. B. Reynolds..... 9th Can. Mounted Rifles
(Wounded)
A. E. Robertson……..... 5th G.A.
(Captain)
F. A. Robertson..... 47th Battalion
(Major, wounded)
J.W. Ross.....Orpington Hospital
(Captain, M.O.)
C. F. Savage ..... Northumberland Fusiliers
(Lieutenant, wounded)
Miss J. T. Scott.....Nurse
G. M. Smith ..... Princess Patricias L.I.
(Captain, M.C.)
R. H. Smith ..... 4th Field Ambulance
(Died of wounds)
G. R. Street ..... 3rd Field Ambulance
(Corporal)
E. L. T. Taylor..... Royal Garrison Artillery
(Lieutenant)
T. J. Taylor……..... Trench Mortar Battery
(Lieutenant, M.C., killed in action)
J. E. Tilleard…….....
A. Tomlinson..... 230 Canadian Forestry Battalion
F. Trant ..... 14th Battalion
(Wounded)
A. Tyler..... U.S. Naval Aviation
J. Tyler..... U.S. Aviation Service
(Lieutenant)

S. J. Unwin..... Canadian Artillery
(Sergeant, died of wounds)
J.H. Vincent..... 201st Field Artillery, U.S.A.
(Lieutenant)
Miss H. Walcott.....Nurse
P. A.W. Wallace……..... Divisional Signallers
Rev. T.J. Wallace.....M.D. No. 13
(Major, Senior Chaplain)
Miss K. Walker.....Nurse
H. Watts .....
(Captain)
A. W. Wakefield.....2nd Canadian Stat. Hospital
(Captain, M.O.)
O. Q. Warren..... Canadian Mounted Rifles
(Lieutenant)
A. F. Wedgwood……..... 5th Batt., North Staffordshire Regiment
(Captain, killed in action)
H. Westmorland ..... Canadian Mounted Rifles
(Lieutenant)
E. O. Wheeler.....King George's Own Sappers and Miners
(Captain, R.E., Military Cross, Cross Legion of Honour, mentioned four times in despatches)
Rev. G. D. Whitaker .....
(Captain, C.F.)
E. N. White ..... 1st Batt., Middlesex Regt.
(Captain, killed in action)
K. H. White..... Motor Transport Service
Rev. R. B. Winser.....
(Captain, wounded)
K. D. Woodworth..... Yacht Patrol
(Sub-Lieutenant)
J. R. Young .....H.B.M.G.C.
(Lieutenant)

Communications From The Vice-Presidents

France, July 26th, 1918.

Greetings. With you next year.

W. W. Foster.

G.H.Q., Italy,
Sunday, April 28th, 1918.

My dear Wheeler,—

I know you will think it very strange that I have not written you before this. Especially since I have been in Italy my letter writing has gone awry.

You know, of course, that we spent the anxious winter months on the Venetian Plain, and that for a time our G.H.Q. was at Padua, when about the New Year we got bombed out of it. It was a thrilling but not a pleasant experience, of which I cannot very well tell you enough to know what it was like—except that I am still picking-pieces of glass out of our files. Then we moved out to rural parts for January to March, and about the first of the present month came up here to the mountains where, as the papers have already told you, we are in the Asiago region. (As I am responsible for all the censorship, both postal and press, in the British Forces in Italy, I know I am not transgressing in saying this.) But I must not tell you where our G.H.Q. is with respect to the mountains, nor say what mountains or valleys I can see from my window, but I wish you could see them; it would do you good to see such magnificent scenery in the middle of a war zone. As you doubtless know, these mountains rise directly from the Venetian Plain, straight up like a wall, and the little villages nestling on the lower slopes are most picturesque, with their white houses and churches and tall, slender campaniles, their red roofs and vineyards in terraces. The roads are truly wonderful both in their condition and location, and I marvel at the Italian skill in this regard. There were, of course, many peace-time roads up and in the mountains before, but when the war came the Italians commenced an extraordinary network of military roads leading up into all kinds of queer places, up which they got troops and guns and transport, generally in great numbers. Indeed, the war in this theatre has brought out very many new things in this respect, and mountain warfare stands in a class by itself. To us of the mountaineering persuasion it is exciting and attractive and interesting enough simply to climb and see. But when on the lower slopes or opposite crags are gentlemen, also climbers, taking pot shots at you with a rifle or spattering the rocks by you with machine gun bullets or hurling percussion shells near you, climbing technique and enthusiasm are not what they were in peace time—the "sportsman's paradise" and "climbing for pleasure" fade out of the picture. But the Alpini are truly wonderful, the Italians have many very fine regiments of them, and I never fail to stop and admire them as they march past with their slow, steady tread even on level, smooth roads—packs piled high with various gear, including crampons and extra hobnailed boots, with occasional ropes and always with an alpenstock, which, with the rifle as well, is not easy to manage. Their transport, too, all pack mules, is very interesting, as they carry everything on them, including machine and mountain (screw) guns. I know! Because I had an exciting, almost tragic, experience one day when I was coming along a narrow road in my fine, big "Lancia" limousine. The regiment was marching on each side of the road, as is their custom, leaving the centre open for vehicles. As I got in amongst them and came to the transport, the

trouble began, for two refractory mules carrying machine guns turned their backs scornfully as the car came up and between them their loads hit the side of the car in four places, breaking the glass close to my face in a hundred pieces.

It is truly extraordinary what these Alpini can accomplish when out on their native fighting ground and when, as I have been shown on several occasions, one sees the places where they have made some clever attacks, one is silent in admiration of their mountaineering skill applied to present day warfare. I have in mind one cliff on the edge of a deep valley where in January a regiment of Alpini, as a part of a brilliant attack by the Italians, climbed up about 300 feet in the night, noiselessly, to get into attacking position, and then in the morning did another 200 feet and surprised the Austrian garrison in the trenches on top, killing or taking prisoner the whole lot. They got away with 400 prisoners, bringing them down another way which had been opened up by the general advance.

I must again allude to the transport which any one who is a mountaineer must realize is one of the great difficulties of mountain warfare. The roads I have spoken of, but as I sit in my office room in a small house near the ------ River and look up to "the hills," I can see numberless fine, thin yellow and white streaks threading and zigzagging upwards in all directions — on the lower slopes the loops are longer and high up are shorter — and if one's eyes are keen one can see even at the top slow moving wagons and faster moving motor lorries going up and down and it does look so busy. Through the glass all kind of life comes into the picture and if one were up amongst it, as I am every few days in a light, high-powered, short wheel-base "Fiat" car, he enters into the real excitement of hanging on to a narrow ledge cut out of the mountain side with just enough room to let two cars pass — but I could write on for hours about these mountain roads and what is to be seen upon them. Then, the other transport even more wonderful still !

The "Teleferica"—the cableway, as we would call it in Canada. It is developed here for warfare and is the means by which tons and tons of stuff are sent up daily to British troops alone, to say nothing of the many miles of front thus served for the Italian troops. Supplies of food, forage, ammunition, construction material, all are to be seen gliding slowly upward in their little iron boxes, across the valleys, up the rock faces, through forests and up the scree slopes to the landing platforms high up, oftentimes in the clouds. These are the things you read about and see pictures of and, I suppose, wonder, as I did, if they are not toys rather than real, practical, everyday machines. Not a bit of it! And your admiration and confidence in them is complete after you ride in one yourself, being sure to hang on tight and not get giddy when you look down into the deep valleys.

Now you are to come with me high up into the snow —where I was, for instance, on April 25th, on the great Mt. Grappa, which is one of the huge bastions of the Italian line in the mountains. It is between the Piave and the Brenta, and it was around this that much of the anxious fighting took place in December. It is not high as mountains go—6,500 feet—but with its surrounding hills rises straight up from the plain and is a landmark for many, many miles, even from the sea on clear days. I need not tell you of the long motor journey starting at daylight, nor of the long but interesting motor climb up loop after loop on the mountain roads, passing motor convoys, pack transport, wagons, marching troops and motor cyclists. There were various "soft spots" we had to pass where the enemy was in the habit of shelling with both shell and gas, mostly in valleys, etc., where gas would hang low and where, for obvious reasons, trenches and dug outs, etc., were well up on the hill sides. After some hours we got up and well into the snow, where we couldn't get the motor any further, so we left it and went on foot. It was a bright, clear day, a rare day after the month of

rain and snow, and the sun beat down on us very hotly, not at all unpleasantly though, except for our steel helmets. It seemed so good to be out on a snow slope, all white and unbroken and with a bright sun—all wore goggles, of course. I said unbroken—no—for, curling around and stretching across and waving in grotesque patterns, were rows of trenches and wire, black in shadow and outlined against the glistening snow, and here and there were groups of dark—dugouts where the garrison lived, one could see the tiny forms moving to and fro—and occasionally one could see, too, groups of splotches on the white where shells had burst since the last snow. And far above was the summit with a gray stone cabin and a solitary flag pole and the brave green, red and white flag fluttering from it—a peace-time hut still untouched by war. So it was, climbing on "Father Grappa" as the Italians call him. But we were on the rear side of his slopes and we had still to go on and get around to the front, where the real panorama was to be seen—the enemy's lines. I must not describe the top or the routes we took, or the trenches or the other defence works, wonderful work of these busy Italians; I shall have to leave that for apres la guerre, or the camp fireside—but as an engineer through whose eyes I was more likely to see than as a soldier, I was amazed with the ingenuity and boldness of the work and especially with the great speed with which it had been done. They were still working at underground work in very hard rock and it made me feel quite at home—as at Niagara Falls.

May 5th.

On Thursday I had another "ascent"—this time more of a climb—and far from being in a motor car and snow, it was a real climb and very hot. It was in entirely another part of the line, in fact quite close to and connected to our sector, and is a peak I often look at from afar. We, a Field Survey officer and I, went up the valley in a car and got out at its foot, sending the car away around to the top by a circuitous route to be met in the afternoon. The sensations of starting on a climb were all present—even though by that time it was 10 a.m.—and as we started slowly upward on the lower slopes past new and old reserve trenches and wire and gun emplacements and camouflaged roads and mule tracks, I wondered how all these new Alpine things would look out on our native heath in the Rockies! Indeed, I tried to transplant the picture and sought for some place at home where the scene might fit—I think, perhaps, Banff, if the latter's valley were narrower and the mountains higher and steeper and the woods and trees were replaced by fields and vineyards and white roads and farmsteads. The villages—one a large town—which I cannot name, look Italian, of course, with white houses and red roofs and the usual campaniles all gleaming hot in the sun. I wonder when Banff, for instance, will take on such an old-world, dignified appearance! But the river itself was just the same; the ——— was the Bow, only smaller at this season, with its winding course, its white gravelly bed and its green and white water glittering in the sun. At first, when high above it, I imagined, and then, when, all was quiet, I did realize that I could hear it rippling far away. You who know the mountains know the sound as it floats up from a still valley on a gentle breeze.

I spoke a moment ago of the roads far down the valley. Yes, they were the same as at home—all roads look much the same in the mountains from a height, with their twists and hairpin loops—but these had long rows of lorries and transport betimes—military columns—and one could see the miles of screening hung in the trees and on posts and wire, made of reed matting, brown and rusty and waving in the wind.

Now to the hillside of rock and scree and earth and grass and trees between in sheltered places. I do wish I could describe the mountain side with its trenches, its wire and defences and gunpits, the huts of various vintages, including the peace-time cowherd's stone shelter, and various

types of rock and wood and earth and the winding paths cut to and through them all, some on slopes in sidehill, some on ledges, some in steps on cliffs and with bridges all built by the splendid Alpini who, with their simple camp kit and their mules, inhabit these parts. What wonderful fellows they are ! Always cheerful, singing, busy and alert. Strong, husky, muscular fellows, dressed in the usual Italian grey, with knickerbockers a bit fuller in the knee and with grey-blue puttees and heavy, hobnailed boots—and side nails—with Alpini felt hat turned up at the back and down at the front, with a jaunty eagle's feather sticking saucily out behind—these are the mountain soldiers of Italy, and I would back them against any troops in the world in their own mountains. Their collar badge is green; all brigades of the Italian Army wear distinctive cloth colours on the front side of their collars—some are quite variegated and brilliant, but the steady old Alpini, exclusive and quieter than their more voluble brothers of the plain, wear the simple green of their native hills. I suppose we think our own packers and our own packsaddles and the diamond hitch are the only ones in the world. Not a bit of it. Let some of our Jack Otto's and Curly Phillips' come over here and get a few lessons from the Alpini! Let them try packing two barrels of water and six flasks of chianti (glass surrounded with straw covering) or a machine gun with tripod and ammunition.

As we two went up and up, loops, slopes and steps, past hutments, trenches, wire, machine gun emplacements, screens, tunnels and dugouts in the rock, I realized the more what three years of war meant to the Italians. I realized how much this hard work in these picturesque mountains will help in the future after the war. I cannot help but think that all the labour and money which they have spent on their military roads, paths, tunnels and other works will all come back in some form when this becomes one of the great show places of the world war, when all the world which loves Italy, anyway for itself, will come here to see what they have to show in their beautiful scenery and in their unique labours in the defence of their country in this great struggle. So, who knows but the A.C.C. may have a camp hereabouts some day or, may be, have an Italian section! No one would welcome such more than the Italians themselves— the "Club Alpino Italiano" best of all.

And now I want to speak of an encounter I had two months ago with the Milan Section, whilst there for an afternoon on my way home from leave in England. I was walking through the "Galleria," just beside the Cathedral, a huge arcade, and glancing up to upper windows saw on them "Club Alpino Italiano, Seze (Section) Milano." So I went up to find the Secretary and to my great delight he was there and spoke English excellently—Enrico Ghisi (Cavaliere of the Crown of Italy) ; he is also an ex-president, but is now helping during the war in his own city. He was truly delightful and appeared so pleased to have me call, and after I had told him who I was and what we are in Canada he was most demonstrative, welcoming me as a brother. I told him of our mountains and what we are doing and how, like them here, though thousands of miles away from the war, we are also sending things to our members who are at the front. He showed me stacks of parcels of books and other articles they were sending out for Easter and surprised me by saying that of a total membership of about 1,500 in the Section, over half were serving with the troops, nearly all at the front, and, of course, nearly all were Alpini. It was a very fine record and indicative of the Spirit of Italy. I gave him some similar statistics of our own Club, and what seemed to strike him was the great distance we are away from the war, and what a great thing the British Empire is! In the course of the talk he kept showing me various photographs of their mountains and climbs and descriptions of meets, huts, routes, etc., his various assistants, mostly ladies, being very assiduous in their attentions to the "Inglese" from Canada, and in the end he gathered together a great pile of booklets, reports, photographs and sketches for me to take away with me. (These I have already

sent over to you by mail in two packets.[1]) When leaving I extracted a promise from him that he would come to Canada soon after the war and would arrange to be there in the summer, so that he could come with us to the Club Camp. Though an old man with white hair, he is full of energy and vigour, and his eyes glistened with excitement when I told him how we would like to entertain him— and, indeed, any of our good Italian Alpine friends—in our grand mountains. The head office of the Italian Club is at Turin. I presume we already send them our Journal, but if not, I think it would be much appreciated.[2]

May 19th, Whit Sunday.

This letter is getting into a great length, I fear, but I cannot help adding another weekly installment to the serial story.

On Friday I was up still another mountain—the monarch of all along the front, Pasubio, alt. 7,400 feet— almost straight north of Verona. It is a magnificent massif, and though not a snow mountain, still had deep snow and will continue to have for some time to come. It is a huge mountain and stands like a buttress amongst all the others, not only as mountains but as a defence, and like "Father Grappa," is one of the centres around which the war here revolves. One can see it for many miles anywhere from the plain, as it bulks so large. Of course, as the plain is only two or three hundred feet above the sea it seems to stand right out of it. We went in a car up the valley which runs in westward from Schio, and I wish I could tell you of the interesting things I saw in this beautiful valley, all bright green in its spring freshness. Its tactical and strategic values are such, however, that I must not speak in detail. However, from the mountaineer's point of view, it has all the charm of great, high, wooded mountains, flanking a narrow valley, with its cliffs and its dark ravines and the tiny villages and farmsteads tucked closely in at the bottom. The white winding road, the highway over the pass to Rovereto in Austria—still Austria—ever curving and changing, brought new scenes with every minute. In peace time the quiet country folk herded their cattle and cut their hay, but now, with them still there, the whole valley is alive with the grey-uniformed sons of Italy at all their war-time tasks. Some day I hope to go over this pass in peace time and to remember its wartime pictures. Up near the top we began to find Alpine meadows, all bright with flowers, and after we left the car for an hour's climb over the rocks and meadows at the summit—into Austria, now Italian—I was full of joy at again being in such an enchanted spot as this bright meadow on the mountain side at the head of the pass—it reminded me much of Moose Pass, near Mt. Robson, if one could forget the many little white villages dotted down the valley looking towards the Austrian lines. But you see again one cannot get away from the war, even in these beautiful places; as I cast my eyes upwards past Pasubio I could see the great crag of Mt. Corno where, a few days ago, the Italian Alpini made their historic attack. Of my trip—our trip, there were four of us, including the Italian officer—up Mt. Pasubio I cannot now talk, but that will have to be left. Suffice that after another hour of the Fiat car on the steepest and narrowest new mountain hairpin road I have yet been on, we left it at the real end of the road at a huge snow cornice fifteen feet high still melting in the spring sun.

Here we ate our lunch really before our climb, which was unfortunate as you may know.

Our two hours' climb and tramp in snow and scree and along paths and mule tracks hewn out of the mountain side was not easy, and unfortunately we were in the clouds so that we did not have the incentive that goes with the view; it seemed like old times to be traversing— on a four-

1 Only one has been received.

2 The Journal is regularly sent to the C.A.J, at Turin.

foot mule path—a 45 degree snow slope which faded away in the cloud down below. I wish I could tell you of the wonder I felt at how these wonderful Italians have hoisted their guns, heavy and light, up these great mountains—incredible as it seemed to me, and as I saw the huge monsters at various places in these mountains high up, very high, I could not but salute them.

The snow at the top, even on the 17th of May, was incredible, and we were still walking through hundreds of yards of snowsheds beneath many feet of snow, and on the way down it was such fun to glissade on the narrow snow paths cut in the deep snow. I suppose I had five or six hundred feet of it; how they get up I hardly know —oh, yes, I have already told you of the "Teleferica" or wire cableway that makes mountain climbing easy! So we came down through thousands of yards of paths and hedges and galleries and tunnels of which again I cannot speak, so that by six o'clock we were again down at the car, which we had sent round to the other side in the interval. During this six hours we had climbed 2,500 feet and had descended about 4,000.

So here, after all these long trips up and down and after taking you up the valleys from the plain and visiting the mountain villages and the passes and the alpine meadows, and after struggling upon roads and paths and snow and out on the top, I must leave you to try to picture it all set in our own beloved Canadian Rockies.

Yours ever,

C. H. Mitchell.

MOUNTAINEERING SECTION

The Ascent Of Mount Moloch

By J. W. A. Hickson

After an interval of two years, an opportunity presented itself of again trying a contest with a five-times attempted peak on the west side of the North Fork of the Illecillewaet, and after some preliminary and, for myself, preparatory scrambles on certain rock pinnacles near Lake Louise and a re-ascent of Pinnacle Mountain from Moraine Lake side, the Swiss guide, Edward Feuz and I met at Glacier towards the end of last July to make arrangements for sending several horses by train to Albert Canyon in order to carry tents and a supply of food up to the camping ground. Not being able to find another amateur to join the expedition, and knowing the climb to be one for which a party of three persons is desirable, I secured the services of a second professional, Ernest Feuz, who, in addition to being a most capable guide, is a capital companion on arduous climbs.

While at Lake Louise conditions seemed to be auspicious for our enterprise. Bright sunshine had prevailed for several weeks, and the rock peaks like Mt. Moloch were unusually free of snow and ice. But scarcely were we established at Glacier before we had a taste of the resources of the Selkirks in the matter of weather. On July 28th the thermometer went down to 33 deg. F. at mid-day, a series of electric and really magnificent storms followed, snow fell heavily even on the lower part of the Illecillewaet Glacier; and, early the following morning, it covered the ground around the Hotel. On the 30th, there was still no prospect of our making a move, and we realized that most unfavourable climbing conditions would now obtain for a week at least on the higher peaks. Twenty-four hours later, however, Edward Feuz, ever eager and impatient when a mountaineering excursion is on the cards, and a packer, supplied by Messrs. Brewster, left with impedimenta and horses for Albert Canyon, whither they were followed by Ernest and myself by

the early train on the first of August. We found their tent pitched a little north of the village, which appeared to be more alive than when we saw it in 1915, and aroused them about four o'clock to assist in the preparation of breakfast.

We started at seven up the trail, or Waverley Road as it is called by Mr. Wallace, which, on the whole, was in good condition, and three and a half hours later reached Klondyke Bridge and Camp, some ten miles from Albert Canyon. The day had developed magnificently, and it was delightfully warm; the sole drawback being mosquitoes, which were terribly active during periods of rest. About a mile and a half further on, a huge snow-slide covered the trail and caused the horses some difficulty and the party a loss of time. The "Farms" were reached a little after 3 p.m., and here we unpacked and decided to stay for the night. The flies were almost unbearable, sand-flies being now added to mosquitoes, and even interfered with the enjoyment of the splendid supper prepared by Lagace, who proved himself throughout the trip to be a first-rate cook and an agreeable man.

Much time was lost next morning through the horses, notwithstanding they were hobbled, having made their way down the trail almost to the snow-slide, and there was a similar annoying experience later in the day through the escape of Lagace's steed, temporarily left by its master, while we were holding council as to the best place to descend to the bed of the North Fork for the purpose of crossing it. As a matter of fact, two crossings had to be effected, firstly of the main stream and then of its tributary, Moloch Creek, both of which were safely carried through by each of the pedestrians taking his turn on the horse behind the packer. Without a horse, I do not think that we could have crossed the North Fork. A suitable camping ground was located in a meadow about half an hour from and below the main trail, with a full view of the amphitheatre of peaks and glacier which form the end of the tributary valley, on the left of which lay our objective. Fortunately we had our tents fixed and everything made snug before a heavy rain storm began, which kept up till we went to bed. The weather was by no means settled in our favour.

Next morning most of the mist had cleared out of the valley, but the sky was heavy and threatening and the apex of Mt. Moloch was covered with cloud. The guides and myself explored the ground a bit by going up the valley on the right side of the stream, approximately over the route we had taken two years previously. The view of Mt. Moloch afforded on the way was very forbidding, for the steep summit ridge was covered with fresh snow and appeared in places badly corniced.

Notwithstanding the opinions of Prof. Sissons and Mr. Wallace as to the feasibility of the northwest and the impracticability of the east and south routes, we were determined before leaving the valley to try the latter again. To this end it appeared highly desirable that we should make a camp on the left side of Moloch Creek and as near to the head of the stream as possible, since, as we had before recognized, the inaccessibility of the mountain was one of the chief risks in an attack. Accordingly, the guides spent the latter part of Friday, August 3rd, in prospecting, and returned to camp late in the evening to report that a way up the valley was quite feasible for horses, for which they had cut a trail in places where the alders were obstructive. They had also felled a large tree, which enabled pedestrians to cross the stream, about fifteen minutes above our camp. It was not until the following day that I realized how much they had done to make the transportation of tents and supplies a success. In glorious weather we moved our camp some two miles nearer our objective, but had to pitch our tents in none too good a place almost on the edge of the stream, with the ice-fall which forms the tongue of the eastern glacier of Moloch away above us on the left. Here we were about a quarter of a mile lower down the valley than where we had finally camped in

1915 on the opposite side of the creek. From this position we had a very clear view of the summit ridge of the mountain, which we knew looked misleadingly short from below. What we saw of it through a strong glass confirmed our previous conviction that it was in bad condition; and there was one place, consisting of smooth and precipitous slabs, which looked insurmountable by direct attack; so that we could only hope it would be possible to somehow circumvent it. Fortunately, the weather seemed at last to be settled, and we decided to try our luck the following day. And now we did something which is not easy to justify and which almost lost us our peak: We decided to have a look at Professor Sissons' route!

Undoubtedly, the main determining factors for this change of plan were the unfavorable state of the mountain and our recollection of the nature of the rocks connecting its two peaks, the traversing of which we knew would not be without danger even when in the best of condition. The length of time a traverse of this ridge would require, which was ultimately over-estimated, was also taken into consideration ; and then there was the strong and repeated assertion of Prof. Sissons and companions who had explored the mountain much more carefully than we had. that the west route was by far the most promising one. One of the guides and I knew nothing of this route; the other had accompanied Profs. Holway and Sissons in 1913 when their attack petered out owing to bad weather. But he had had no opportunity of making any notes of the prospects it afforded. Nevertheless, he was for sticking to our original plan; but in this he was unwisely overborne.

Accordingly, on Sunday, August 5th, we got away from camp by the aid of moonlight at 3.15 a.m., crossed a glacial torrent, which descended on the left from the ice-fall, by means of a convenient snow-bridge, and made our way up the lower glacier at the head of the valley. We crossed this diagonally to the right without difficulty and, after leaving it, moved in a westerly direction over grassy slopes and then over scree and moraine until, a few minutes before six o'clock, we came to the ice and snow on the north side of Moloch. On the upper snow-field we roped and, turning to the left and skirting the "candle extinguisher" in the centre of the amphitheatre, reached some out-jutting rocks on which we rested for a slight repast. It was now 7 o'clock and we were not far below the crest of the snowfield leading to the peak, named by Professor Sissons and party, Mt. Baal. It was a splendid day with perfect temperature, one of those on which it is a joy to be merely passively alive, and to feel that one is in complete harmony with Nature by being just a bit of it. A deep blue enamel-like sky of Italian loveliness bounded the top of the snow line. The huge irregular snow-covered mass of Mt. Holway was a striking feature of the fascinating scene, both grand and soothing.

The sole disturbing feature of the environment was the appearance of Mt. Moloch itself. As we advanced towards Baal, its northwesterly face became more and more difficult looking. The guides appeared to be very disappointed at the prospect, and my own hopes, which had been fairly buoyant, began to ebb. We had now to face and decide the question whether we should ascend the snow peak—Baal—or not, and thence attempt to traverse to the massif of Moloch. A weighing of the pros and cons led to a state of uncertain deliberation. In addition to the difficulty of effecting a transition from the ridge of Baal to the northwesterly wall of Moloch, which our glasses did not indicate was feasible without considerable risks (a direct ascent of the cliffs of the mountain being plainly impracticable) this connecting arête itself took on a more and more problematic aspect as we pushed up the snow towards its northern wall. We got fairly close to it and could, by the aid of our glasses, see clearly that besides being extremely fine, it was cut in places in a way which, while rendering a descent of it to Moloch precarious, might make a return over it impossible. One might reach the cliffs of Moloch and find the work of pedem referre to be an impossible business.

An attempt to descend its side would be attractive only to a would-be suicide. After an hour of searching with glasses and further deliberation, and taking into account the fact that an arduous and unsuccessful attack might make us too tired for attempting anything important on the following day, we decided to turn back. The guides had no two opinions on the matter; they regarded the route as probably impossible and, even if possible, fraught with too many risks to be reasonable; and we were all agreed that, compared with what we knew of the east and south routes in 1915, it was far more questionable and considerably more dangerous. We were off the snow by 9.30, came slowly down to the lower glacier and reached camp by one o'clock, determined to make another assault on the morrow. But man plans and Nature decides sometimes differently.

That afternoon the weather suddenly changed, and we had a further prolonged experience of the moistening capacity of the Selkirks. During Monday, Tuesday and Wednesday, August 6th, 7th and 8th, we remained in camp more or less inactive, and at times a bit depressed, when our thoughts turned to our dwindling provisions or which depended the possibility of not achieving our aim. The guides threw out various shafts of criticism over changes of plans and following amateurs! However, though considerably bored, I was not greatly disturbed, for I had determined, if necessary, to dispatch Lagace to Albert Canyon, where an excellent general store would have afforded the means of replenishing our stock of food, and meant this time "to stick it out" to the last. Fortunately we were saved "taking measures" through the weather clearing on the evening of the 8th and remaining fairly steady on the 9th; and, although we realized that the mountains were in anything but good climbing condition, we made all the necessary preparations for having another "go" at our peak on the following day.

On the morning of the 10th we got away at 3 a.m., a clear bright moon again affording us sufficient light to see our way. It was unusually warm for so early in the day. After crossing the glacial torrent on the left we kept upwards and reached a tedious moraine, on which we ascended and then descended to a snow-slide connected with the upper snow-field and glacier which we were afterwards to reach by a circuitous route. Then came the stiff, steep, rocky bluffs covered with grass, scrub and alders, by means of which you have to pull yourself up; a bit which we found previously very disagreeable and which was once again to prove a stumbling block in our venture. On the upper grassy slopes above this bluff, over 1,000 feet above our camp, we rested at 4.20 for a few minutes, and observed through our field glasses a large number of goats browsing on the opposite slopes of the valley. From here, half an hour's going brought us to the side of the glacier which sweeps down from the Y formed by the east and south ridges of Moloch, and the tongue of which ends in the ice-fall already referred to. Could we have ascended by the latter, our route would undoubtedly have been shorter and easier; but deep crevasses and unsteadily poised blocks of ice had warned us away.

After roping we made good time up the ice-field, for it was much less crevassed than at the time of our former visit, and this fact allowed us to take a more direct route. Its upper part was in capital condition for our purposes; and a few minutes after six o'clock found us at our previous breakfasting place, under the southeast face of Moloch, two hours ahead of our former time. This was important and encouraging. Having eaten a little food, we made towards the left (instead of as before to the right) in order to reach the southern arête. Recent snow-falls helped us considerably, and we gained the lowest rocks of the dirty brown looking wall without any difficulty, except that a careful lookout had to be kept for falling stones. But here everything changed, and from now onwards there was nothing easy.

The place where we struck the southerly ridge was higher up, i.e., closer to the main massif

of Moloch than where we had descended in 1915, and I think steeper. It had been unpleasant work coming down, but it was much harder to ascend. We had calculated to reach the col in an hour and a half; we were soon disillusioned about the character of the rock and rate of advance. The face of the wall was not only much smoother than it had looked from below, but it was not of a firm character which would have enabled us to use our rope-soled shoes. The slight handholds came away easily, and there was much filling in by fine and loose gravel. The places where the rope could be belayed were very few. Above us on the ridge frowned an impending cornice which received, unimpeded, the rays of the sun. A certain amount of moisture on the rocks increased the unpleasantness and added to the feeling of insecurity. This was, indeed, a miserable bit of climbing. Most of the way up only one of the party moved at a time, and it was 9 o'clock before we reached the top of the col which led to the main body of the mountain. Without delay we proceeded with the ascent towards the northeast, soon leaving the arête by making a slight traverse to the left and climbing up over steep and, in places, sharply broken and smooth worn rocks, much covered with loose stones and shale which seemed to form part of them, but which on contact treacherously fell away. On the descent this part was especially tricky. Some few hundred feet below the first peak we came out again on to the main south arête, which we followed to the beginning of the summit ridge and our resting place of 1915. About 100 feet below this we noticed the point at which we had joined our present route when in that year we had tried the peak from the eastern side.

The time gained by the change of route was less than one hour; but, having made an earlier start, we were on the summit ridge over two hours ahead of the time of our previous attempt. Although not easier, our former route is the safer.

The appearance of the long ridge—probably about a half a mile in length—over which we had to work our way to the summit was not encouraging. Recent snow covered its sharpest parts, which we had been prepared to "horse," and an uncertain cornice had to be crossed at a point where the rock slightly overhung on the northeast side. Nearer the top some smooth slabs, to which reference has already been made, were plainly impossible by direct attack. To use our rope-shoes, which we had always looked forward to doing and which would have undoubtedly reduced the risk and difficulty of the rocks, was out of the question. I could see, besides hearing, that my companions were very unfavorably impressed by the possibilities. After half an hour's rest and a little refreshment, which we were too excited to enjoy, it was decided to proceed.

The picture of the summit ridge suggests that an advance over it must necessarily be slow, and that unusual care will be demanded except at its curve and near the top. The rounded promontory of rock just before the first square cut-out in the arête is one of several places requiring steadiness and alertness in climbing, and skill in using the rope to get down comfortably on the further side. On such a bit of rock, devoid of decent foot-holds, nailed boots are of little use. Immediately thereafter, we reached that part of the ridge on which the snow lay about a foot deep on its sharply sloping southwestern side. Fortunately it was fairly compact, and Ernest who was leading declared it to be quite safe. The rope we were using was not sufficiently long, however, to enable him to cross it before Edward and I stepped on it. Remembering the maxim, good climbing is safe climbing, I determined we should not all trust ourselves in this coating of snow simultaneously; so a second rope was brought out, and tied to the other, and this gave the leader a length sufficient to let him reach some clean firm rock before the third member of the party stepped on to the snow. After this the going was fairly easy for some fifteen minutes, although a steady head and firm understanding were constantly indispensable, since the top of the ridge which one had to follow was in many places not wider than one's boot. Even at the easiest parts, and there were a few

Approaching The Head Of Moloch Valley. Photo, J.W.A. Hickson
The Candle Extinguisher In Centre Snowfield.

Summit Ridge Of Mt. Moloch. Photo, Ed. Feuz
1. The Unscalable Slabs. 2. The Perpendicular Rock Wall.

spots very simple, a slip on the part of one of the party would have been serious, if not disastrous; because, all along until we reached the very last stage of the ridge, there is a clear drop of several thousand feet on the right, on which side the ridge sometimes slightly overhangs. Fortunately I found both my head and my feet in good shape, and was spared the indignity of having to crawl! But sometimes it was helpful to sling one's right arm around the top-edge of the arête, while friction of one's body, not to the benefit of one's clothing, against the extremely steep but rough wall of the southwest side added further support and confidence. Throughout this traverse it was possible to enjoy the thrill which comes over one from the thought of treading and grasping rocks which no human feet or hands had touched before.

At a place more than half way to the summit a sharp descent is necessitated by a large dent in the ridge. This was much easier than it appeared and, on ascending on the further side, we were brought up to the smooth slabs which from a greater distance looked unscalable (see picture at I). And so they were; but, to our great relief, we saw a way around them to the left by a traverse which took us over a nasty and exposed corner and then back again to the main ridge. On this there now remained only one more difficult bit, of which we ought to have had a photograph. Unfortunately, to my great annoyance, the camera was left behind, with other impedimenta on the lower peak. The place consists of an almost perpendicular wall about 25 feet high (shown in the picture at 2), in which some footholds were made by clearing away loose rocks and above which there is a sharp out-jutting stone that proved most suitable for arranging the rope. On the way back this arrangement rendered us independent of hand-holds, which were remarkable for their absence. Here, Ernest presented a pretty picture of a climber gradually working his way up a difficult and dangerous bit, owing to the sharp drops on either side, with cool deliberation and neatness. Having gained the top of the wall, he let down a second rope which the amateur used greatly to the saving of his fingers and the preservation of his morale. Once over this place all the difficulties of ascent were past. The summit, remarkable for its huge isolated and upright block of red granite, which below had presented the appearance of a stone-man, was now plainly visible, and was clear of snow. Ten minutes of easy walking brought us to it at 1.10 p.m., after almost ten hours of steady going from camp.

The view or views that were spread before us makes me modify, if not retract, the rather depreciatory estimate of the scenery expressed two years ago, which was due either to the mood of the writer or to the character of the day and the less favorable distribution of light and shade. Owing to the clearness of the air and the isolated position of Moloch, I have never had a more extensive and, so far as vastness goes, a finer panoramic view in the Rockies or Selkirks. Not to mention peaks in the immediate neighborhood, Sir Sanford, Bryce, Lyell, Columbia, the Laggan group, the Goodsirs, Sir Donald and the Dawson group were plainly visible. The light was very soft and beautiful. On the southwest side of our peak, an unusually deep valley, I should say at least six thousand feet below where we stood, was terminated by a wonderful ice-fall, the glacier of which united with another of the same symmetrical shape further to the south side to form a very extensive snow-field. The scene was absorbingly satisfactory and exhilarating, and the bare half hour, which was all we were allowed on the top, passed like a few minutes. The desire to remain longer was curbed by the knowledge of our long way back to camp and by Edward Feuz' remarks about a change of weather, signs of which had not escaped my attention. Having, therefore, left the usual marks of our presence on a first ascent, we put on the rope again and turned our faces to

the southwest.[3]

To make what is already a long story shorter than it might be, we reached what I still venture to call the lower peak again at 3 o'clock, thus reducing our time of re-passage over the summit ridge by an hour. It would have been still shorter had not a jamming of the rope at the rock wall made it necessary for one of the guides to re-climb it and adjust a sling.

After a rest of half an hour, we retraced our route over the rough and ledgeless rocks down to the southern col, where we arrived about 5 p.m. Here unfortunately we lost half an hour, which made all the difference later on, through conceiving the plan of following this ridge and attempting to reach the snow-field at a place below where we had left it in the morning. Soon perceiving, however, that we might get into worse difficulty than that of having to descend over the nasty eroded and gravelly rocks of the route of ascent, we abandoned the attempt. The descent of the wall was disagreeable work, and on the upper slushy snow, safety required us to go down for a considerable way backward, a tedious and fatiguing exercise after a long climb. The sky was now closing in with heavy clouds and we were really anxious to make as fast time as possible. But although we hurried where the snow was safer, it was 7 p.m. before we reached the lower snow-field in howling wind and driving rain.

We hurried down the glacier, in waning daylight, in the hope of making the valley before nightfall; but alas! reached the rocky bluffs below the upper moraine, too late to find the opening through the alders which alone enables the descent to be made with safety. For, although only a little after 8 o'clock, it was, owing to the weather, practically dark and, after repeated groupings to strike the right place, we were obliged to abandon the attempt, the only alternative to which was bivouacking in the wet grass completely unprotected from torrential rain. How often had we not seen in our climbs a nice cave or undercut rock which would have been a regular haven under such circumstances! Even now, about twenty minutes below us we knew of such a place, but there was no star or beacon to point the way. There was no dispensation for our benefit; but only pitiless rain and mist and wet ground. Our clothes and boots were full of water and, after steaming with perspiration, it was exceedingly trying to feel the enveloping cold. I wondered how we should get through the night, since sleep would be practically impossible. By peering about with his lantern, Edward Feuz perceived an old log and a few pieces of timber and, after much effort, managed to start a feeble fire, which weak and fitful as it was, doubtless made a great difference during the earlier part of our watch. But the amount of fuel was limited, and the fire could not keep three of us warm. It enabled us, however, to warm and dry our feet. Much as we required it, we could not enjoy food, and for a couple of hours around midnight I felt quite shaky and unwell. But it is astonishing what the healthy human organism can stand. Predictions were made of pneumonia or at least severe colds, and were all falsified. Forsan et haec olim meminissc jurabit. One of the party understood now the significance of the Scriptural allusion to those "that wait for the morning." At last it came, but later than it should have, owing to the heavy weather and the mist which filled the valley. After eight hours of enforced rest and miserable existence, we started wearily down and

3 From the summit, what we saw of the northwestern route went to strengthen our previous opinion of the poor prospects which it holds out. Even if it be possible to reach the massif of Moloch from Baal col by a traverse to the right into a couloir shown in the right hand picture of p. 54, vol. VII., A.C.C. Journal, it is doubtful that this would solve the problem of an ascent, for it is uncertain how far one could proceed up this couloir, or whether one could effect an exit from it. The mountain is deeply cleft nearer the summit, and the ridge looked extremely perpendicular, if not undercut in several places; and when I suggested to the guides that we might descend on this side and thus complete our traverse of the peak they said : "Out of the question ."

without any further mishap reached camp at 5.40 o'clock, where a most comprehensive breakfast was immediately attended to; then wet clothes were thrown aside and a period of unconsciousness followed in the sleep-bags.

The clouds lifted during the day, much drying went on and preparations were made for an early start on the following day to Albert Canyon. Our provisions had lasted well, but were now fairly low. A strenuous day's walking brought us to the railway on the evening of the 12th, where Edward and I left Lagace and Ernest to look after tents and horses, and took the night train to Glacier. We arrived there about 3 a.m. to enjoy a splendid moonlight effect on Sir Donald ridge.

Our experiences on the two attempts on Mt. Moloch, as well as one on the Goodsirs in 1915, illustrate forcibly one of the great disadvantages of mountaineering in the Canadian Rockies: the lack of shelters or huts near the mountains which could serve as suitable starting points for climbers and so reduce the length of the climbs. It may be said that this is what you must expect if you wish to climb virgin peaks; you must pay something for such privilege. In a very literal sense one pays both with person and purse. Most of the best climbs are at present too long and fatiguing for those over a certain age, and they are too expensive for the great majority. The remedy for such conditions, which undoubtedly militate against mountaineering in our wonderful Rockies, is a chain of huts, placed at the most important climbing centres, and not below timber line. One can hardly expect to find a hut near Mt. Moloch, but in the Lake Louise district and near the Dawson group, e.g., it is surely not hoping for too much that shelters placed well up to or above timber line may soon be forthcoming. The Club has done much for the novice; it should now, in its own interests, do something for the mountaineer. This is necessary in order to enlarge the membership, draw mountaineers from other parts of the world, and sustain the interest of older climbers in our wonderfully varied and fascinating alpine region.[4]

Note.—Dr. Hickson's advice with regard to the construction of huts is sound and, I think it may be said, that the Alpine Club of Canada as a body is fully in accord with him. All that appears to be needed is the financial backing.—Editor.

4 In his very readable article in Rod and Gun in Canada for March, 1913, Mr. P. A. W. Wallace speaks of Prof. Sissons with Mr. Jack Wright -having in July, 1912, made an attempt to climb the south face (p. 1056), while in his article in the A.C.C. Journal, vol. VII., p. 51, he writes: "Prof. Sissons in 1912 had twice assaulted the shoulder unsuccessfully by way of the northeast ridge. Across the stupendous gulf of the Y, the southeast ridge presented too many points of similarity with its mate to inspire confidence." My surmise that Prof. Sissons was never on the south or southeast ridge has recently been confirmed in a conversation with him; and, inasmuch, as one of his attempts in 1912 was little more than a prospecting trip, it would, I think, be more correct to say that up to the end of 1915, there had been five attempts made on this peak. There is no evidence that any party was on the south ridge of Moloch before we descended by it in 1915. In the above article, I have designated the two ridges, which unite with the main massif to form the Y, as simply eastern and southern.

Mount Louis[5]

By Val. A. Fynn

Early in July, 1916, Mr. Watt and myself rode to Edith Pass and, leaving our horses, walked north to investigate Mount Louis, which we understood had not yet been climbed. It was my very first trip that season, and Mr. Watt was also quite soft; our entire lack of condition made itself felt even before we reached the foot of the peak.

A somewhat rising traverse over a number of ribs brought us into full view of the mountain which is separated from the north peak of Mt. Edith by a gorge which runs down to Forty Mile Creek. The lower part of the south face is extremely steep, appears to overhang in places, and is very smooth; its upper part is more broken and is seamed by a number of deep, nearly parallel couloirs which reach almost half way down the face before merging into it. As these couloirs approach the sky line they become steeper and narrow down to regular chimneys. The upper part of the east face is almost vertical and very slabby. Its lower part looks quite accessible and is cut by a deep and wide couloir, the upper part of which turns north to lose itself near the highest shoulder of the ridge separating the east from the north face. On the west, an easily accessible, nearly horizontal ridge reaches high up the peak. An easy grass-grown ridge running up from Forty Mile Creek gives access to the short north face. Following well marked game trails we traversed over to this ridge and were presently able to see that the north face is also very steep and smooth. It shows but one break, a very deep, broad, smooth and wet chimney which does not reach to the sky line. Above this chimney the rocks appear feasible.

To continue in a westerly direction would have necessitated a considerable descent, and as the prospects in that region did not look at all encouraging, we retraced our steps a little and traversed into the wide couloir of the east face over fairly steep but easy rocks. From where we stood it looked as if by following the couloir we could reach the highest shoulder on the ridge separating the east from the north face. This shoulder is about on a level with the broken rocks above the chimney in the north face, and a traverse into those might be possible. It also appeared to be possible to cross the couloir in which we stood, and climbing over the lower and easier part of the east face, reach a point high up on the ridge separating the east from the south face. Before coming to a decision I was very anxious to investigate the western face—it would take us some time to get around to it—and the late hour would furnish an admirable excuse to postpone a serious attempt on the mountain. Descending a little we turned out of the couloir north of a grassy knoll standing in the middle of our gully, reached the screes without difficulty over steep grass ledges, and went around to the south side of the peak. In trying to get some water off the north face of Mt. Edith, I dropped a Swiss aluminum cup I valued greatly between the rocks and the snow, and had no chance at all of recovering it. After a meal, we started up the gorge between Edith and Louis, presently turning north to ascend the rocky ridge to the west of the peak. I think we were both played out by the time we reached the sky line and unblushingly expressed our relief at the hopeless aspect of the western side of the peak. A possible couloir comes down to within some hundred feet of the ridge we stood on, but, the intervening wall is very steep and almost holdless. We crawled back to our horses and rode slowly into Banff. A few days later I left for Honolulu, and it was not until September, 1917, that I had an opportunity of improving my acquaintance with Mt. Louis. I heard that in the meantime the peak had been ascended by Mr. A. H. MacCarthy, under

5 Elevation about 8,600 feet.

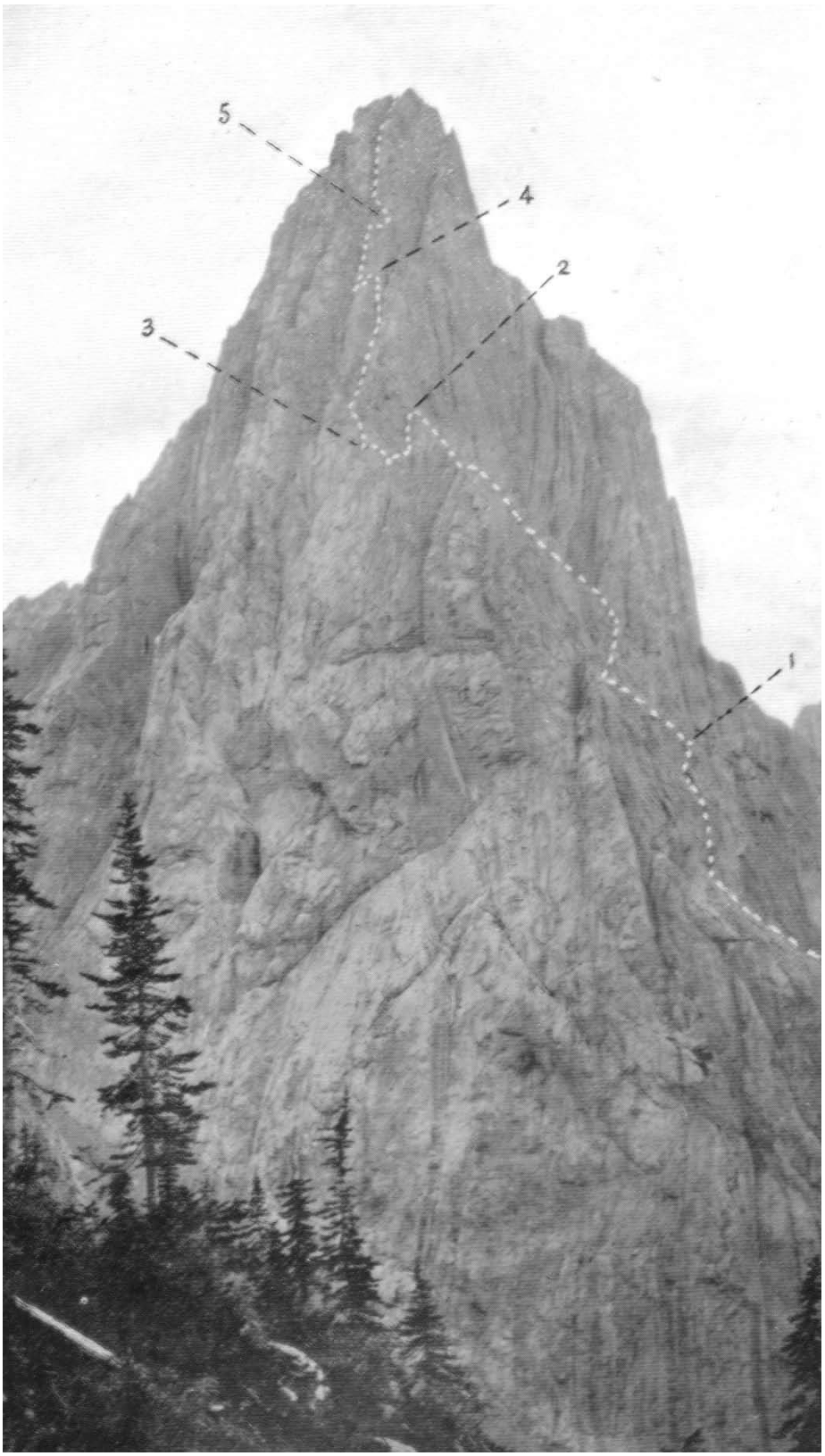
the guidance of that crack climber, Conrad Kain, understood that their garments and hands had suffered greatly in the process, and knew that the climb must have been a difficult one. I did not get to see Mr. MacCarthy's description of his climb until my return to St. Louis late in September of this year.

On September 9th, 1917, Edouard Feuz, Jr., and I left Banff on horseback at 4.45 a.m., with heavy clouds hugging the mountains and reaching almost down into the streets. At 6.50 we left our horses a little northwest of the Mt. Edith Pass, and one hour later were at the foot of the couloir in the east face. The greater part of the mountain was shrouded in clouds so we had to rely entirely upon my prior knowledge of the surroundings. The mountain appearing to be quite dry, our single ice-axe was left behind and we entered the couloir. The easiest way to accomplish this is to follow the grass slopes and ledges north of the couloir and traverse into it where these give place to bare rock about on the level with the grassy knoll situated within the couloir. Above this knoll progress is barred by high, smooth slabs, over which water trickles. A steep open chimney to the north and a difficult traverse south enable one to circumvent this obstacle. From this point easy but somewhat slippery ledges, formed by a nearly vertical leaflike stratification running north and south, give access to the east face south of the couloir, and soon lead to easy ground. Presently a vertical wall, some ten feet high, immediately above wet and steep slabs, cuts one off from more easy ground above. (Point 1 on photo.) Fortunately a rock is jammed at a convenient spot between the wall and the slabs. Passing a rope around it enabled me to stand firmly on the slabs and quite close up to the wall while Edouard got on my shoulders, placed a foot on my raised hand, and thus reached a hold which enabled him to overcome the obstacle. Gradually working up and to the left (south) over easy ground, we finally came to a very steep and smooth wall, close under the ridge separating the east from the south face. (Point 2 on photo.) This is the highest point on the easy part of the east face. The only, and desperate, chance of reaching the ridge from here is to follow a small irregular crack. To the south a couple of very steep descending chimneys open out into space. To the north easy ledges appear to lead back into the big couloir high above the point at which we had left it. The clouds had lifted a little but were still immediately above our heads, so that our range of vision was restricted. We traversed north, to find that it was by no means easy to get back into the big couloir, and we judged that it would be extremely difficult and, perhaps, impossible to reach the high shoulder on the ridge beyond the couloir. On the way to this point we had observed high up in the east face a narrow couloir, into which we could not look and which appeared to end south of the peak. To reach it, it was necessary to climb a high, smooth and very steep wall to some easy ledges. A narrow crack again appeared to offer the only slim chance. Before attempting any of these rather hopeless lines we decided to have a look around the corner at the south end of the east face. Retracing our steps (to point 2) we descended a chimney, then a crack, down to an easy ledge, which appeared to lead in the desired direction. After a descent and a rise, we came at eleven a.m. to a small grass covered platform (point 3 on photo) just beyond the ridge separating the east from the south face and in full view of the latter, just above its very steep pitches. A glance sufficed to show that our best chance lay here, even though we could not see anywhere near the top for clouds. After a bite we put on our climbing shoes, left one of our rucksacks, unfortunately also the camera, and Edouard led off at 11.30 a.m.

Slightly to the west and some ninety feet above us began an easy looking, narrow couloir, which promised to help us well on our way. Steep rocks lead to within a few feet of it when it becomes necessary to squeeze precariously around a projecting block in order to gain the gully. This gully is divided by a sharp rib and runs out all too soon on the ridge dividing the south and

east faces. Somewhat below this point we changed leaders and climbed over into the parallel gully to the west. The dividing ridge was reached (point 4 of photo) after an interesting scramble. Here we found it necessary to rope off in order to reach the bottom of the gully we were making for. Fortunately we had about twelve feet of spare rope and this we left behind to facilitate our return. This couloir soon narrowed down to a chimney and became very difficult, but landed us at 1.00 p.m. on the edge of a comfortable, large platform at the very foot of the final peak (point 5 on photo.) The only visible means of progress is a deep cut reaching clear to the summit and some 450 feet high. A steep but easy chimney leads to this crack. It did not look to me as if I could find room to move in this crack, but close acquaintance proved my fears fortunately to be baseless, for the sides of the crack offer but precarious holds and would force the climber into very exposed positions. For the first 400 feet the crack is some 12 feet deep and rises at an angle of about 75 deg., and although much effort is required to make progress in chimney sweeper's fashion, yet we found the climbing comparatively safe and not abnormally difficult, even though the sides of this chimney were wet. Three wedged rocks obstruct progress near the top of this stretch and force one out to the outside edges of the crack. Above these rocks the angle eases off considerably, the crack widens out into a couloir, and in a surprisingly short time one stands in a gap between two summits of nearly equal height. The one west is, however, decidedly higher, and we reached it at 2 p.m. Ever since abandoning the camera, the weather had been improving steadily, and it was now quite clear in every direction, giving us a very pretty view down Forty Mile Creek and an interesting outlook on the peaks in the immediate vicinity. Edouard's climbing shoes had long since seen their best days and he had lost part of his soles early in the day, so I assumed the more strenuous work of bringing up the rear. Leaving the top at 2.25 p.m. we retraced our steps, reaching our rucksack at 5.05. On the way down we prospected somewhat and came to the conclusion that the difficult westerly couloir or chimney on the south face could be avoided by crossing it a few feet above the roping off place, and following the much easier rib, west of it, until close under the last plateau (point 5), where it is easy to traverse back into the outlet of the difficult couloir. At 5.25 we had crossed the big couloir in the east face and were on the grass slopes immediately above the screes. As we changed to our heavy boots we had the pleasure of watching a herd of fifteen deer within some three hundred yards of us. Twenty minutes later we were following the game trails on our way to the horses. A pair of sheep, old and young, going in the opposite direction, seemed for a time inclined to claim the right of way, but finally turned off up the gorge between Edith and Louis. While I hurried to a high point east of Mt. Edith to try and get at least one photograph of our mountain, Edouard kindly undertook to look for the drinking cup I had lost last year. I luckily directed him to the exact spot and he found it at once, all but covered by small loose stones. I was able to secure the appended picture notwithstanding the fast fading light, and at 7.30 p.m. we had reached our horses. Starting at 7.50 with horses rearing and bucking after their long rest and ample meal of oats, we made Banff by 9.10 p.m., much pleased with our day and without a scratch. As far as my experience goes, Mt. Louis is the hardest rock climb in the Canadian Rockies or Selkirks. Edouard thinks the same. Mt. Pinnacle offers only one short passage which is difficult; there are several more difficult bits on Mt. Louis. Eliminating route hunting, four hours should be ample time to take one from the foot of the east face to the summit.

To thoroughly enjoy the climb and avoid danger from falling stones it should be undertaken when the rocks are quite dry and climbing shoes can be worn. Two light spare ropes will save much time, a twenty-foot rope to be left at point 4 on the way up and a sixty-foot to be carried to the platform 5 just below the final peak.



Mt. Louis From The South Showing Route, 1917. Photo, Val A. Fynn

On carefully reading Mr. MacCarthy's description of his ascent (page 79, C.A.J., 1917), I came to the conclusion that his party did not ascend the east face to as high a point as we did, traversed into the south face considerably below our line, and began the ascent of this face more to the west than we did. We both started from the same couloir in the east face and both utilized the same crack above the platform 5 at the foot of the final peak. Our traverse around the corner into the south face (from point 2 to point 3) was easy and short. Our main difficulties occurred at point 1, just beyond point 3, while getting into the first chimney on the south face and in the second chimney on that face between points 4 and 5. On the appended photograph our route is shown exactly from point 2 to the summit, but only approximately from point 2 down. The lower part of the route could not be shown accurately because of the pronounced foreshortening of the east face in the photograph.

Glimpses Of The High Andes

By A. P. Coleman

It was late winter, the middle of August, when I left Buenos Ayres to cross the 700 miles of sere and bare pampa to Mendoza, in the foothills of the Andes. The western part of the journey was through a desert of cactus and thorn bushes, but the melting of distant snows sends a little river down to the plains so that rills of cool water flow through the streets of Mendoza and vineyards and irrigated fields flourish all about it. Mendoza is the Calgary of the Andes, and from its streets of one-storied adobe houses a few distant snow peaks can be seen through the clear air rising above a tumult of gray or red or brown lower mountains; and a narrow gauge railway winds its slow way up the desolate river valley to Puente del Inca, almost in the heart of the mountains, 9,063 feet above the Atlantic. At this tiny Andean Banff I stopped between trains to see the highest summit in America. As there are only two trains a week on the Transandino railway this meant a stay of four days.

I was the sole guest in the huge hotel, which is said to be crowded with blase tourists from Buenos Ayres in hot January and February, baths in the warm springs and the cool mountain air being the attractions, as at Banff in July and August. In spite of the frigidity of the hotel I was well looked after, being invited by the manager into his own stove-warmed apartment at meal times and having at least a foot of blankets heaped on my bed at night. By day I kept on the move exploring the nearby valleys and mountains for the best views of the high Andes, here at their culminating point.

Aconcagua, the highest volcano in the world, reaching 23,393 feet according to the Encyclopaedia Britannica, is barely caught sight of from the railway; but a walk up a side valley to a small frozen pond, highly praised in this almost lakeless region, brings the giant into splendid view. The best viewpoint of all, however, seems to be from a col reached by a rather stiff climb behind the hotel. Here, at a height of 10,700 feet, one has in fine weather a grand vision of the peak fifteen or twenty miles away and more than 12,000 feet higher, showing ruddy cliffs and gleaming snows and a glacier with blue ice overhanging an abyss.

To come into closer contact with the mountain I made a hard morning's tramp up the valley to the north of the railway, fording the icy river above my knees and toiling over endless old moraines to a height of about 12,000 feet, where I stood on one of its lowest slopes. Unluckily a projecting spur cut off the glacier and the amphitheatre beneath, while clouds gathered threateningly round the summit and sent a few snowflakes in my direction; so I turned back disappointed over

the eleven miles of rough travel that separated me from the hotel.

On my last day I undertook a small climb across the valley, labouring up sliding scree and two steep snow-fields to the highest point on a ridge, at 11,360 feet, only to find that a higher intervening peak hid all but a corner of Aconcagua. However, as compensation, I had views westward and southward of several mountains reputed to be over 20,000 feet in height, including Tupungato, only a thousand feet lower than Aconcagua itself. Two or three small glaciers could be seen but no large continuous snow fields, I suppose because of the dryness of the climate, which accounts also for the sparseness of alpine plants, the lack of forests on the lower slopes and the absence of lakes in the valleys. The unmitigated desolation of this wilderness of gray or sometimes brilliant red peaks unrelieved by the green of alpine meadows or the gleam of water except the muddy torrent in the valley beneath was most impressive, but lacked some of the elements of beauty found in most other mountain regions.

My four days were over and the little train with its cog wheels gripping a central rail crawled up to the Inca's natural bridge and took me on board. An hour or two later we dived through the tunnel which pierces the great divide (at 10,633 feet) and then zigzagged recklessly down through still wilder mountains with plentiful snow to Santiago, the handsome capital of Chile, set in the midst of a fertile irrigated plain where the peach orchards were in bloom. That evening from a hill top in the city I saw the snowier western side of the great mountain range grow ruddy and glow in the sunset, and then the high Andes sank as grey ghosts into the twilight.

Uspallata pass, through which the railway comes, has few rivals in the world as far as rugged scenery is concerned. It rises to 13,300 feet where the bronze "Christ of the Andes" spreads his hands in blessing over the two republics; a dozen lofty peaks surround it; and the mountains drop suddenly down to the Argentine plain on the east and the Pacific on the west. There is no more tremendous barrier between countries on our planet except the huge bulk of the Himalayas between India and Central Asia.

The next great group of snow peaks is eleven hundred miles to the north within the tropics in Bolivia, where the Cordillera swings from north to northwest. To see them I took a little coasting steamer from Valparaiso to Antofagasta, the seaport of the Chilean nitrate region, where a railway runs northeast towards Bolivia. It is the quaintest of railways, with a span of only two and a half feet, and yet running comfortable trains equipped with dining and sleeping cars right through the driest desert in the world, where all water has to be piped down from melting snows two hundred miles away.

This central part of the Andes is as different as possible from the great range in the south. Instead of a profoundly dissected mountain chain carved into deep valleys separated by knife edges, through which the railway winds its crooked route to a sharply marked divide, one finds a huge ramp of tableland quickly ascended from the sea and reaching 13,000 feet near its eastern margin. From this vast plateau 200 miles wide and several hundred miles long rise isolated peaks or groups of mountains, more crowded along the eastern and western sides. The railway, after scaling the plateau, runs through the gray or brown plains whence most of the world's supply of nitrate is drawn, then follows the white beds of borax lakes, here and there swerving to avoid some lava stream or volcanic cone, one or two of them steaming and more or less active, others quiescent and scantily snow clad near the summit. Rising with rather gentle slopes above the flat tableland it is hard to believe that some of them, like Ollagüe, reach 20,000 feet above the sea. Planted on a pedestal two miles and a half high a cone does not need to rise many thousand feet to be classed among lofty mountains.

After four hundred miles by rail one approaches La Paz, the chief city of Bolivia and the highest capital in the world, just over the eastern edge of the tableland, with its railway station 12,050 feet above the sea. Here a row of magnificent peaks stretches across the horizon, including splendid Illimani (21,190 feet) and still grander Sorata (21,490 feet) seventy-five miles to the northwest, with others not far below them. Illimani makes a noble background for the gay streets of La Paz, but the finest view of the mountains was from Guayqui on Lake Titicaca, a few hours by rail northwest of La Paz. Here a spare half day was spent in a climb over steep and rocky slopes terraced and irrigated by the Incas to a hill top 1,500 feet above the lake, which is 12,838 feet above the sea according to the railway levels. It was now early spring (September 20th) and wild flowers were waking into bloom, the showiest being great yellow and rosy red cactus blossoms. From the top I looked northeast across the great lake to Sorata, fifty miles away, and could follow the rest of the white topped giants for a sweep of more than one hundred miles. They seemed snowier and more impressive than Aconcagua and its neighbors, and displaying their full height from the low plains of the Amazon region beyond they must appear as one of the finest ranges in the world.

Descending to the lake, half as large as Ontario, to get on board the little steamer which was to take me to the other end, Sorata glowed like an immense live coal in the dusk and was wonderfully reflected in the reedy shallow water.

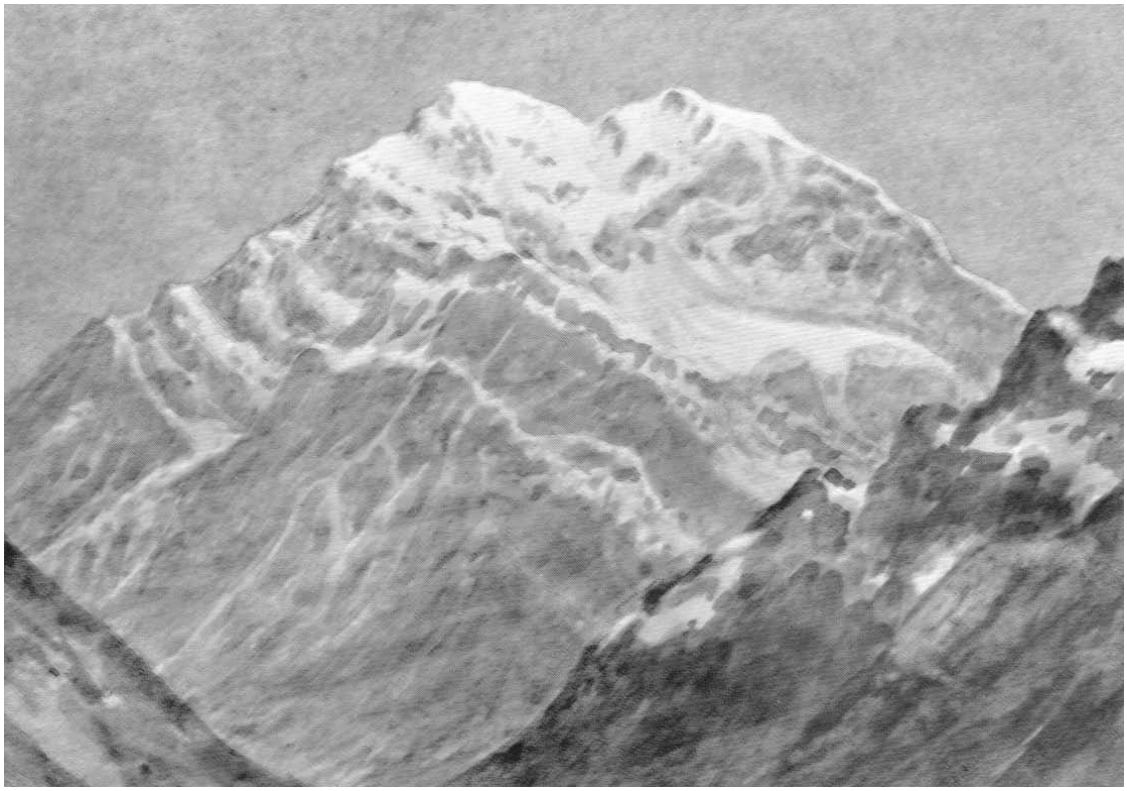
From Puno at the north end of the lake a railway runs to the Pacific, crossing a pass at 14,666 feet, the highest point attained in my journey. Lack of time prevented me from visiting the famous old silver mining town of Potosi, reached by a branch railroad which actually climbs to 15,814 feet—higher than Mont Blanc. Halfway down to the Pacific is the beautiful city of Arequipa in its irrigated plain green with perpetual spring at the foot of El Misti, a snow topped volcano 19,250 feet in height; and a few hours later one reaches Mollendo, a desolate Peruvian seaport, from which I sailed for Panama and home.

The fine volcanoes of Equador, the third group of high peaks in the Andes, made famous by Whymper's climbs in 1870, were passed unseen, though our ship halted at Guayaquil, whence a railway climbs up to Quito and the high plateau. Chimborazo, the highest of them, reaches 20,498 feet, according to the Century Atlas, so that they scarcely equal the Bolivian Andes and are decidedly lower than Aconcagua and its neighbors. They are, however, in a moister equatorial region, and seem to have larger snowfields and glaciers than any mountain farther south, judging from pictures by Whymper and later authorities.

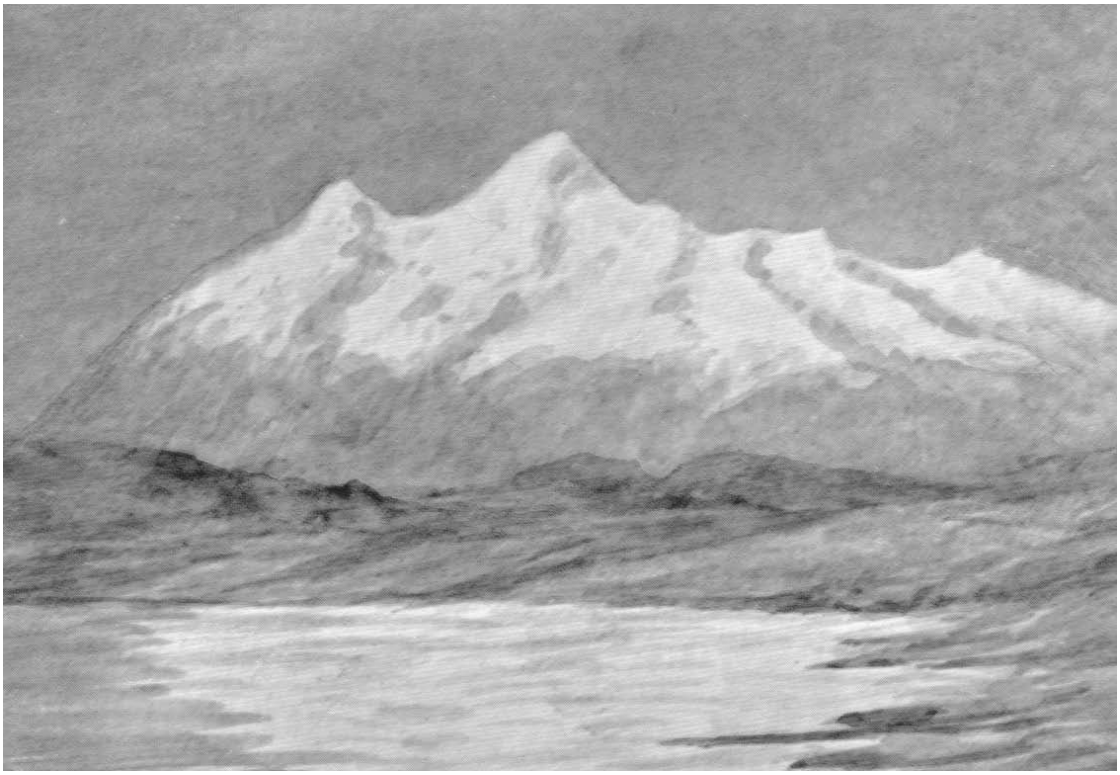
We have no mountains in North America to compare with the high Andes except the little group of peaks including St. Elias, Logan and McKinley at the boundary of the Yukon Territory and Alaska, and none of these quite reaches the Andean heights. No peak of the Rocky Mountains of Canada or the United States comes within a mile of the elevation of Aconcagua; and at least twenty-six summits of the Andes are reported to reach 20,000 feet or more. As to height, our North American mountains are distinctly in the third rank, falling behind those of South America, not to speak of the giants of the Himalayas; but there are some compensations.

While gazing in admiration at Aconcagua my mind swept back to a vision of Mt. Robson, seen years before from the hills across Berg Lake. Now Robson is 10,000 feet lower than Aconcagua, but its shaggy evergreen forests and its large and beautiful glaciers reflected in turquoise glacial waters seem to me to make a far more splendid picture than any mountain scene in the Andes.

Some years ago I had a glimpse of Mount St. Elias from the sea, the clouds parting towards evening and showing at full length its 18,000 feet of delicately tinted snowfields, glaciers and cliffs; and this view far surpasses in my memory the most splendid apparition of the Andes in



Aconcagua, From The South 23,393 Above Sea Level. Sketch, A.P. Coleman



Sorata From 14,000 Feet. 21,490 Feet Above Sea Level. Sketch, A.P. Coleman

gorgeous evening robes.

The weak point in the scenery of the South American mountains is to be found in their warmer and much more arid climate, which greatly limits their snows, makes their glaciers few and small, and robs their slopes of the forests and alpine meadows that are so good a foil for the snows in European and North American mountains.

New Light On Mounts Brown And Hooker

By E. W. D. Holway

The recent publication by the Champlain Society of Thompson's Journals and by the Royal Horticultural Society of those in its possession written by Douglas has led to a search for the earliest map showing these mountains with the heights and to trying to ascertain who was really responsible for the exaggeration.

The publication from which the quotations in the Alpine literature have been made is in the Companion to the Botanical Magazine 2, 79-182, 1836, under the title: "A brief memoir of the life of Mr. David Douglas, with extracts from his letters."

The statement is made: "We should have known little or nothing of his adventures were it not for a Journal which he kept with great care . . . and which has been deposited in the library of the Horticultural Society of London. From that Journal is here selected whatever is likely to prove interesting to our readers." Under date of May 1st, 1827, is: "We continued ascending, and had the satisfaction at ten to reach the summit, where we made a short pause to rest ourselves, and then descended the eastern side of the Big Hill to a small round open piece of ground, through which flowed the smaller or East branch of the river, being the same as we had left yesterday at the western base of the Big Hill. . . . Being well rested by one o'clock I set out with the view of ascending what seemed to be the highest peak on the north. Its height does not appear to be less than 16,000 or 17,000 feet above the level of the sea. After passing over the lower ridge I came to about 1,200 feet of, by far, the most difficult and fatiguing walking I ever experienced, and the utmost care was required to tread safely over the crust of snow. A few mosses and lichens, Andreae and Jungermanniae, are observable, but at the elevation of 4,800 feet vegetation no longer exists; not so much as a lichen is found in a tract of 1,200 feet of eternal ice. . . . This peak, the highest yet known in the Northern Continent of America, I felt a sincere pleasure in naming 'Mount Brown,' in honour of R. Brown, Esq., the illustrious botanist. .... A little to the southward is one of nearly the same height, rising into a sharper point. This I named 'Mount Hooker,' in honour of my early patron the Professor of Botany in the University of Glasgow. This mountain I was unable to climb."

This was copied from the short Journal, certainly written after Douglas returned to England. Whoever copied it for Hooker made remarkable changes, as will be seen by this from the publication by the Royal Horticultural Society, which was carefully compared with the original manuscript.

From the same date of May 1st, 1827 :

"After breakfast, being well refreshed, I set out with the view of ascending what appeared to be the highest peak on the north or lefthand side. The height from its apparent base exceeds 6,000 feet, 17,000 feet above the level of the sea. After passing over the lower ridge of about 200 feet, by far the most difficult and fatiguing part, on snow shoes, there was a crust on the snow, over which I walked with the greatest ease."

Turning now to the long and undoubtedly first Journal we find under the same date:

"After breakfast at one o'clock, being, as I conceive, on the highest part of the route, I

became desirous of ascending one of the peaks, and accordingly I set out alone on snowshoes to that on the left hand or west side, being to all appearances the highest. The labour of ascending the lower part, which is covered with pines, is great beyond description, sinking on many occasions to the middle. Half way up vegetation ceases entirely, not so much as a vestige of moss or lichen on the stones. Here I found it less laborious as I walked on the hard crust. One-third from the summit it becomes a mountain of pure ice, sealed far over by Nature's hand as a momentous work of Nature's God. The height from its base may be about 5,500 feet; timber 2,750 feet; a few mosses and lichens 500 more; 1,000 feet of perpetual snow; the remainder, towards the top, 1,250, as I have said, glacier with a thin covering of snow on it. The ascent took me five hours; descending only one and a quarter. Places where the descent was gradual, I tied my shoes together, making them carry me in turn as a sledge. Sometimes I came down at one spell 500 to 700 feet in the space of one minute and a half."

Here we have his first account written no doubt on the spot, with no estimate of great height. My theory is that possibly after he returned to England he learned of Thompson's Survey and that he then inserted the height and named the mountains.

Looking in Greenhow, Memoir, p. 11, 1840, we see the positive statement that Thompson gave these elevations.

"The highest points in the Rocky Mountains and probably in North America, if not in the whole western continent, are those about the 52nd degree of latitude near the northernmost sources of the Columbia River. Mr. Thompson, the astronomer of the Hudson's Bay Trading Company, has measured several of these peaks, of which one, called Mt. Brown, is estimated by him at sixteen thousand feet, and another, Mount Hooker, at fifteen thousand seven hundred feet. It has been stated that the same gentleman has recently found other points farther north which he considers to be more than 10,000 feet higher than either of those mentioned."

Where Greenhow obtained his information is no doubt impossible to ascertain. The Manuscript Division of the Library of Congress reports that the Library has no correspondence on the subject, although Greenhow's work was prepared there.

Douglas also mentions higher peaks, saying: "Nothing, as far as the eye could perceive, but mountains such as I was on, and many higher."

In Thompson's Journals, under March 10th, 1809, is his measurement of Mt. Nelson and estimates of the mountains at Athabasca Pass, as follows:

"By a close estimation of the descent of the Columbia River from its source to the sea I found it to be 5,960 feet (including its falls) in 1,348 miles, being an average of four feet five inches per mile. Let the descent at the second Kootanae Lake[6] be 5,900 feet above the level of the sea; here was one step gained and the fine plains on the East Side of this Lake enabled me geometrically to measure the height of the secondary mountains; due east of me were a chain of bare steep mountains on which no snow lodged, and destitute of vegetation; to the west was the rude pyramid of Mount Nelson (for so I named it) ; the Base Line was carefully measured and the angles of the heights taken with the sextant in artificial horizon of Quicksilver. By this method I found the height of Mt. Nelson to be 7,223 feet above the level of the Lake, which gave 13,123 above the Pacific Ocean. . . . At the greatest elevation of the passage across the Mountains by the Athabasca River the point by boiling water gave 11,000 feet and the peaks are full 7,000 feet above this passage; and the general height may be fairly taken at 18,000 feet above the Pacific Ocean."

6 Lake Windermere, 2,700 feet.

One would infer that these are certainly Thompson's own figures, but on January 10th, 1811, when he crossed the Athabasca Pass he says : "Gale of wind, the afternoon fine, the view now before us was an ascent of deep snow, in all appearance to the height of land between the Atlantic and Pacific Oceans. . . . The altitude of this place above the level of the ocean by the point of boiling water is computed to be eleven thousand feet (Sir George Simpson)."

Can any one find what Simpson had to do with these elevations? The books are not available here.

The earliest map giving Mt. Brown and Mt. Hooker, with the elevations of 16,000 and 15,700 feet is that issued in October, 1829, with the first part of Hooker's Flora Boreali-Americana. Douglas superintended this map, as I find in the 1836 Memoir, quoted above, letters from him to Hooker.

Under September 14th, 1820, "I had almost forgotten to say that I have put the last impression of your map through my hands. It is very fine and will surely please you. The route of Franklin, Richardson and Drummond is marked in RED, Parry's in BLUE, and mine in YELLOW. I must have the latter tint changed to green, for yellow is a most sickly hue for a culler of weeds."

And October 27th, 1829 : "I cannot tell you how pleased I am to have seen the first part of your Flora Boreali-Americana before sailing, and that I am enabled to take it with me to America. The map is good and will increase the interest of the book."

Douglas' route is marked in green on the map, which has the date of publication, October, 1829, printed on it.

Supplementary Note

By James White

Mr. Holway's "New Light on Mounts Brown and Hooker" is very interesting, particularly his recognition of the value of the statement in the Thompson "Narrative" respecting the elevation of Athabaska Pass and its bearing upon the enormously exaggerated altitude of Brown and Hooker.

The most important point in the evidence available is contained in "A Sketch of a Journey to the North-Western Parts of the Continent of North America during the years 1824, 1825, 1826 and 1827," reprinted in the Royal Horticultural Society's "Douglas Journal." It contains a condensed account of the journeys, which are "in Douglas' own handwriting." On page 72 he states that the height of Mount Brown "from its apparent base exceeds 6,000 feet, 17,000 feet above the level of the sea," a clear statement that the pass is 11,000 feet above sea level.

According to Prof. A. P. Coleman, the actual height of the peak above the summit of the pass is nearly 4,000 feet. The difference, 2,000 feet, is not greater than might be expected. Douglas was probably not a trained observer so far as estimating heights was concerned, and his round figure indicates that he had no instrument for measuring altitudes, whereas Prof. Coleman had an aneroid barometer.

The principal error, therefore, is contained in the great overestimate of the altitude of Athabaska Pass, which Douglas virtually stated at 11,000 feet. Further evidence that Douglas accepted this over-estimate is found on page 347, where he states that Pinus Banksiana was found in lat. 53° N. at "the height of 11,000 feet above the level of the sea," and on page 71 he says that he found Finns Banksiana at the summit of the Athabaska Pass.

As stated in Mr. Holway's article, Thompson in his "Narrative," also states the elevation

of the pass at 11,000 feet, but specifically credits it to Sir George Simpson. Mr. J. B. Tyrrell has kindly furnished the below extract from Thompson's original notes of January 10th, 1811, the day he crossed the Athabaska Pass. Thompson wrote: Jan. 10, Thursday. Ther. 16. A very snowy Day & southly Gale. At 8 a.m. set off, having held on abt. 1 m. we left half load from the wetness of the Snow, the Road otherwise being good. DuNord threw part of his Load aside saying he would not haul it any more, altho' he has only 80 lbs. to 2 good Dogs. We then went abt. 1 m. to the height of Land, when we descended abt. 1 1/4m. & camped at 3 1/2 p.m., very bad hauling all day, as the Snow from the mildness of the weather is wet. We camped in the Snow, it being too deep to be cleared away. Fine Evening. Our Co. S. 25 W. I ordered DuNord to return for his bad behaviour, but excusing himself, I permitted him to continue, altho' in my opinion he is a poor spiritless wretch.

As his original notes do not contain any reference to any elevation of the pass or to any attempt to determine the altitude, it is evident that Thompson added the elevation in 1849, when writing his "Narrative" for publication. Taken in conjunction with the bracketed note, we have almost a demonstration that Thompson obtained the estimated altitude of 11,000 feet from Simpson.

Douglas arrived at Norway House, June 16th, 1827. The following day he wrote:

"This morning at daylight George Simpson, Esq. (Governor), arrived from Montreal, who, I state with pleasure, gave sufficient testimony of his friendly attention and kind offices."

Douglas says that he spent "a few days" at Norway House and then left with Sir John Franklin. Franklin's "Narrative" indicates that they did not leave before the 28th. It is, therefore, probable, that Douglas also obtained this estimated height from Simpson, though there is a possibility that it was generally accepted as correct by the officers of the Hudson's Bay Co. and North West Co. The surprising feature about Douglas' statement is that, as a trained botanist, he must have been informed respecting the tree-limit in other parts of the world. Yet he says that the timberline is 2,750 feet above Athabaska Pass. Therefore, he accepts the result, namely, that in latitude 52° 27', the tree-limit is 13,750 feet above the sea! In the light of experience elsewhere, how could Douglas accept without question this extraordinary conclusion?

Respecting Greenhow's "Memoir," 1840, too much reliance should not be placed on his statement. For instance, he says that "Mr. Thompson, the astronomer of the Hudson's Bay Trading Company, has measured several of these peaks, of which one called Mt. Brown is estimated by him at sixteen thousand feet, and another, Mount Hooker, at fifteen thousand seven hundred feet. It has been stated that the same gentleman has recently found other points farther north which he considers to be more than 10,000 feet higher than either of those mentioned."

Thompson made surveys for the Hudson's Bay Co. during 1790 to May, 1797. From 1797 to September, 1812, he was employed by the North-West Co. He made no surveys in the Rockies or west of them while in the employ of the Hudson's Bay Co.; the Hudson's Bay Co. was never known as the "Hudson's Bay Trading Co."; there is no evidence that Thompson "measured" the altitude of any peaks near Athabaska Pass; Thompson says nothing about the elevations of "other points farther north" and, as Thompson left the Western country in 1812 and never returned to it, he could not have "recently" found "other points farther north."

On the other hand, an examination of Douglas' "Memoir" in the "Companion to the Botanical Magazine," vol. II., 1836, and the map in Hooker's "Flora Boreali-Americana" practically demonstrates that Greenhow erroneously attributed to Thompson the statements that had been made by Douglas. Again, as the "Memoir" was published in 1836, and Greenhow's work was

published in 1840, we have the explanation of the use of "recently" with reference to the higher peaks to the north of Athabaska Pass.

The principal value of the above is that it adds another error of statement to those previously known to exist in Greenhow's works.

SCIENTIFIC SECTION

The Flora Of Jasper Park, Alberta

By J. M. Macoun

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Every lover of flowers knows the delight of finding a rare or beautiful plant which he has not seen before, but his feelings are not to be compared with those of the botanist who visits a region in which the type specimens of many species were collected. His hope is not to find new species but to rediscover old ones, and the commonest have a special interest to him if he knows that they were first collected by a botanist within a few miles of his camp, or perhaps within a few yards of where he sees them. This was the writer's experience last summer (1917) when he visited Jasper Park for it was within the limits of the present Jasper Park that Drummond in 1825-1826 collected many of the specimens upon which species described from his collections are based. Douglas also collected along the Athabaska River in 1827 on his homeward journey from the West Coast. Mr. Standley must have forgotten this when he wrote in his report on the "Plants of the Alpine Club Expedition to the Mount Robson Region"[7]: "It was to be expected that plants from this particular area where previously no botanical collections had been made would contain many things of interest." So far as is known no botanical collections were made in the Jasper Park

region between 1827 and 1898 when Mr. William Spreadborough collected about 300 species along the Athabaska and Miette rivers and in the vicinity of Yellowhead Pass. Several species were described from Mr. Spreadborough's material but no list was published. His specimens are in the herbarium of the Geological Survey.

Mr. Standley's paper, referred to above, is a valuable contribution to the knowledge of the flora of the region as although only 147 species are listed several new species are described and his notes on other species are of great value. Until quite recently the collector in Jasper Park would have found it difficult to determine his specimens in the field, as no books published later than Hooker's "Flora Boreali Americana" covered that region, but Rydberg's "Flora of the Rocky Mountains," published last January, described everything that is known to occur as far north as Lat. 56° and should be in the hands of every visitor to the Rocky Mountains.

The writer did not reach Jasper Park until July 23rd, much too late to attempt anything like a complete list of the plants growing in the vicinity of the town as many of the early-flowering species had disappeared and many others could be only doubtfully determined. As Jasper is, for the present at any rate, the point at which most visitors to the park leave the train, and many of them stay there for a few days, it seemed best to collect everything in the immediate vicinity before going further afield, so camp was made by the Athabaska River about two miles from the

7 The Canadian Alpine Journal, 1912, special number, p. 76. Copies can be obtained from the Secretary-Treasurer, Sidney, Vancouver Island, B.C., price $1.00.

Administration Building. Within easy walking distance of this camp more than 300 species were collected in three weeks and two visits were made to the summit of Mount Fitzhugh. Good roads and trails make collecting easy and the flora is of such a mixed character that within a radius of a few miles the collector will find familiar plants of the eastern woodlands, typical prairie species, the characteristic sub-alpine flora and, on the adjacent mountains, true alpine species at comparatively low altitudes. The vicinity of Jasper is rich in willows, grasses and carices, especially in the valley of the Miette River where there are many marshes. All the willows known to occur in the northern Rockies were collected in 1917. The rare Carex Franklinii, not collected since Drummond's time, was quite abundant near the discharge of Horse Shoe Lake.

One who has not some knowledge of the plants that would be expected to grow at Jasper Park should be careful in recording as indigenous some of the species which he will find not only near the village but along the roads and trails several miles from town. There is a prolific growth of weeds of all kinds, but in addition to these there are many prairie species and a few from British Columbia which almost certainly were brought to Jasper in baled hay. An effort was made by the writer to segregate these species, and when the report on his work in Jasper Park is published special mention will be made of them.

As good trails lead to the summits of Fitzhugh and Goat mountains, and these summits can be reached in two or three hours after leaving the valley, no lover of flowers who visits Jasper for even a few days should fail to spend one of these days above the tree line. The character of the flora does not differ greatly from that of the mountains around Banff, although the number of arctic-alpine species is greater and several will be found which are peculiar to the region. As the writer had time for a thorough examination of only one mountain, he selected the one—Mount Edith Cavell—which he thought would in the future be visited by the greatest number of those who go to Jasper Park. Easy of access and commemorating as it does the martyrdom of Edith Cavell, it will for generations attract visitors who might not otherwise visit Jasper Park. The usual camping place on Cavell Lake, at the base of Mount Edith Cavell, can be reached in a few hours from Jasper, in fact the round trip is often made in one day. For half the distance there is a good wagon road and from the crossing of Cavell Creek an easy trail is followed to the lake at about 6,000 feet altitude. Visitors usually camp at the south end of the lake within a quarter of a mile of the glacier. Between the moraine and the lake there is a considerable extent of level ground broken by innumerable rivulets, and on the west shaded by the almost perpendicular side of the northern half of Mount Edith Cavell. The close proximity of the glacier and the coldness caused by the shade make it possible for true alpine species to thrive at a much lower altitude than is usual, and nearly all the species referred to below may be collected without climbing a hundred feet above the lake. Mount Edith Cavell itself is too difficult to be attractive to the average botanical collector, but immediately adjoining it are other mountains so easily climbed that horses may be taken through the woods to the tree limit, above and beyond which one may wander for miles at an altitude of between 7,500 and 8,500 feet, occasional peaks taking one several hundred feet higher.

Everyone who has visited the Rockies thinks he has seen some one place which excels every other in the brilliancy and variety of its flowers, but for the reasons mentioned above the writer is confident that few localities exhibit a larger number of species in a small area than the base of Mount Edith Cavell. No attempt will be made to enumerate all the species, in fact those which are mentioned are those which may be seen by anyone who spends a day in the vicinity of Mount Edith Cavell. Ferns are rare, but several species grow below the ledges and in crevices of the rock a few hundred feet above the lake on the west side. Grasses of many species, especially

the Poas, are abundant and many rare Carices are found on the mountains and high plateaus.

Many of the most conspicuous and familiar species are of the Crowfoot Family, the colours ranging from white to yellow and deep blue. Anemone occidentalis growing close to the melting snow is, perhaps, the most beautiful, and associated with it one will generally find the Mountain Buttercup, Ranunculus Eschscholtzii, and more rarely the tiny R. pygmccus. Anemone Drummundii, A. parviflora and A. tetonensis are all abundant and in suitable places the Globe Flower, Trollius albiflorus and Columbine, Aquilegia flavescens, the latter in all shades of yellow and often tinged with pink. Caltha leptosepala is common and the Larkspur, Delphinium Brownii, rare. The Chickweed and Mustard Families are represented by many species, none of which are conspicuous or attractive except the Moss Campion, Silene acaulis, and the Nodding Pink, Lychnis apetala, the former often in "cushions" a foot or more in diameter, covered by a solid mass of pink flowers. Nearly if not quite all the alpine species of Draba, Arabis and Arenaria may be found, and these difficult genera offer a wide field for study. One of the most interesting species growing near Mount Edith Cavell is Papaver pygniaeus, the smallest of the poppies, recorded by Drummond as P. nudicaule "at a great elevation between lat. 52° and 55°". It was found by the writer at an altitude of about 9,000 feet on the bare mountain southeast of Mount Edith Cavell.

The Saxifrage Family is represented by many species, the commonest being S. Lyallii, S. punctata, S. bronchialis, S. rimdaris, S. caespitosa, S. adscendens, S. aisoides and S, cernua, and above 8,000 feet S. oppositifolia may always be found, generally associated with Crepis nana. The buttercup-like but pure white flowers of the Fringed Grass of Parnassus, Parnassia fimbriata, may be seen along every stream and rivulet and clumps of Alum Root, Heuchera glabra, grow among the broken rocks that border the moraines. Not many species of the Rose Family were collected near Mount Edith Cavell, even the Cinquefoils being represented by few species, but, were there none but Potentilla glaucophylla, the genus could not be over-looked as the bright yellow flowers of this species are to be seen almost everywhere. P. nivea is also common, and Rubus arcticus, smallest of raspberries, is seen occasionally.

On the western slopes of Mount Fitzhugh nearly thirty species of the Pea Family may be collected in a few hours, including all the alpine and sub-alpine genera, but the family is poorly represented in the vicinity of Mount Edith Cavell. The Alpine Milk Vetch, Astragalus alpinus. is the commonest species, though not as conspicuous as the rose-purple Hedysarum, whose flowering spike is at high altitudes almost as long as the rest of the plant. The flowers of Oxytropis podocarpa would not attract much attention, but its bladder-like and often highly coloured pods catch the eye at once. The puzzling and variable Epilobiums are to be found everywhere, and along the base of the moraines there are patches of the Alpine Fireweed or Willow Herb, E. latifolium, scores of yards in extent, its rose-purple flowers often two inches or more across.

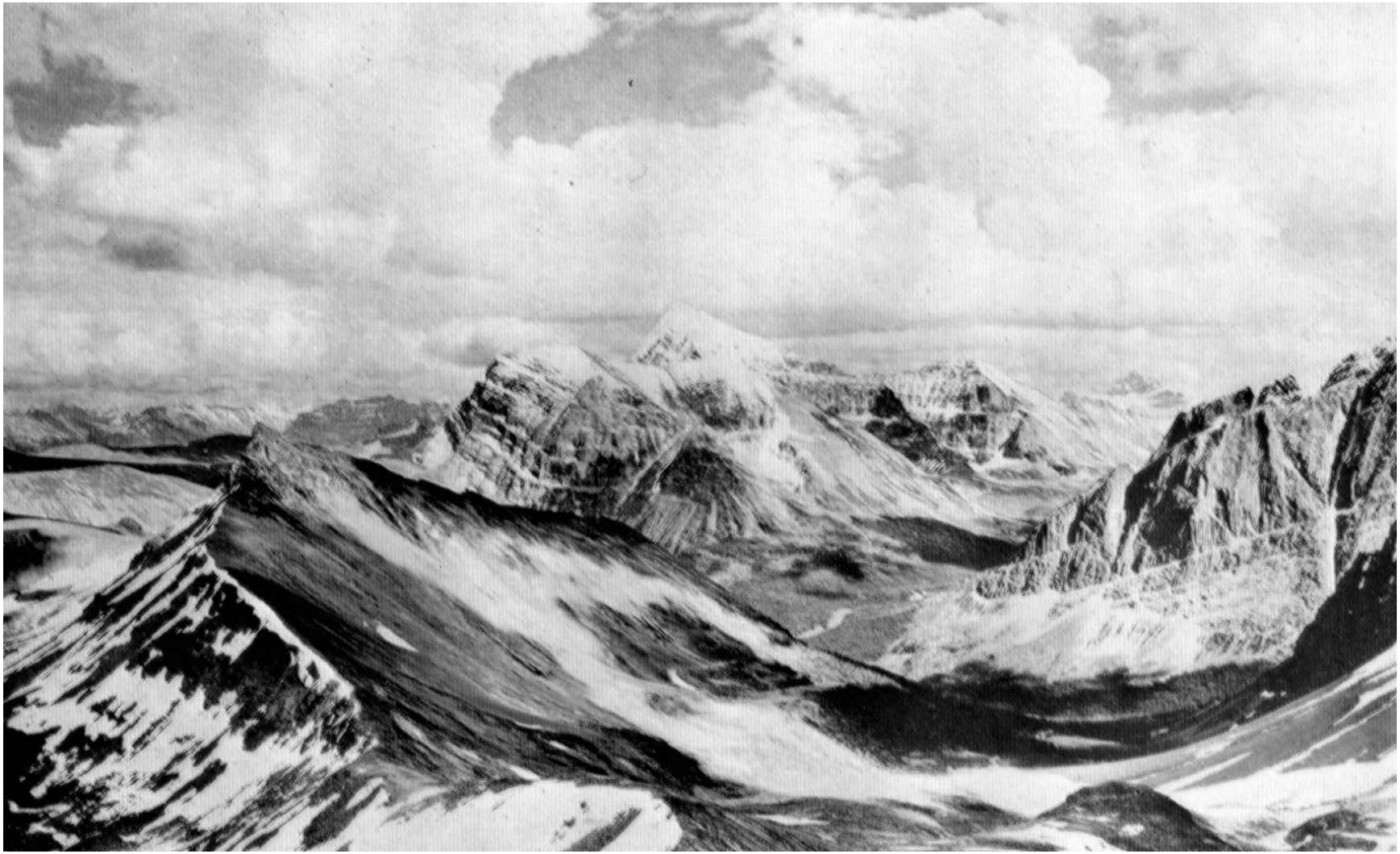
Of the Heath Family, the white Cassiope Mertensiana, the pink Phyllodoce empetriformis and the sulphur-yellow P. glandulifera cover the mountain slopes, and along the lake Kalmia macrophylla, only a few inches in height, grows close to the water's edge. The Vacciniums offer the only fruit to be found near Mount Edith Cavell, and only the Grouse-berry, V. scoparhim, is common. In September the ground in many places is covered with the light red or wine-coloured fruit of this species. It was only on the west side of the lake that Vimem-branaceum, the finest of the huckleberries, was found in any considerable quantity. Elsewhere in Jasper Park, especially in Yellowhead Pass, wild fruit of all kinds is abundant, and after the middle of August campers need carry no dried or canned fruit with them. The Gentian Family is well represented by the beautiful G. propinqua, varying in size from a scant inch with a single flower to six inches or more with

many flowers, and at high altitudes Gentiana glauca can always be found. There are many species of the Borage Family in the vicinity of Jasper, but only the Forget-me-not, Myosotis alpestris, on the mountains, its bright torquoise-blue flowers making it recognizable from a considerable distance.

The Indian Paint Brush, Castilleja, is the most abundant and conspicuous Figwort in the mountains, and many species grow in the Mount Edith Cavell district. They range in color from pale yellow through many shades of pink, mauve, scarlet and crimson, and care should be taken not to mix the species when collecting them. Good specimens are not difficult to name, either in the field or the herbarium, but no genus is more difficult if the specimens are poor. Pedicularis is represented by nearly as many species, P. bracteata, P. capitata, and P. lanata being the commonest. Other Figworts are Mimulus Langsdorfi, Penstemon Menziesii and Veronica alpina. There are three Harebells, Campanula petiolata at low altitudes, C. lasiocarpa on the lower and C. uniflora on the higher mountains.

As elsewhere in alpine regions, the Composites are represented by many highly coloured species, yellows and blues predominating, the yellow of the Arnicas often covering the hillsides; A. foliosus, A. cordifolius, A. latifolia and A. alpina are the commonest species, but there are several others. Other yellow flowers are Senecio triangularis in patches along every brook and rivulet, and Solidago scopulorum, varying in size and habit according to altitude. While only one Aster, A. Richardsonii, is found above 6,000 feet, there are many species of Erigeron, ranging from the showy E. salsuginosus, often two feet in height, to the tiny E. unalaschkensis. The Everlastings are represented by at least ten species, the ground near the base of Mount Edith Cavell being in places carpeted with the beautiful Antennaria media, which has been called the Cavell Everlasting, the writer not hesitating to substitute this name for the not especially appropriate one, Silky Everlasting, given to this plant by Mrs. Henshaw. Other easily recognized species are A. lanata, A. alpina, A. roseus, A. microphylla, A. pulvinata and A. monocephala.

These very sketchy notes on the flora of Jasper Park do scant justice to the beauty and variety of the flowers which grow there. Anyone who has camped on an alpine meadow will recognize that, but all such must admit also that alpine flowers must be seen to be appreciated, and all the writer has endeavoured to do is to mention a few of the most attractive species. As the very large collection he made in Jasper Park last season has not been touched since his return from the field, no mention could be made of the rarer species or of the three or four which he believes to be new to science.



Mt. Edith Cavell 11,100 Fet Above Sea Level From The Northwest. Photo, M.P. Bridgland

Addenda To The Birds Of Jasper Park, Alberta

By P. A. Taverner

Being additional and further records made to the list of the Birds Collected or Observed on the Expedition of the Alpine Club of Canada to Jasper Park, Yellowhead Pass and Mount Robson Region. By J. H. Riley, The Canadian Alpine Journal, special number, 1912, pp. 47 to 75[8].

(Published by permission of the Geological Survey of Canada.)

The following is based upon the work done during the summer of 1917 in Jasper Park, Alberta, by the Geological Survey of Canada. The party composed of J. M. Macoun, Dominion Botanist, and Wm. Spreadborough, the well-known collector, to whom we are indebted for much of our present knowledge of the birds of Western Canada. They arrived at Jasper Station, July 23rd, and made camp just across the Athabaska River, about a half mile below the bridge. August llth they moved to the bridge across Cavell Creek, which flows from the base of Mount Edith Cavell and empties into the Athabaska River some nine miles south of Jasper Station. Here they remained until August 20th, then they moved to the foot of Cavell Lake, at the head of Cavell Creek, and near the foot of Mount Edith Cavell itself. September 1st the writer joined the party. September 6th we returned to the vicinity of Jasper Station, on the bank of the Athabaska just below the junction of the Miette. Until September 6th collection of both birds and mammals was actively proceeded with, resulting in notes on 86 species and 143 specimens of 54 species, adding 30 birds to the regional list. The following are the most noteworthy additions obtained to the above cited list.

The numbers attached to the species headings are in continuation of the Riley list cited above.

79. Horned Grebe, Colymbus auritus. One seen September 10th on a small beaver pond about five miles south of Jasper Station.

80. California Gull, Lams californicus (Sp. ?).

Four large gulls, either this species or the Herring Gull, Lams argentatus, seen by Spreadborough flying up the Athabaska River and the Miette Valley.

81. Merganser, Mergus americanus (or serrator).

A flock of fifty July 26th and another of nearly two hundred a few days later seen by Spreadborough flying up the Athabaska and the Miette Rivers. Specific identity could not be accurately determined.

82. Ring-necked Duck, Marila collaris.

Scaups were seen by Spreadborough on beaver ponds in the vicinity of Jasper Station August 4th and September 10th. Specimens secured both dates are of this species.

83. Goldeneye, Clangula dangula (or islandica). One Goldeneye seen near Jasper Station by Spreadborough July 23rd. Doubtless this species.

84. Bufflehead, Charitonetta albeola.

Seen by Spreadborough on beaver ponds in the vicinity of Jasper Station several times. Specimens taken August 4th and September 7th.

85. Harlequin Duck, Histrionicus histrionicus.

8 Copies of this number may be procured from the Secretary-Treasurer, Sidney, Vancouver Island, B.C., price $1.00

On Cavell Lake at an altitude of 5,700 feet a female and half grown young were taken by Spreadborough August 30th. Though raised on this little glacial lake the flesh of the young was so strong and fishy as to be nearly uneatable.

86. Sora Rail, Porsana Carolina.

One reported by Spreadborough near Jasper Station.

87. American Coot, Fulica americana.

In all, eight were seen on beaver ponds in the vicinity of Jasper Station during the stay. During September three were taken.

88. Northern Phalarope, Lobipes lobatus.

A flock of four seen September 4th on the muddy flats at the head of Cavell Lake and three collected. The following day the survivor was noted there again.

89. Wilson's Snipe, Gallinago delicata.

Specimens seen September 8th and 10th.

Solitary Sandpiper, Helodromas solitarius.

Four specimens taken August 1st and 4th. One of these is without any marbling on primaries but all have heavily coloured back spottings; hence I refer to them all as does Riley, to the Western Solitary, cinnamomeus.

Blue Grouse, Dendragopus obscurus.

Franklin's Grouse, Canachites franklini.

As in other parts of British Columbia and the prairie provinces of Alberta and Manitoba visited by the writer this season, grouse were very scarce indeed. Accompanying this scarcity of grouse were reports of unusual numbers of Goshawks and Horned Owls the previous winter. As there is practically no shooting in the Dominion parks to reduce the number of game birds, this scarcity must, I think, be ascribed to these large raptors. There was also a general scarcity of rabbits throughout the country. Though old rabbit signs were plentiful everywhere, we did not see a single animal during our stay in Jasper Park. Without doubt the Goshawks and Horned Owls, through the failure of their usual food supply, were forced out of their accustomed winter haunts and turned their attention to the grouse as the only available substitute.

The specimens we secured of these grouse are too juvenile for subspecific determination. The specimens of obscurus taken by Riley were richardsoni.

White-tailed Ptarmigan, Lagopus leucurus.

Reported by Spreadborough on Fitzhugh Mountain at an elevation of 7,000 feet August 8th and again at 8,000 feet about two miles east of Mount Edith Cavell.

90. American Goshawk, A slur atricapillus.

We heard numerous reports of large gray hawks common in the Park the previous winter, and September 6th the dried remains of one was found on the trail down the Cavell Creek Valley. I have little doubt that the scarcity of grouse this summer was largely due to the depredations of this species.

91. Bald Eagle, Haliaetus leucocephalus.

One seen by the writer September 3rd at the foot of the glacier near the head of Lake Cavell. It was in juvenile plumage but passed so close that its bright yellow tarsi could be plainly seen.

92. American Hawk Owl, Surnia ulula.

Mr. Macoun reports having seen one August 27th.

Hairy Woodpecker, Dryobates mllosus.

Riley reports taking the Rocky Mountain Hairy Woodpecker, monticola, at Jasper House.

At Jasper Station we saw and collected one specimen of the species. It is an undoubted Northern Hairy, leucomelas.

93. American Three-toed Woodpecker, Picoides amer-canus.

Three seen near the bridge over Cavell Creek, August 17th, and two taken.

Without comparable series of these birds I am unable to subspecifically identify them. I can see little or no longitudinal back striping, but place them under fasciatus, the Alaska Three-toed Woodpecker, upon geographical considerations.

94. Yellow-shafted Flicker, Colaptes auratus.

Three specimens July 27th. These are not pure blooded birds, but show slight indications of cafer strain in the grayish mixture on the throat. Similarly all Red-shafted Flickers, C. cafer, taken show more or less tendency towards auratus. On the whole the influence of cafer seems stronger than auratus in the locality.

95. Black Swift, Cypselodies niger.

Seen July 29th and August 6th. On the latter date two were taken.

96. Kingbird, Tyrannus tyrannus.

One specimen seen and obtained July 31st by Spreadborough.

97. Horned Lark, Otocoris alpestris.

Quite a number seen August 28th and 31st on the mountain above timber line east of Mount Edith Cavell. Five specimens were taken. I refer them to arcticola, the Pallid Horned Lark.

Steller's Jay, Cyanocitta stelleri.

One was seen at a distance September 4th near Lake Cavell but could not be subspecifically identified. Riley ascribes a bird taken on the east fork of the Moose River to the typical form, and one from Henry House to annectens, the Black-headed Jay.

Canada Jay, Perisoreus canadensis.

Common about camp near Mount Edith Cavell and observed again near Jasper Station. Five specimens taken. I can see no difference between these and specimens taken earlier in the season at Hazelton, B.C. They have rather extreme white forecrowns. The dark of the hind crown is blue-black. Some of the remaining worn plumage is of typical capitalis aspect. I regard them as intermediate between canadensis and capitalis, but nearer the former. If fumifrons is a tenable subspecies, upon which some doubt can be expressed, I should judge these birds to be nearer that form than to canadensis. Riley refers his birds to canadensis.

98 Cowbird, Molothurus ater.

Two young birds seen at Jasper Station by Spreadborough July 22nd.

99. Rusty Blackbird, Euphagus carolinus.

Two seen and taken near Jasper Station July 28th.

100. American Crossbill, Loxia curvirostra.

Reported by Spreadborough to have been common near Jasper Station during the first camp there July 23rd to August llth. Specimens taken July 30th and August 7th. They appeared to be feeding on woolly aphis from the spruce trees. No seeds were found in any of their stomachs.

101. Lapland Longspur, Calcarius lapponicus.

One specimen taken by Spreadborough August 31st near Mount Edith Cavell at an elevation of 8,000 feet.

Savannah Sparrow, Passerculus sandwichensis.

On the marshy delta 5,600 feet elevation at the head of Lake Cavell were quite a number of Savannah Sparrows, but so wild that specimens could only be taken with difficulty. In the

Photo, P.A. Taverner

The Rocky Mountain Whiskey Jack (Perisoreus Canadensis Capitalis). Photo, P.A. Taverner

vicinity of Jasper Station, after September 6th, a few were seen and taken. There are two types of coloration present amongst these specimens—a white eyebrowed and a yellow eyebrowed type. Until this species is thoroughly revised I do not care to make subspecific determination of them.

Song Sparrow, Melospiza melodia.

Similarly to Riley's experience, we found Song Sparrows rather scarce in the Park, only meeting scattered individuals in the shrubbery of a few of the beaver ponds, where they were very difficult to collect or to retrieve when collected and we only obtained two specimens. July 26th and September 10th, the former being a probable breeder, while the latter may be a migrant. In neither can I seen the characters described by Riley as characteristic of his new form, the Yellowhead Song Sparrow, inexpecta, of which these are topotypes. They come closer to a series from Trail, B.C., identified by Oberholser as merrilli, than to another series from Huntington, identified by the same authority as rufina and morphna, which can be regarded as synonymous. Personally, I am inclined to lump most of our British Columbia Song Sparrows, including these, under the head of rufina, the Sooty Song Sparrow.

102. Tree Swallow, Iridoprogne bicolor. Several seen by Spreadborough July 25th near Jasper Station, when one was taken.

103. Cedarbird, Bombycilla cedrorum.

Common about Jasper Station, along the river and at all beaver ponds from July 25th to August 8th. Several specimens taken.

Orange-crowned Warbler, Vermivora celata.

Occasional specimens seen about both Jasper Station and Mount Edith Cavell. A specimen was taken in each locality. One, an adult female, July 25th from Jasper Station, is intermediate between celata and orestera in colouration, but its wing measurement throws it well into celata. The other juvenile male, Mount Edith Cavell September 6th, while intermediate in colour is by size extreme orestera. Any one that cares to make subspecific determination under these conditions may do so; Riley ascribes his specimens to celata.

104. Tennessee Warbler, Vermivora peregrina. One female taken July 20th near Jasper Station.

105. Audubon's Warbler, Dendroica auduboni.

Reported by Spreadborough as fairly common in Jasper Park throughout his stay. Amongst the Myrtle Warblers taken at the camp on Lake Cavell were several, showing indications of the Yellow-throat of this species and some whose specific determination was less evident. Four specimens taken between August 1st and September 8th.

106. Townsend's Warbler, Dendroica townsendi.

One Townsend's Warbler was taken as we left the Edith Cavell Mountain camp September 6th and another seen in the vicinity of Jasper Station the 8th.

107. Maryland Yellow-throat, Geothlypsis trichas. Two seen by Spreadborough, July 23rd; none taken.

108. Townsend's Solitaire, Myadestes townsendi.

Two were seen by Spreadborough near the Edith Cavell camp and noted again about Jasper Station. In all, about fifteen were seen or taken during our stay in the Park.

Some Notes On The Mammals Of Jasper Park, Alberta

By Rudolph Martin Anderson

(Published by permission of the Geological Survey, Ottawa, Canada)

The following list is based upon a collection of fifty-nine specimens, representing sixteen species and subspecies of mammals, made by Mr. William Spreadborough for the Geological Survey of Canada, in Jasper Park, Alberta, from July 23rd to September 13th, 1917. Additional notes are also given on four species not represented in the collection. This collection and the accompanying field notes add some interesting supplementary data to Mr. N. Hollister's list of "Mammals of the Alpine Club Expedition to the Mount Robson Region,"[9] as considerable time was spent in districts of the Park that were not worked by the Alpine Club expedition.

1. Masked Shrew, Sorex personatus personatus I. Geoff.

One male specimen, taken August 17th, at mouth of Cavell Creek, altitude 4,000 feet, is referable to 6". p. personatus both by skull and measurements; a very much smaller animal than the Dusky or Mountain Shrew. This specimen measured: Total length, 88 mm.; tail vertebrae, 38; hindfoot, 12.

2. Mountain Shrew, Sorex obscurus obscurus Merriam.

One male, adult, typical, taken August 17th, at mouth of Cavell Creek, altitude 4,000 feet. It measured: Total length, 114 mm.; tail vertebrae, 50; hindfoot, 12.

3. Black Bear, Ursus americanus Pallas. "Common at Jasper Park" (Spreadborough).

4. Bonaparte's Weasel, Mustela cicognanii cicognanii Bonaparte.

Three specimens taken; male, July 28th to 31st, near Jasper Station; male, August 31st; and male, September 2nd, at head of Cavell Creek, altitude 5,700 feet. The first specimen seems to differ from the others only in greater paleness of colour; the early summer fur is also thinner. Averages and extreme in measurements of three specimens are as follows: Total length, 299 mm. (289-310) ; tail vertebrae, 84.6 (82-88) ; hindfoot, 38.6 (37-41).

5. Rocky Mountain Pika, Ochotona princeps (Richardson).

Three specimens taken, one male and two females, August 12th, near mouth of Cavell Creek. Measurements: Total length: male, 184 mm.; female, 177, 184; hindfoot, male 34, female 31, 31. "I saw signs of the Pika in nearly all the rock slides from the Athabaska River at Jasper to above timber line. They store away a great quantity of grass and plants for winter use" (Spreadborough).

6. Northern Deermouse, Peromyscus maniculatus borealis Mearns.

Two specimens, male, August 2nd, near Jasper Station; female, August 17th, near mouth of Cavell Creek, altitude about 4,000 feet; closely resemble the ordinary type of borealis from northern and western Alberta. Measurements: Total length, male 165 mm.; female 172; tail vertebrae, male 88, female 82; hindfoot, male 22, female 19.

7. Bushy-tailed Wood Rat, Neotoma cinerea drummondii (Richardson).

Three specimens, male, juvenile, July 27th, near Jasper Station; male, adult, August 16th; female, adult, August 17th, near mouth of Cavell Creek, altitude about 4,000 feet, are typical drummondii. "Very abundant in rock slides near Jasper, Jasper Park" (Spreadborough).

8. British Columbia Red-backed Vole, Evotomys gapperi saturatus Rhoads.

9 Hollister, N. Mammals of the Alpine Club Expedition to the Mount Robson region, pp. 1-44. Canadian Alpine Journal (special number), published by the Alpine Club of Canada, 1912. Printed by Stovel Co., Winnipeg, Man. Copies of special number can be had on application to S. H. Mitchell, Secretary-Treasurer, Alpine Club of Canada, Sidney, Vancouver Island, B.C. Price $1.00.

One specimen taken, male, adult, September 5th, at Lake Cavell, altitude about 5,700 feet, is very little lighter in colour than specimens from Hazelton (head of Skeena River, B.C.), but are much darker than specimens of the Athabaska Red-backed Vole (E.g. athabascae Preble) from points farther east in Alberta, and should undoubtedly be placed with the western specimens. It measured: Total length, 139 mm.; tail vertebrae, 45; hindfoot, 19.

9. Drummond's Vole, Microtus drummondii (Audubon and Bachman).

Nineteen specimens were taken in Jasper Park: Four from near Jasper Station, one female August 1st, three females August 2nd. Fifteen from camp at mouth of Cavell Creek, altitude about 4,000 feet, two males and five females, August 14th; one female, August 15th; three males and two females, August 16th; two males, August 18th. Although showing considerable variation in age and size, all seem to be referable to M. drummondii. Averages and extreme in measurements of nineteen specimens are as follows: Total length, 129.5 mm. (108-159); tail vertebrae, 36.8 (31-44) ; hindfoot, 19 (19-19). Mr. Spreadborough states that these meadow voles were very abundant in Jasper Park in wet meadows. No specimens of Microtus were taken at the camps at the head of Cavell Creek, altitude 5,700 feet, from August llth to 20th, nor at the junction of the Miette River with the Athabaska, September 6th to 12th.

10. Northwest Muskrat, Ondatra sibethica spatidata (Osgood).

One specimen, female, adult, Jasper Park. "To be found in most of the ponds near Jasper" (Spreadborough).

11. Yellow-haired Porcupine, Erethizon epixanthum epixanlhum Brandt.

"Fairly common near Jasper, living in rock slides and caves. One evening one walked right into camp and I killed it with a club" (Spreadborough).

12. Rocky Mountain Marmot, Marmota sibila Hollister.

Five specimens taken, near head of Cavell Creek, altitude about 5,700 feet: Male, adult, August 22nd; male and female, juveniles, August 28th; female, adult, and male, juvenile, August 31st. The adult male, No. 3255, mammal collection, Victoria Memorial Museum, has the skull much larger than the maximum measurements given for the species by Hollister, and much larger than any skulls in a large series in the Victoria Memorial Museum, representing various races of the Marmota caligata group, including specimens of M. c. oxytona, okanagana, nivaria, and cascadensis. This male skull measured: Condylobasal length, 106 mm.; palatal length, 55 ; postpalatal length, 43; zygomatic breadth, 69 ; length of nasals, 43; alveolar length of upper tooth row, 23; alveolar length of mandibular tooth row, 19. Mr. Spreadborough's measurements of the two adult specimens in the flesh were as follows: Male (No. 3255), total length, 736 mm.; tail vertebrae, 105 ; hindfoot, 185. Female (No. 3267), total length, 736; tail vertebrae, 98; hindfoot, 228. "Common along the foot of Mount Edith Cavell, also above timber line just east of the Mount" (Spreadborough).

13. Columbian Ground Squirrel, Citellus columbianus (Ord).

Six specimens taken, near head of Cavell Creek, between 8,000 and 8,300 feet altitude: Female, juvenile, one male and two females, adult, August 28th; one female, adult, and one male, juvenile, August 31st. These specimens appear to be identical in characters with specimens from Banff, Crow's Nest Pass, and Mt. Forgetmenot, Alberta, and from Fernie, Arrow Lake, Cascade, and Midway, B.C. "Saw a great number of them on the alp-land just east of Mt. Edith Cavell" (Spreadborough). Averages and extreme in measurements of four adult specimens are as follows: Total length, 311.7 mm. (286-329); tail vertebrae, 68.5 (57-88); hindfoot, 48 (45-50).

14. Northern Chipmunk, Eutamias quadrimttatus borealis (Allen).

Two specimens, both males, taken August 1st and August 2nd, near Jasper Station, are clearly referable to borealis. These specimens measured as follows: Total length, 178, 194 mm.; tail vertebrae, 76, 91; hindfoot, 31, 44. "Fairly common at Jasper" (Spreadborough).

15. Canadian Mountain Chipmunk, Eutamias ludibundus Hollister.

One Chipmunk, taken further west at a higher altitude than the preceding specimens (of E. q. borealis), is much larger, and shows the typical characters of the recently described species, E. ludibundus. Male, adult, taken September 8th, at mouth of Miette River (junction with the Athabaska River), altitude about 3,450 feet. Measurements : Total length, 203 mm.; tail vertebrae, 89 ; hindfoot, 31.

16. Northern Mantled Spermophile, Callospermophilus lateralis tescorum Hollister.

Five specimens taken; male, adult, August 8th, near Jasper Station; male, adult, and female, juvenile, August 24th; female, juvenile, August 31st; and male, juvenile, September 5th, near head of Cavell Creek. "I saw and took most of them above timber line, and as high as 8,000 feet, but I secured one at Lake Edith Cavell, altitude 5,700 feet" (Spreadborough).

17. Hudson Bay Red Squirrel, Sciurus hudsonicus hudsonicus (Erxleben).

Five specimens taken; female, July 28th; two females, July 31st; male, August 2nd; female, August 3rd; taken near Jasper Station, are all referable to S. h. hudsonicus. "Abundant in the woods along the Athabaska River, Jasper Park" (Spreadborough).

18. Canadian Beaver, Castor canadensis canadensis Kuhl.

The beavers of the park probably belong to this variety, although no specimens were taken. "They are becoming very abundant in Jasper Park. One small stream that flows into the Athabaska about a mile south of Jasper has four large dams on it and a number of small ones. There are several in Horseshoe Lake that are so tame that they will come out of the lake and cut down trees while one is watching them" (Spreadborough) .

19. Mule Deer, Odocoileus hemionus hemionus (Rafinesque).

No specimens were taken, but Mr. Spreadborough states that "they are common in Jasper Park."

20. Rocky Mountain Caribou, Rangifer fortidens Hollister.

One specimen, male, adult, taken August 24th, at Mount Edith Cavell. On that date Mr. Spreadborough saw two big bulls at one time, and another one the same day, on snow patches on the alp-land just east of Mount Edith Cavell. He states that there seemed to be none but bulls on that mountain; no small tracks were seen, and he thought that there were not more than four in all. The specimen taken, a fine large bull, was killed with a shotgun.

Motion Of The Yoho Glacier - 1916—1917

By Arthur O. Wheeler

On the 24th July, 1916, it was found that all the metal plates previously set in line across the ice tongue of the Yoho Glacier had disappeared in crevasses and, on the same date, a new line of plates was set out.

July 30th and 31st, 1917, observations were made to ascertain the rate of flow of the ice and the amount of recession for the past year.

Rate of Flow

All the plates set out on the 24th July, 1916, were found, and instrumental readings taken upon them from both ends of the base used for such purpose, in order to ascertain the extent of their movement for the elapsed interval.

Table showing the Motion of Plates set on the Yoho Glacier between 24th July, 1916, and 30th July, 1917=371 days

Plate	No. 1	No. 2	No. 3	No. 4
Total motion	87 ft.	114 ft.	104 ft.	79 ft.
Daily motion	2.81 in.	3.69 in.	3.36 in.	2.55 in.

For Advance or Retreat

Measurements were made from Rocks Nos. 1 and 2 on the left side of the stream and from the Sherzer Rock on the right side. The results are tabulated below.

Table showing Measurements to Nearest Ice

Year	From Rock No. 1 left side of stream	From Rock No. 2 left side of stream	From Sherzer Rock right side of stream
1914	277.6 ft.	313.0 ft.	222.7 ft.
1916	413.0 ft.	449.0 ft.	247.0 ft.
1917	454.5 ft.	483.5 ft.	250.0 ft.

1914-1917, Average Retreat of ice forefoot=124.9 feet in three years.

It is interesting to note that the entire average retreat of the ice forefoot since measurements were first made on the 15th July, 1916, has been 349 feet.

Annual Change in Formation of Ice Forefoot

The customary photographs were taken from Station E, situated where the trail comes out of the forest on the right moraine of the glacier, and from Rocks Nos. 1 and 2 on the left side of the stream. (See map opposite page 274, Canadian Alpine Journal, 1908, Vol. 1, No. 2.)

The view from Station E shows a still further shrinkage of the ice. With the exception of one narrow point, where there is an ice bridge across it on the left side of the icefall, the stream from Balfour Pass (Waves Creek) now flows clear of the ice and, where the bridge has gone, it will be a difficult matter to cross in order to continue the observations. Moreover, the smooth part of the ice tongue, where the line of plates is set, has become so broken by crevasses that its usefulness for setting out plates will be a thing of the past. Above the smooth portion the icefall rises in towering séracs.

The stream (Waves Creek), which has heretofore flowed in under the ice tongue at the east side and, when joined by the additional flow under the main body of the ice, come out at the snout as Yoho River, has been the main cause of the beautiful ice cave for which the glacier has been so justly famous. It is greatly feared that, now the ice has receded beyond Waves Creek, the cave will not be formed and will cease to exist.

Ice Forefoot Of Yoho Glacier From Station E. Photo, A.O. Wheeler

From View Point 79.3 Feet South Of Rock No. 1, 1917. Photo, A.O. Wheeler

Illustrations Nos. I and 2 are from photographs identical with those taken in previous years, appearing in the various issues of the Canadian Alpine Journal, and a comparison will show the steady retreat of the ice. Whereas in 1906 the ice was only 107 feet distant from the point at which Illustration No. 2 was taken, it is now 534 feet distant, a maximum retreat of 427 feet in eleven years.

When setting out a new line of plates in July, 1917, one of the old lot of plates that could not be found in 1916 was discovered on the ice forefoot about a hundred yards above where the plates are usually set in line. It is surmised that some aspiring tourist had made a wonderful discovery when on the icefall and, to celebrate it, had started to place the treasure trove on the pinnacle of a huge sérac close by, but, finding the work laborious, had left it unfinished.

It may be, however, that a bear had carried it to where it was found, for bears are curious animals, and I have known them to carry articles left where in use to points at a considerable distance. On one occasion, when making the Yoho Glacier observations, I saw a bear come on the ice and climb to the top of a high sérac, evidently on its way across the ice; however, having arrived at this high point of vantage, he thought better of it and went back to the side from which he started.

As ice, like water, flows down hill, it must have been some such agency that carried the missing plate up stream to where it was found.

MISCELLANEOUS SECTION

A Winter Journey To Mt. Sir Alexander And The Wapiti

By Mary L. Jobe

The early winter of 1917 my desire to make a winter trip through the northern Canadian Rockies was realized. I was fortunate in being able to combine my trip with Mr. Donald Phillips' business of taking in supplies for a scientific expedition to the Wapiti River, under the auspices of the Smithsonian Institution. Not only had he been the chief factor in my expeditions of 1914 and 1915 to Mt. Sir Alexander, but I considered his knowledge of the northern wilderness absolutely essential to success and safety in travel. The few trails beyond Mt. Bess and Mt. Chown are for the most part those which Phillips himself has made during the past four years. So slight an impression had our pack trains left in 1914 and in 1915 as they travelled over dry heather slopes or rock ridges, that even a skilled guide unfamiliar with the region would have found it almost impossible to follow our former route.

Our general line of travel into the North Country may be described as follows: Starting at Robson Pass, the route lay north down the valley of the Big Smoky, beyond the mouth of Wolverine Creek to the mouth of Glacier Creek ("Bess Creek," Collie and Mumm); thence up this creek, across Bess Pass, Bess Shoulder, and Jackpine Pass; from the valley of the Main Jackpine to the Middle Jackpine, and thence direct to the West Jackpine. From this river we varied our route from that previously travelled. Thereafter it led along the head waters of the Fraser Smoky and the Muddy Water River to Sheep Creek Pass and thence to the Porcupine. Skirting the head waters of Providence Creek, we approached Mt. Sir Alexander from the northeast. From here we travelled north to the Porcupine, and from that point crossed a pass to the Wapiti. Returning by way of this last pass, we travelled northeast to the main Porcupine, where we struck the old Grande Prairie

trail, and at the same time the foot-hills, crossed to Copton Creek, followed Sheep Creek to its junction with the Big Smoky, and travelled two days up the Big Smoky Valley to Evan Moberly's ford, where we crossed, and thence to Grande Cache Lakes. From this point we followed the government trail to the Muskeg, Big Baptiste, Little Baptiste, and Hay River to Entrance, a little station on the Grand Trunk line, sixty miles east of Jasper. Our route may be roughly described as extending along the one short and two long sides of a rhomboid. On the outgoing trip we crossed twelve high summits or passes, ranging in elevation from 5,000 to 8,100 feet, while on the return trip we crossed nine of lower elevation. The distance by trail in such a journey is always extremely hard to gauge, but we estimated it at approximately four hundred miles.

From the time our outfit of ten pack horses and three saddle horses left Robson Station on the tenth of October until, three days later, we reached camp northwest of Mt. Bess, we had frequent signs of approaching winter. Beautiful sunshine was followed at Robson Pass by a night of brilliant aurora, and the next day by sleet and rain. The night of the succeeding day, the rain fell in a downpour and as the storm continued the next morning, we were unable to break camp. Phillips had an assistant, Jack Hargreaves, a strong, manly young fellow, willing in every emergency, and always good tempered. I have rarely had a more unselfish companion on the trail. Up to this time we had not pitched any tents, but at night each had appropriated a big spruce tree. Here it was necessary to pitch the tepee, which furnished a common habitation during the day, protected the grub and sheltered the men at night, while my own sleeping quarters during bad weather consisted of a little silk wickiup. It excluded most of the rain and snow, and, on the stormiest evenings, my big fire in front made it more comfortable than the tepee. During the coldest nights, with the temperature frequently below zero, my Alaskan eider-down bed kept me snug and warm. I considered my wickiup superior to a tent, for it allowed me every night to look out upon a vast world of forest and mountain and sky. I shall never forget my view of Mt. Bess from this little camp, when after thirty-six hours of steady downpour, the rain turned to snow. The brilliant white peak was still visible against a gray sky, while the snow storm fell like a sudden, heavy April shower. In this setting Mt. Bess looked higher and more impressive than when we had climbed it in 1915.

Now, the one thing which Phillips dreaded more than anything else was an early and deep snowfall. With his knowledge of winter conditions in the mountains, he well knew how difficult it would be to take our heavily packed outfit through snow into the interior, across many high passes and dangerous summits. He also realized the danger of being snowed in.

Heretofore we had been making long drives at good speed, from Robson Station to Robson Pass in less than six hours, and from Bess Pass to Bess Shoulder—a climb of 1,500 feet—in forty minutes; but this light snowfall now began to retard our progress.

Eager to secure some snow pictures and enjoy the fine scenery in the early morning light, I crossed Jackpine Pass in advance of the outfit. Early as I was, a big black wolf had crossed ahead of me. His tracks, easily six inches in diameter, seemed identical with those of a monster wolf that had followed us across the pass in 1914. Beyond the summit I waited for the pack train and we made the 1900-foot descent with all the old-time excitement. The cayuses, balanced in mid-air, seemingly plunged into space, somehow regained their footing, and then repeated the process. It is always spectacular.

The next few days found us fording and re-fording the winding Jackpine, sometimes in a blizzard, sometimes in sunshine; thawing out our frozen pack-mantles and lash ropes every morning; crossing the Middle Fork, where Phillips had to tear out a large frozen beaver dam

in order to make the stream fordable; travelling through ever deepening snow across the high summit and down the precipitous descent to the West Branch, from which we climbed to the most formidable summit on our journey—a summit 8,100 feet in altitude that separates Big Smoky waters from the Fraser Smoky, on the British Columbia side.

We now faced squarely one of the most thrilling and spectacular events on the trip. It was four in the afternoon when we reached the West Branch and picked up the cache left by Phillips a few weeks previous on his return from his fall hunting trip. Now the elevation at the river is 5,000 feet, which meant that we had a climb of 3,000 feet ahead of us, with a descent to tree line on the other side before we could camp for the night. When a short distance above the river, daylight began to wane. We pushed on through ever-deepening snow for an hour and a half and had struck steep going above the last scrub, when Blue, a pack horse that had been working very little all summer, suddenly played out completely. The whole pack train was compelled to halt while the men put Blue's pack on Jack's saddle horse. Though freed from his load, Blue refused to climb up the mountain side, without the most ardent urging. "It's the first time I ever had to pull a cayuse up-hill backwards," declared Jack in disgust. I was travelling in the middle of the outfit and each time I looked back Blue was off the trail, angling off to a sheltering rock and Jack after him. At a little after six o'clock darkness and a big snow squall swooped down upon us simultaneously. The snow was every where knee-deep and sometimes I plunged through drifts nearly to my waist. If the horses had not broken out the trail, I could not have made a rod of headway. How Phillips was faring on ahead, I could only vaguely surmise.

The darkness was now intense in the fast falling snow. I had tied up the halter shank on my saddle horse some time before, as in making the steep ascent he had plunged so violently through the drifts that I feared he would strike me. He had gone on somewhere ahead and was now lost to sight in the storm. In fact, I could only dimly discern two or three horses ahead — Phillips shouted back occasionally to give us our bearings, but his voice sounded faint and far away as the tempest warred about us. It grew bitterly cold; my clothing was so saturated with snow that the instant the pack train halted my hands and feet became numb. Finally, when only a few hundred feet below the crest of the ridge, it became necessary for Phillips to tie Blue to the tail of his saddle horse. Thereafter poor old Roanoke literally dragged Blue up the mountain side. While Blue was thus being cared for, I was glad enough to find my saddle horse, and pull my mackinaw coat on over my snow encrusted shirt. A short distance above, a break in the snow clouds showed us the long, level summit. Here I quite shamelessly climbed on my horse and let him carry me a few rods. It was now 8.30 and I was weak from hunger, having eaten only two oatmeal crackers and a few prunes in the thirteen hours since breakfast.

My joy ride soon came to an end, however, and again in the midst of a veritable blanket of snow we began to descend. I was now travelling next Phillips. Suddenly I saw him stop, disappear and then reappearing swerve violently to the right. Afterwards he told us he had stepped through a snow cornice, had suddenly found himself dangling in space, and had been saved by Roanoke's deliberately pulling back on the halter shank and steadying him until he could recover his footing. The peril of travelling along this narrow summit was only too obvious; there was now nothing to do but wait for a break in the clouds. It came finally but fitfully, and Phillips realizing the danger of attempting the steep descent into the valley of the Fraser Smoky, turned toward the south and slowly and cautiously led us down through a maze of cliffs and gullies toward tree line on the Jackpine side.

Every few minutes the clouds, with increasing intensity, shut down upon us. What looked

I Crossed Jack Pine Pass In Advance Of The Outfit. Photo, Mary L. Jobe

Mountains At The Head Of Porcupine River Near Mt. Sir Alexander. Photo, Mary L. Jobe

like a straight stretch of snow time after time proved to be a perpendicular drop. Again and again I fell headlong in the darkness, and Jack, nearby, hearing a thud and my sudden, spasmodic gasp, would stop and patiently enquire if I were still alive and coming.

We were all very much alive, and it was a somewhat excited party that made camp that night at 10.30 just below tree line on the steepest side-hill I had ever camped on. We had been travelling eighteen hours. I kept a big fire of dry spruce boughs blazing while our men unpacked. When I turned the horses loose, it was so cold the halter snaps froze to my fingers and I had to shake them loose. The morning was cloudless. We now looked with wholesome awe upon the cliffs among which Phillips had led us in safety in our descent. We again climbed through snow over 2,000 feet to the summit, now a sheet of ice-encrusted snow, where with the greatest difficulty both man and beast kept a footing on the traverse of the main ridge and in the descent to the Fraser Smoky Valley. In many places the mountain side afforded only a narrow footing and was covered with an icy coating. Phillips kicked out steps and his well-trained cayuses followed without mishap. Below us the snow everywhere lay deep in the valley, and that night we worked long and laboriously shovelling out the snow for our camp ground. Winter in the Big North had come.

We were all wearing heavy mackinaw shirts and knickerbockers, and as long as we could have dry underclothing at night and dry socks there was little else to be desired. We had also donned our oil-tan shoepacks, fitted with an excellent brake of Phillips' invention. It is made of trap chain and when on a slippery surface is as secure as a spiked boot.

In another snow storm the next day we made the ascent of a 7,300-foot summit. Our course was in a network of cornices and up and down narrow ridges, where the horses had only a precarious footing. The snow was so deep it showed blue in all the crevasses and in the deep imprints of the horses' feet. The horses slipped and slid continually. Pet, my saddle horse, pulled me down again and again. In many of the drifts the snow was waist deep. As we reached the pass to the Muddy the sun for a moment illuminated the great treeless expanse in which the two large branches of the Muddy Water River are born. The main streams flow easterly to the Big Smoky. The storm began again as we shovelled out the deep snow for our camp site that night on the southerly branch.

For the next nine days we travelled north. At Sheep Creek Pass, where we had a foot of snow fall in one hour, our real fight began. We made barely one mile an hour. Across the three long miles of Surprise Pass, 7,000 feet in altitude, we battled for every foot. It was the pass in which Phillips had anticipated the worst going. The drifts were terrible; a freezing north wind benumbed us, and a howling blizzard enveloped us. For the first time on the trip, I wondered whether we "could make the grade." But we did, though how Phillips ever led us in safety through that labyrinth is a marvel to me. "I can go across Surprise Pass blindfolded," he had said. It was literally true: he had crossed the pass before.

Since leaving the Jackpine, Phillips had not sat in his saddle, but had broken trail unceasingly. Across the long pass to the Porcupine, I now begged to go ahead on my horse, for I remembered this part of the country well. Old Pet now did valiant service. He broke out trail through drifts shoulder deep and for two hours relieved Phillips of his almost superhuman exertion.

The night of October 23rd we reached camp near Mariel Lake and about ten miles from the base of Mt. Sir Alexander. The next morning the snow was knee deep even on the flats and it was snowing so heavily it seemed inexpedient to move. The hours of daylight had now visibly decreased; at best we had little more than eight. It was frequently noon before we could thaw out our solidly frozen pack mantles, hackamores and halter shanks, pack up, and actually hit the trail; it was almost always dark, and repeatedly long after dark when we made camp.

Each day as we had gradually approached Mt. Sir Alexander, I had found myself more and more eager to see the giant peak in winter dress, and yet fully aware that considering the weather the chances were all against me. A few miles beyond our camp we would be in range for our only possible view. Latterly, if we had had any clear weather at all, it had usually occurred between twelve and two o'clock. At 1.30 we reached a small lake, north of the peak from which we had obtained a magnificent view in 1915. To my keen joy, the great snow mass was easily distinguishable. The clouds hung about the peak, as they usually do, even in fair weather, but its icy bulk shone roseate above a dark blue cloud bank, as this lone sentinel of the North caught the rays of a slowly sinking sun. Everywhere about us the winter's snow reflected the splendor of the mountain itself. For a brief moment the whole landscape was flooded with celestial colour and the heart of at least one mortal who stood and gazed was athrill at the beauty of the scene. In half an hour the sun had vanished. Fortunate, indeed, had we been to have "Kitchi the Great" reveal himself to us. It was worth travelling to the ends of the earth to see.

That night on the Porcupine we made camp in a grassy spot under a clump of spruce. It was the first time my feet had stood on dry ground since we left the Jackpine. I slept without any shelter save that of a big spruce, but the next morning I found my "tarp" well covered with snow. I had had visitors in the night—marten tracks were thick in the snow about me.

Near Jarvis Pass we left our old route to the northwest and continued through burnt timber to the north, across Wapiti Pass. Ever since picking up a cache on Sheep Creek both men had packed their saddle horses, and now Phillips was breaking out trail in knee-deep snow, and in the face of a biting sleet storm. It cleared that evening and at five o'clock the moon was bright in the sky as we made camp. Later we heard a moose snorting near camp and the next morning, while searching for the horses, Jack followed a deep trail of fresh moose tracks a long way, thinking they were the cayuses' tracks. Evidently many visitors had inspected camp in the night time.

Once across the Wapiti Pass we found ourselves in a veritable den of wolves. Their tracks were everywhere. They came near our camps and howled so dismally in the night-time, that we did not hesitate to burn fuel lavishly; in broad daylight the morning we were breaking our ten days' camp on the Wapiti, they became so inquisitive and so vocal that they almost stampeded our outfit; and once, as we were moving our pack train at twilight along the Wapiti River, two black monsters crossed in front of us and stood in the timber a few yards away yelping and whining like hungry curs. They are vicious beasts and are afraid of nothing smaller than a grizzly.

For three days we had bad going down the narrow valley of the Wapiti. We forded continually and as the stream was partially frozen, the horses constantly broke through the ice. In order to avoid a deep canyon, Phillips had to cut a trail up the mountain side, and that night we travelled for three hours in the dark looking for a suitable camp site. As it happened, we camped under a few scattered jack pines on the edge of a muskeg, the only dry level spot available.

At the end of our fourteenth day of snowstorm, and eighteen days after leaving Mt. Robson, we reached our final destination on the Wapiti, where in a spruce forest Phillips built a fine cabin for his supplies. There is no space here to tell of our return journey. I want merely to mention the splendid waterfall we explored on the Porcupine. Only a few white men have seen it, and so far as I know, no other white woman has been in that locality. The water falls in two great streams from a height of 225 feet into a gigantic dark green pool, below which rapids rush through a canyon six miles long. Behind the falls is a great ice cavern, into which one may walk dry shod save for the blowing spray. With their fine background of forested and snow-capped mountains, and their adjacent banks, lined with hoodoos, the Falls of the Porcupine present a spectacle never to be for-

The Mountainside Leading To The Fraser Smoky Watershed Was Covered By An Icy Coating.

Fording The Wapiti The Horses Constantly Broke Through Ice.

In The Athabasca Valley Two Nights Before Christmas We Experinced 54 Below Zero. Photos, Mary L. Jobe

gotten. Several falls of lesser magnitude are in the canyon.

On the return trip near Wapiti Pass we had one brief glimpse of Mt. Ida, but thereafter, unwilling to battle longer with the deep snows, we travelled only in the foot-hills, along the route previously described. On the Wapiti and subsequently we had plenty of zero weather, and two nights before Christmas, when we turned our horses out on their winter range in the Athabaska Valley, the mercury fell to 54 degrees below zero. At no time, however, on the trip, did I suffer from cold, and so joyous and happy was I in the new experiences of winter travel, that I welcomed each hardship—and they were really few—as a part of our "great adventure."

An Artist's Reminiscences

By F. M. Bell-Smith

Having been asked to tell something of my experiences while sketching in the Canadian Rockies, I approach the task with some hesitancy, realizing, as I do, that the most valuable memories that I carry are those that can best be told on canvas, and which I could never express in mere words. Then, the things I could tell might ill compare with the thrilling stories furnished by the mountaineers and alpinists of their daring and life-risking ascents. But there are a few rather unusual experiences, the memory of which comes to me out of a bewildering confusion of happenings incidental to sixteen summers spent in the Rockies and the Selkirks which may at least prove amusing if not astonishing.

I could fill pages with the details of such little incidents as the sudden and unannounced appearance of a huge bear within a few feet of me while I sat sketching Mount Sir Donald; of how, at another time, in rapidly descending the slopes of Mount Abbott I plunged into a thick cluster of "Devil's Club," with results that I will not stop to describe; neither will I even refer to a number of hairbreadth escapes of one kind and another, for these are things so common to the life of the mountain climber that their relation would probably fall flat.

I first saw the mountains in July, 1887, and the first impression lives with me to-day. I had arrived at Banff in cloudy weather with no mountains visible, but while sketching a bit of the Bow River the clouds lifted, and Cascade Mountain with its crags and gullies white with fresh snow appeared as I have never again seen it, and my sketch provoked the remark from Mr. L. R. O'Brien, president of the Royal Canadian Academy of Arts, that it was the first time that he had seen "Cascade" look interesting. Two years later I had the unique experience of going from Montreal to Vancouver and back again to Montreal without seeing a single mountain, owing to dense smoke from forest fires. Arrived at Montreal I renewed my passes and again returned to Banff, having made the journey three times in as many weeks.

In the year 1888, while staying at Glacier House, I was invited by the Rev. W. S. Green to accompany him and the Rev. Henry Swanzy on a visit to Corbin's Mine. As this promised something new, I gladly accepted the kind invitation, in spite of some misgivings as to my ability to keep up with such climbers on the ascent of four thousand feet. When we arrived at Illecillewaet, from which point the trail started, I found horses all ready, and the sight filled me with a new sensation of which, however, I was careful not to betray any visible sign. I had never ridden a horse in my life. I felt sure that I could not get into the saddle without making such an exhibition, as would expose me to general laughter. But to my astonishment I got on better than I expected, for by watching very closely the others mount, and doing as nearly as I could like them, I was in

the saddle before I realized it, and what was equally surprising, nobody looked at me or took any notice.

We started, and the trail led through thick forest for over two hours without anything to see, and I began to wonder if I should have felt any more tired if I had walked. But I was afraid to dismount as some did for a rest and change, being far from sure that on a steep trail I could get on again as easily as I had done at the start. At length we reached tree line, and soon commenced to cross a very steep slope; so steep that I had difficulty in keeping my left foot from striking the bank, while on my right it seemed as though I could look straight down. No doubt this was an exaggerated impression, but Mr. Corbin seemed to consider this a sort of "test" place, for turning to me—he being the leader, and I second in the line—he told me of people who had been over this spot who shut their eyes and clasped their horse round the neck in terror, and he seemed rather surprised when he noticed that I was unconcernedly looking at the river four thousand feet below.

He then asked me if I had observed the fact of my horse having only one eye, and proceeded to give me a minute account of how he lost it. He explained that between my beast—a sort of Cayuse with an evil look in his one eye—and the mule he was riding there existed a strong rivalry for the lead; and that on one occasion when they were at the exact spot to which we were then coming my animal attempted to pass the mule, and rolled down over a thousand feet, escaping with the loss of one eye.

I need scarcely say that I was deeply impressed by this story, and was glad enough when we passed the place.

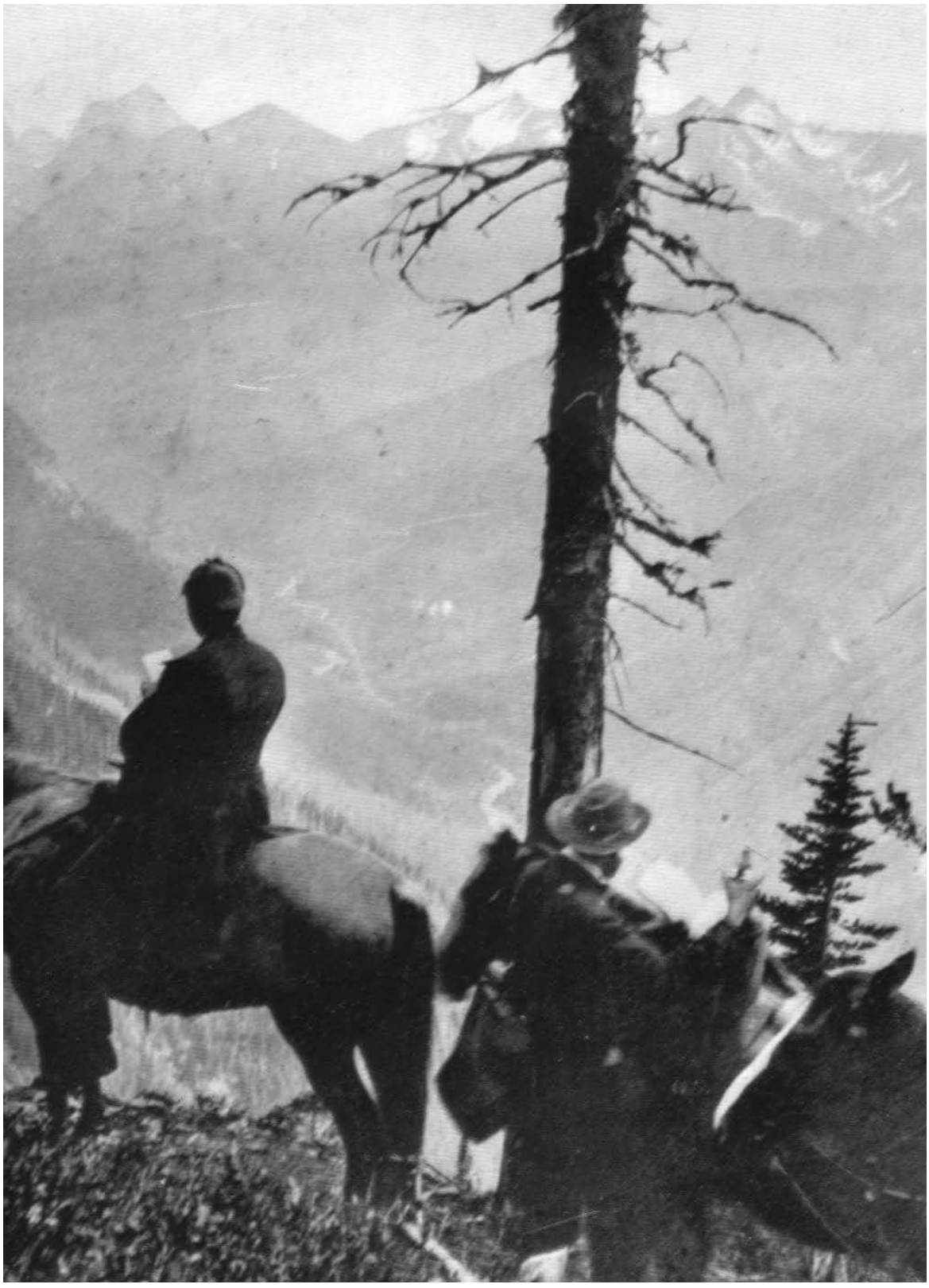
The mine being about sixteen hundred feet down on the other side of the pass, we all dismounted and rested long enough for me to make a sketch before we descended to the mine, where we found dinner awaiting us.

After dinner we lined up on the trail in the same order, and I was standing beside my beast awaiting the signal to mount, when, without a moment's warning, my brute made a sudden dash past the mule taking the inside of the trail, and in doing so pushed the other beast off the path, and down into the valley he would have rolled, but for a tree against which he struck. There was nothing for it but to catch my horse, and a time I had doing so, but having finally caught him and being once more on his back, I was quite content to let him take the lead, and we did so, and kept it all the way down.

That evening after supper, Mr. Corbin was good enough to volunteer some rather complimentary remarks upon my "horsemanship" and, when I very modestly admitted that I had never ridden on any animal with four legs in my life until that day, I am convinced that he considered me to be either a joker or a liar.

The scenery in the neighborhood of the Glacier House has always appealed to me as the most varied and interesting that I have visited, which may account for the fact that I have spent more time there than at any of the other hotels in the mountains.

It was while stopping there in 1899 that I secured the studies for my painting, "The Heart of the Selkirks." The point of view is known as "Avalanche Crest," said to be three thousand or more feet above the hotel and reached by a good trail for about three-quarters of the distance, after which it is a bit of a scramble up a steep slippery grassy slope to the crest of an arête from which the view is very fine. To this point I climbed three times in one week, being turned back on the first attempt when only a short distance from the top by what looked like a furious storm, but which, after driving my guide and me back, switched into another valley and cleared off. The second time



Sketching From Horseback While On The Trail. Photo, F.M. Bell-Smith

I went alone, and had just reached the rocky wall, fifty feet or so below the crest, when a storm did come in good earnest. Quickly divesting myself of as much clothing as possible, and caching it under a rock, I scrambled up in the teeth of the driving rain, and climbing over the crest stood up and took my ducking like a shower bath. For half an hour or more it continued to pour, and then for a long time the clouds blotted out everything. But I waited, and shivered, and waited. By and by there was an opening—yes, there, through a rift, the sun was shining on the Asulkan Glacier. More rifts, and then all closed up again, then more, and more rifts, and then—oh, wonders! Such a sight as I can never forget. I jumped and shouted in my excitement. The clouds were rising from the valley in long festoons, the sun, lighting up glaciers and snow fields and breaking in gleams through the fast diminishing clouds, produced such a scene as would out-do anything I ever saw in a moving picture show.

I came up to get a sketch of the panorama! That was impossible, there were only fleeting glimpses and the constant shifting of the clouds made sketching impossible. I could only take out my book, which I had tucked somewhere under my arm to keep from the rain, and make a few notes in pencil. But the impression made was so vivid and ineffaceable, that I was able to make, what many consider to be my best painting of a mountain subject. The third climb was favoured with fine weather and I secured a valuable study of the panorama in water colours, and the day would have been uneventful but for two little incidents.

While at work on my drawing I noticed far off in mid-air a small speck which, increasing in size, developed into a bird coming directly towards me, and I was soon terrified to see that it was a large eagle. I instantly dropped everything—caught up my umbrella, unscrewed the stick, which had a large heavy iron ferrule, and stood up swinging this stick and waiting till it should come within striking distance.

But when it had got within about one hundred feet of me it rose over my head and flew in a circle three times round looking down at me with an evil look in its eyes, and then to my intense relief flew away to the north. I did not continue very long at my work for the excitement had made my hand unsteady, which may possibly have had something to do with my next mishap.

When I started to come down I think I must have climbed over the rocky arête at a bad point, for I slipped and started to slide down on my back, and I soon realized that a few feet further there was a sheer fall or drop of a hundred feet or more. Throwing out my right arm, I caught hold of a bit of scrub, which fortunately held fast and my whole body seemed to swing out in the air, but I had a firm grip on the scrub and finally pulled myself up to safety, but not without suffering such damage to my clothing as needed the attentions of a tailor, and rendered my appearance at the hotel exceedingly embarrassing.

Some of my pleasantest recollections are of the early days at Lake Louise. My first visit to that charming spot was in 1889, in company with Mr. Albert Bierstadt, of New York, an artist very celebrated in his day. There was then no hotel there—not even a trail to the lake, so we carried blankets, etc., and camped on the lake shore at the very spot where the main entrance of the hotel or chateau now is. I remember also that we had the pleasure of meeting there Col. O'Hara, who camped near us and we spent a pleasant evening round the camp fire. Since then, I have seen the hotel gradually increase in size from one which only accommodated ten persons. (Ah! those were the days. We were like a little family, and agreeable friendships were formed; but now everything is changed.)

A strange thing occurred when I was in camp with Mr. W. D. Wilcox at Lake O'Hara. On our arrival at the camping ground we found six dead porcupines lying in a group within four feet

The Heart Of The Selkirks. Photo, F.M. Bell-Smith

of each other, evidently freshly dead. The next morning we found a seventh who had died in the night. It was a mystery. But when we heard that an English lady had been at this place in quest of butterflies, we conjectured that some poison which is used to kill the butterflies might have been accidently spilled, and if that poison was cyanide of potassium the matter could be easily explained.

That night we made a bonfire and cremated the porkies, their quills producing myriads of sparks and crackling loudly.

On this same trip Mr. Wilcox and I visited Lake McArthur, and first discovered the outlet of which nobody had apparently ever heard before. It was found at the extreme northwest corner, and was easily verified by the presence of small whirlpools sucking down close to the rocky shore, and a noise resembling gravel rattling down an iron pipe.

In 1887, the first year that I saw the mountains, life in the West was very rough. I remember spending one night at a so-called hotel at the town of Revelstoke, and I had an experience which makes me shiver when I think of it.

I, with some others, was seated at a table in the large room at one side of which was the bar, when some men entered, and one tall powerful fellow, who had been drinking, came behind me carrying a sharp axe or hatchet, and poising this above my head remarked, "How . . easy he could split this man's head open!" I did not move or speak, but looked at the landlord, who was seated opposite me, and while he rose and invited the man with the axe to have a drink, I slipped away to my bed, and was thankful to get away early next morning. Revelstoke is now a fine town, but the landlord of that hotel and the man with the axe are still remembered by some.

Note.—The above charming little sketch giving some reminiscences of a well-known Canadian artist during the early days of the opening of the mountain regions to travel by the two sinuous bands of shining steel that link up the waters of the Atlantic with those of Pacific, is too good to be allowed to pass without a few words of comment and of reference to the author.

It is unnecessary to comment upon Mr. F. M. Bell-Smith as an artist. His works are too well known and appreciated to be criticised by an amateur. As he himself suggests in his opening paragraph, his chief power of expression lies in his art, but the foregoing sketch shows that as an author he is by no means insignificant.

Those of us who have seen his canvases of Mt. Sir Donald and the Great Illecillewaet Glacier, of the glorious Lake O'Hara with the snow-crowned majesty of Mt. Lefroy looming high in the background and, best of all, the wonderful painting from Avalanche Crest, to which he makes allusion, can readily realize the splendid power and real understanding that enables him, to depict and express these mighty works of Nature in their immensity of solitude and grandeur.

In addition, however, Mr. Bell-Smith possesses another phase of the art of depicting mountains, and it is to that I desire to refer. As a sculptor, skilled in making map models, showing in relief extensive tracts of the most attractive scenic mountain districts, he excels. At the Canadian Pacific Railway's summer hotels at Banff, Lake Louise, Mt. Stephen and Glacier are to be seen to-day his works in such art, and models built to a natural scale show in miniature the peaks, valleys, streams, various routes of access and the line of the railway. These relief maps are of the greatest benefit to travellers, explorers and mountaineers, and to those who use the information with understanding the various topographical features and byways of the mountains are made clear.

Like Mr. Bell-Smith, my first visit to the Canadian Rockies was to the Selkirks and, like

him, I have remained true to my first love. This mystic region of deep, narrow, hazy blue valleys, filled with forests of giant cedar and fir, midst which the swirling torrents rush seaward, and high above are the snowy tops of the everlasting hills, hires one again and again, and for the true artist is a region of atmosphere that baffles all but the most consummate skill.

As with all of Nature's masterpieces of scenery, the beauties of the Selkirks are difficult of approach and until the railway gave access were only matters of hearsay from the ubiquitous prospector or trapper. These wonderful regions are guarded by dense forests very difficult to travel by reason of the giant proportions of the fallen trees and the dense undergrowth of bracken and sharp-spined devil's club; while the mountain sides where not covered by forest are clad with thickets of downward-pointing alder, so dense that it is an impossibility to force a passage.

The wondrous beauty of this great range of mountains, its semi-tropical, twilight forests, its almost unimpassable thickets of alder, bracken and devil's club, and, when at last you have conquered these obstacles, the glorious heights, the white, shining snow-fields and the innumerable crystal icefalls always make me think of them as the Dear, Delightful, Devilish Selkirks; and I fancy it is somewhat in the same light that Mr. Bell-Smith sees them.

—Editor

Our Need For National Parks

By J. B. Harkin

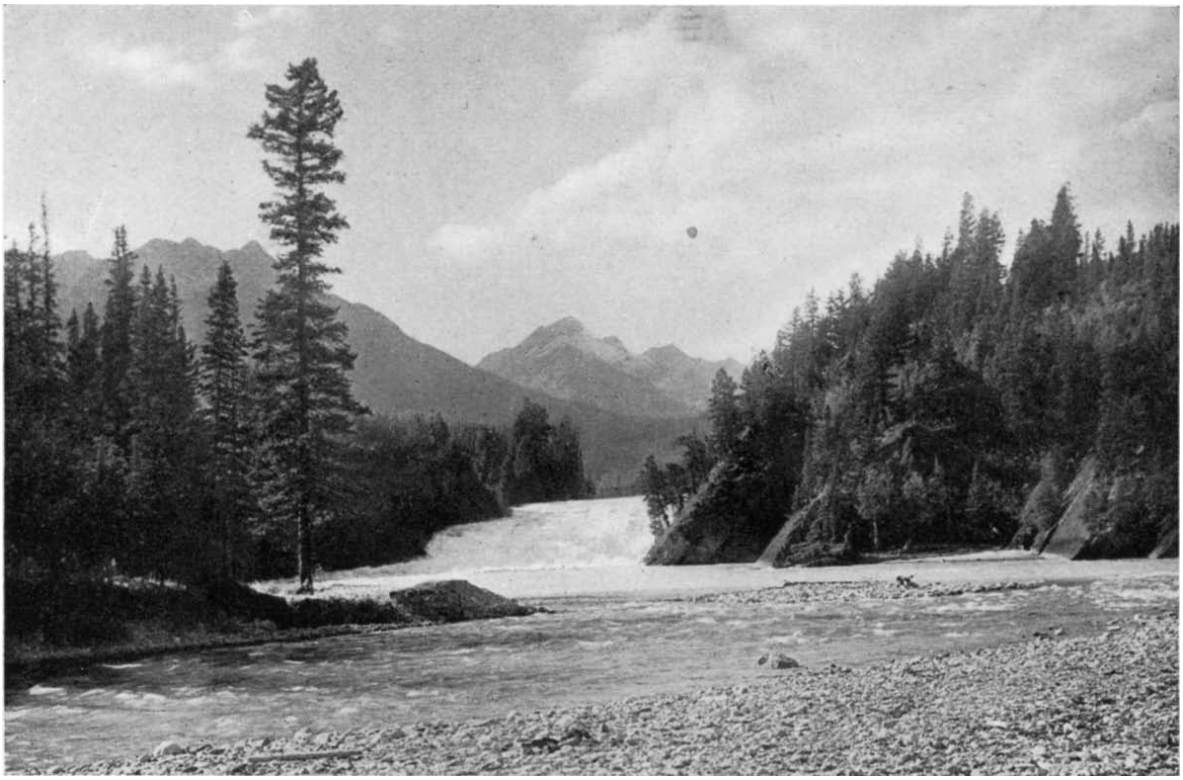
Those who are concerned in the development and administration of Canada's National Parks began their work by asking themselves "Are National Parks worth while?" The longer they are concerned in parks the more clearly and emphatically the answer comes in the affirmative. On points where some doubts existed at first new facts, new developments are constantly arising to dissipate doubts and confirm one's faith that National Parks can and do produce results of the utmost importance to the individual and to the nation.

The commercial results—revenues from tourist traffic —can be demonstrated by figures as irrefutable as multiplication tables. These are of real importance to the individual and to the nation alike. But the results that count for most are results of a higher order—results that serve the individual as to the welfare of his body, the activity and efficiency of his mind, and the beauty and harmony of his soul. National parks are worth while because of these results and a sense of their worth-whileness in this connection serves to make working for them worth while.

Perhaps in broad terms the ultimate purpose served by national parks is to draw people towards Nature, to give them a better understanding of Nature and finally to make them realize that it is from Nature alone that they can get things which they need, things which are to their advantage. Most of us recognize, but only in a vague sort of way, how Nature dominates our lives. She is always working for us and always beneficent. The food we eat she produces for us by the miracle of the wheat field. The transformation of that food into flesh and bone and energy her power alone produces. Nature is ever telling us what we should do and never fails to show her displeasure by punishing us for failing to listen to her or failing to understand her language. After all, the principal problem of all our lives is the interpretation of Nature's language.

Now parks, primarily, are places of recreation and, perhaps there is no law of Nature which is so universally recognized as her decree that to be fit we must take recreation. We take recreation in ten thousand forms and we take it because in the first place our instinct (Nature's command)

Main Street, Banff, Rocky Mountains Park. Photo, H.E. Bulyea



Bow River Falls, Banff. Photo, H.E. Bulyea

tells us to take it, and in the second place because experience tells us of the beneficial results that follow it.

It is true that modern industrial conditions have for many years come into sharp conflict with this natural law. The results thereof are found in the slums, the prisons, the asylums and hospitals of the land. But during the past ten years there has been a very strong development of the recreation movement, which began by the establishment of playgrounds for children and expanded into a recognition that wholesome play and recreation is as necessary for the adult as for the child.

It is interesting to note that recreation is coming to be recognized as a matter of public concern, and that in some countries a department of the government has been created to deal with the question.

It is also worthy of note that in the recent platform of the British labour party, which enunciates a proposed policy for reconstruction and administration after the war, one of the planks calls for public provision for recreation. On the other hand it is observed that such large employers of labour as Sir Wm. Lever are advocating a shorter hour day—Sir Wm. Lever even suggests the desirability of a six-hour day—not for humanitarian or socialistic reasons, but because employers of labour are beginning to realize that it does not pay to turn men into mere soulless machines and because they see that shorter hours of labour, which will allow a man to cultivate his mind and soul, will make him a better and more efficient workman. In fact, it begins to look as if we were going to come to the realization that of all our national resources the most important are our men and women, and that men and women are most valuable in a purely economic sense, when they are most alive, when they have not only healthy bodies but also healthy and awakened minds and souls.

Since work, under our modern industrial system, is often so mechanical and uninteresting that it makes demand upon only a few of the workers' bodily and mental powers, it is self-evident that we must look to leisure to make up the deficiency. The possibilities of the utilization of leisure are enormous and little has yet been done to make use of them. Leisure, as has been pointed out by Howerth, is only opportunity. ''All men should be educated so that they can use their leisure to promote their lives."

The acceptance of these ideas is leading to many experiments in public provision for recreation, and we see on every hand to-day such attempts at remedial measures as municipal theatres and dance halls, community music and drama, pageants, "hike" clubs and many other communal forms of play, together with ever growing appropriations for parks and recreation grounds.

But it is now evident that these are not enough, that they do not meet one of the deepest needs of all, an opportunity for recreation in the great out of doors, not only the recreation of the restricted parks and playgrounds of the cities, but recreation close to Nature in some large area of wilderness where people can live for a few weeks or a few months a simpler, more natural life.

In consequence, a number of great cities are making provision for summer camps in the woods or mountains, where large numbers of children and older people can go for a holiday close to Nature. Denver, Colorado, has secured two mountain parks in the foothills of the Rockies where large summer camps have been established and where anyone may enjoy a few weeks' outing at a merely nominal expense. In the Interstate Palisades Park on the Hudson a camp site has recently been established which last year accommodated several thousand children and adults. In California a similar use is being made of some of the national forests. What do these things indicate? They

indicate surely a new point of view, a recognition that contact with Nature is one of the necessities of life. It has taken us some time to arrive at this conclusion, but the data collected by scientists within the last few years has shown beyond question that life in our modern cities tends almost universally to a deterioration in type and that vitality— that reservoir of the life and power of the race—under modern city conditions, is constantly being dissipated. Although we have got rid by improved sanitation and better hygienic ways of living of many of the diseases which belonged to a more unorganized state of society, the fact remains that the nervous strain, due to monotonous and uninteresting labour and the unnatural life of cities, is making inroads upon our stores of nervous energy which arouse serious apprehension in the minds of thinking men. And it seems likely that even if we were able to build our cities along better lines, in harmony with the most approved systems of town planning, with more gardens and parks and playgrounds, there would still be something lacking. Some part of the problem would still be unsolved. It is only when we can get into real contact with Nature and with the living forces of what we now realize to be a living earth that we can renew our wasted springs of vitality. For there is something we get from Nature that we can get nowhere else. What the secret of her magic elixir is our chemists and scientists have not yet discovered, but there is no doubt that she possesses some secret store of health and vigor that can be found nowhere else. Take the example of the wild strawberry plant. You can domesticate a wild strawberry, bring it into the garden and make it a better thing commercially, but what of its flavour? It has lost that wonderful wild tang which was its peculiar charm. And, too, it has lost some of its vitality. It is more sensitive, less hardy than the plant which grows upon the hills or by the roadside. In the same way men who are transplanted to cities lose there some of their vigour and hardiness which was their original gift from Nature. I am told, however, that if you take your wild strawberry plant and transplant it back to the wilderness it will regain its original characteristics and revert once more to type.

It is possible that this may contain the lesson as to what we should do to meet our social deficiencies. We cannot get rid of all the evils of modern life without upsetting our present industrial system, but what can be done is to try and make it possible for as many as possible to revert to more natural conditions as often as possible.

This thought was brought home to me with great force on the occasion of my first visit to the Alpine Club Camp. It was in 1912, shortly after I had taken charge of the administration of the parks, and while, perhaps, I was rather vague in my mind as to their possibilities and future destiny. But as I sat around the camp fire that night watching the firelight play upon the faces of the climbers who were, like myself, luxuriating in the sense of physical well-being and spiritual peace which comes from a day spent in hard exercise in the clean, life-giving air of the mountains, when I heard the gaiety of the conversation and experienced the comradeship which grows out of dangers and pleasures shared in common, culminating in the subtle fraternity of the camp fire, I realized very strongly the uses of the wilderness. I felt like saying with Walt Whitman: “Now I see the secret of the making of the best persons. It is to grow in the open air, to eat and sleep with the earth.”

These men and women, as their faces showed, had come for the most part from the complex life of the cities. For possibly eleven months of the year they were tied to desk or class room or professional office where every day brain and nerves were under continuous strain. But for a few weeks they were free and it was evident that they were not only storing’ up a reserve vitality which would serve them throughout the year, but that they were also gathering inspiration and a new vision of life and its possibilities. They would be better and more efficient citizens because of their

visit to the mountains. It gave me a new realization of the value of national reservations where the beauty and charm of the wilderness are conserved for all time to come and where because they are publicly administered their attractions can be opened up and developed. And I could not help wishing that the benefits they have to offer might be shared by every citizen of Canada and especially by every worker in our large cities.

For though everyone needs recreation and change and the opportunity to enjoy natural beauty, the brain and nerve workers, the people of the cities, specially require the medicine of the wilderness. It seems to be a law that the farther we have been away from Nature the more we need to get back to a natural and even primitive life. Such life not only restores the vigour of the body, but it has a very sensitive and healing effect upon the mind. It may be that for the city man this is partly due to the fact that such a life brings into play long unused powers and faculties. The impulses which were stored in his physical cells through countless centuries of human existence re-awaken and he experiences a strange pleasure in reverting to the primitive. Possibly this may help to account for the pleasure we all feel in natural sights and sounds, such as the murmur of the wind in the trees, the falling of water or the patter of rain upon leaves. These are things which seem to awaken strange memories and it is possible they draw after them a train of associations as old as man himself. Who can explain the peculiar pleasure we all feel in a camp fire and even in its domesticated survival, the open grate fire, if it is not that it re-awakens long-buried, subconscious memories of the ages when our primitive ancestors used to sit by the camp fire at night with the dark forests behind them, safe from all the terrors they contained. I cannot help thinking, also, that one of the great pleasures and benefits of such a life is that it allows a man to resume his relationship with wild animals, a relationship as old as man himself, and which every man takes pleasure in renewing.

And, lastly, it gives him a new appreciation of natural beauty. For Nature does not reveal herself to the mere passer by. The tourist who rushes through the mountains misses much of their charm. You have to live with Nature before she will reveal to you the deepest secrets of her personality. What the influences of natural beauty are it is impossible to define. If life in the wilderness revitalizes the body of a man and frees and clears his mind, the contemplation of beauty liberates that deepest part of him which we call the soul. It takes us, as the common phrase puts it, "out of ourselves," that is, it lets us out of the prison of the ego and brings us into contact with the Universal. "I enter some glade in the woods," said Thoreau, "where a few weeds and dry leaves alone lift themselves above the surface of the snow and it is as if I had come to an open window. I see out and around myself. This stillness, solitude, wildness of Nature is a kind of thoroughwort or boneset to my spirit. What are threescore years and ten hurriedly and coarsely lived to moments of divine leisure in which your life is co-incident with the life of the universe!"

Almost everyone who goes to the wilderness experiences, however dimly, a consciousness of re-creation which is the result of something more than mere exercise and the effects of sunshine and fresh air, a finer ether in which his soul is enlarged and purified, and perceives a sense "of something far more deeply interfused," which answers a need greater than that of mind or body.

National parks are reservations of the wilderness—the most beautiful areas in our country. They constitute a national recognition of the necessity for recreation; they afford our people unique facilities to satisfy their instinct for recreation; they provide those charms of beauty and grandeur which enchant and stimulate the imagination and the soul; they throw open to everyone opportunities for satisfying that persistent, sub-conscious desire for getting in touch with the mysteries of the wilderness. Their existence makes it possible for us to obey those natural laws,

Cataract Valley, Where The Camp Was Held On The Way To Lake O'Hara.

Lake O'Hara At Head Of Cataract Valley. Photos, H.E. Bulyea

which urge us to seek recreation, to seek beauty, to seek the wilderness. Their existence makes it possible to reap those rewards of body, soul and mind which follow obedience to those natural laws. And when once the irresistible powers of Nature we experience in those incomparable beauty spots that constitute our parks, have re-created us, have re-made our physical bodies, have clarified our minds, have healed and purified our souls, we find ourselves seeking new beauties, feeling new pleasures, in the flowers and trees and sunsets and vistas at home which in the course of years had become common place to us.

I shall conclude with an incident which occurred in my office at Ottawa, which bears out what I mean.

Tenders had been called for equipment required for Rocky Mountains Park, and one morning an agent walked into the office seeking some additional information with regard to the tenders. He was a typical matter of fact commercial business man. Obviously his chief concern was securing business. In the course of the conversation his attention was attracted by a buffalo head on the wall. He followed up a remark about it by an enquiry, "Did you ever see the buffalo at Banff?" He evidently associated the business in question with Ottawa and not with Banff. On my replying in the affirmative, his face brightened up; he apparently felt there was something worth while in common between us. Business was forgotten and he broke into enthusiastic praise of Banff and the marvels of the Rockies. A dozen years before he had been told by his physician in Montreal that the only chance of recovering his health, shattered by a severe attack of pneumonia, was to spend a summer in the Rockies. He had spent it at Banff, and even we whose work is associated with the mountains could scarcely surpass him in appreciation. He specially gloried in the view of the Bow Valley from the C.P.R. Hotel.

It appeared that while at Banff he rose early and habitually spent much time in the early morning before the other guests were abroad, drinking in the beauty of the view from the old look-outs or summer houses that were then on the cliff overlooking the river. One morning while so engaged he was startled by hearing a sigh behind him. He had thought he was absolutely alone. Looking round he saw a well-dressed, prosperous-looking stranger. They exchanged greetings and the stranger replying to a remark as to the beauty of the scene, said: "Beautiful! Why, sir, I had to come to Banff to learn that there was a God."

The story which the stranger told him need not be repeated here. It was the old story of a man who in the successful pursuit of wealth and success had found himself drifting through the various stages of doubts and indifference to wind up in absolute unbelief. The relation itself and the circumstances under which it occurred drove home to me as never before, a realization of that subtle influence which the mountains so powerfully exert in the way of uplift and purification and moral and mental, as well as physical re-moulding upon all who come within their domain.

Impressions Of My Graduating Camp

By Rhoda W. Edwards

How well I remember that glorious July morning when, leaving the C.P.R. at Hector, we started for our camp in Cathedral Valley.

As the engine shrieked "good bye" we turned instinctively to watch the departing train only to meet the derisive gaze of the goggle-eyed tourists who, from their observation platform, stared at our alpine costumes with the scornful scrutiny of provincial intolerance.

Undismayed, we swung off at an easy pace, with light packs and lighter hearts, while the rollicking rhythm of the car wheels carried into the ever increasing distance our cares and responsibilities.

As the sounds of the outer world died away Nature spoke to us, and we understood her language. The stately trees with swaying courtesy bent and whispered gracious greetings as we passed. The saucy marmot peeping at us from beneath a boulder whistled his welcome, too. The very mountains seemed to open up, then close around us as if to hold us closer in their strong embrace.

Gradually the first hush of awe yielded to an awakening sense of our own latent powers, an appreciation of our birthright, a determination to win our way to Nature's citadel and scale her ramparts. Dreaming thus as we followed single file along the zig-zag trail I was roused from my reverie when the party stood suddenly at attention.

Above us waved the Union Jack and not far off there floated the Stars and Stripes, emblems that to us Anglo-Saxons mean "Home" wherever found.

As we stood gazing aloft, out of the dense thicket, like Robin Hood, sprang our camp angel Mr. Richardson, but, unlike the merry outlaw, his hand was outstretched to give and not to take. With hearty greetings he led the way along a verdant path to where our camp was pitched. There were tables bountifully spread with a steaming repast, for which our long hike had well prepared us, but even hunger about to be appeased yielded precedence to the soul's feast, which Nature offered for our delectation. Scattered among the evergreens like pearls in emerald setting were our white tents, while a mountain torrent in its winding course separated the main camp from the more secluded glade where were the Ladies' Quarters.

Here the glacial stream, that on the farther side tossed itself into a frenzy of foam as boulder after boulder impeded its passage, meandered lazily among the shrubs and juniper bushes, leaving limpid pools along its wake. Crowning the picture and towering above all like cathedral spires, the snow peaks of the surrounding mountains glistened in the noonday sun. Here, too, like a defiant ogre guarding his enchanted domain, the Watch Tower glared down upon us, grim, gaunt, unscalable.

After luncheon we formed into various scrambling parties. Some to reconnoitre neighboring glaciers, others to climb Vanguard. The more venturesome to attack the Watch Tower, seeking in its vertical walls some undiscovered crack whereby an ascent might be hazarded; while we graduating members were initiated into the treacheries of shale.

You who have never climbed cannot appreciate, you who are long since "Actives" may not recall, the thrill not unmixed with dismay that such scrambles give the novice; but never shall I forget my first experience, when with long, lazy stride we left the camp, crossing the rustling torrent on a slippery log whereon we pirouetted as it rolled beneath us, till we reached the woods beyond, and forced our way through the dense underbrush.

Cheerfully we goose-stepped over what seemed miles of fallen trees till reaching timber line we looked back upon the camp nestling like a white speck in the valley far below us.

As I surveyed the landscape I congratulated myself upon a strenuous day's work successfully accomplished, only to learn that the scramble had just begun, and that a vast sea of shale separated us from the ledge where our actual climb would commence.

To my untutored eye we were making for a point perilously near a precipice; and as my feet sank into the shale my heart sank deeper still. My alpenstock slipped from my grasp and I slid helplessly toward that terrifying abyss. I was nerving myself to meet my inevitable doom when my

guide called encouragingly, "Never mind, the shale will pile up under you." Even as he spoke, my precipitous descent of what had seemed an interminable distance, though it proved to be but a few feet, was suddenly arrested, and after a few clumsy efforts I learned to manipulate my alpenstock, which some kind friend had rescued, and walk in shale, if not with grace, at least with comparative ease. On our return journey I slid again. This time by preference for my first experience had taught me that shale is not as bad as it looks, and though tedious in the ascent may prove equally exhilarating on the downward grade.

Though I look forward to my next camp with enhanced pleasure none can have the glamour of my graduating year. Epicurus taught that the maximum enjoyment follows previous discomfort, and my initial climb was a long path of places that led to ecstasy. The triumph of victory was preceded by the anguish of uncertainty. The shadow of failure stalked me to the finish. But at the summit it left me to the contemplation of a new world, with the eyes of a new born self, and the rapture of that hour is indescribable.

Every incident of that eventful day is indelibly written in my memory. I can hear the summons before the dawn. I can feel myself groping among the balsam boughs of my tent for mislaid gloves and goggles. Whiffs still come to me of the savoury bacon, the steaming coffee on which we breakfasted. I listen again to the few well chosen words which our director cheered us on our way dispelling the gloom of dawn and doubt.

The lessons that were learned that day are lasting. They endure not for one climb only but for all life's long tedious trail wherever obstacles block one's path, to conquer us, or by us to be overcome. How can I forget the spirit of the Alpine Club as exemplified by the outstretched hand that assisted me across the roughest places, and saved me from the perils where my stumbling footsteps led.

Would that I could "follow up" again beyond the timber line to cull the blossoms that had dared to climb where no other vegetation grew. Would that we could lunch again on the ledge that seemed but an eagle's nesting place, and quench my thirst in the tiny stream that trickled from the mouth of the glacier. In such an icy draught and not in the tepid fountains of torrid climes may the Elixir of Youth be found.

Finally, I would lay my hand again upon the snow capped peak where first I pledged allegiance to the Alpine Club. There weariness and discouragement dropped from me like the clouds that hung so far, far below us.

Such is the sublimity of climbing: the rising above the clouds—beyond our human to our superhuman selves! Gladly would I have remained longer upon the ridge in contemplation of the superb panorama, but the sun was high in the heavens and crevasses might open in the glaciers to be crossed, while the thunder of avalanches warned us to make haste. Homeward bound! What glorious glissades we had en route. How easily we sprang from rock to rock where we had toiled so laboriously in the morning. What speed we made sliding down the shale slope, up which we had crawled, and when we reached the camp how joyous were the voices that greeted us, how hearty the grasp of congratulation. My heart is stirred with grateful emotion when I remember the genuine gratification of my comrades in our success.

In the twilight after our hearty supper what a balm for aching back and tired feet to drop in satisfied exhaustion beside the blazing logs of our camp fire, to feel a sense of warmth and rest come stealing over you, above all to know that you belong to the mystic circle forever bound in Alpine friendship.

There beneath the starlit sky, beside the rushing torrent we sang the old refrains or listened

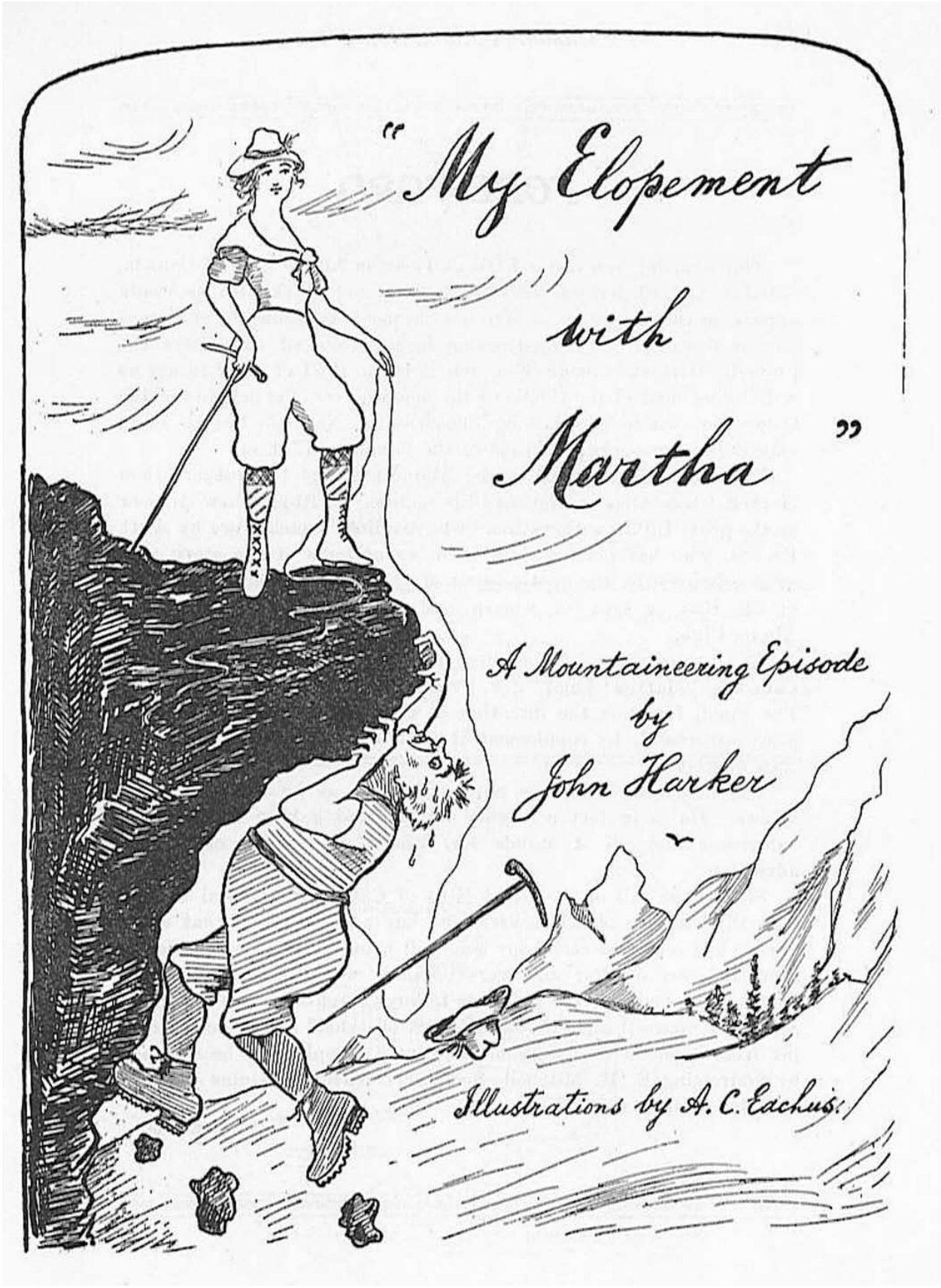
to some fellow-member erudite in the secrets of science whose "open sesame" rolled back the portals of knowledge displaying to our mental vision the treasures of the learned. There, savant clasped the hand of student in the Brotherhood of Mountaineers, there nature lovers from many countries, from many walks of life, met in fellowship, each bringing the best that lay in him to offer on the Altar of Fraternity.

What camaraderie, life in the open begot; what friendships sprang like sparks from evening hours around the fire; and when the crackling logs had turned to glowing embers, and we had picked our way by starlight across the swollen stream amid much merriment, what sweet dreams wove themselves into the fabric of our slumbers, and where may more refreshing sleep be found than on a bed of balsam in the very arms of dear old Mother Earth?

To-night as I write I look out across the Golden Gate where the search lights sweep the Bay of San Francisco for sign of lurking foe.

All day the garrison has resounded with tread of marching feet, but clearer than the clarion call of military activity sounds the tiny trickle of that mountain stream that once quenched my burning thirst, brighter than the lights of "Alcatraz" shines the blaze of last summer's camp fire, in the glare of whose crackling logs, I discern the old group of kindly faces, while I listen to the song of one, the story of another, till the evening grows colder and, as is our wont, we clasp hands around the glowing embers singing "For Auld Lang Syne." Thus the picture fades into dreamland and as it vanishes out of the stillness of the night sounds the last call "Taps."

From east to west cantonment echoes the bugle's long lingering note reminding me of those among us who in the great struggle have achieved their Final Climb.


"My Elopement with Martha"
A Mountaineering Episode
by
John Harker
Illustrations by A. C. Eachus.

My Elopement with Martha - A Mountaineering Episode

By John Harker

This amusing and clever little skit on the Alpine Club of Canada, entitled "My Elopement with Martha", is not so skittish as would appear on the face of it. There is a deeper note below the surface - one of warning. Procrastination is the thief of time, says the proverb. Here, it is made clear that it is the thief of other things as well: enjoyment of the thrills of the mountaineer, the delights of the campfire circle and lasting memories of nature's beauty spots amidst the snow-crowned peaks of the Canadian Rockies.

The story is presented to the Alpine Club by the author, John Harker, whose alias in everyday life is John. W. Hugill, law advisor to the great CPR corporation. The excellent sketches are by A.C. Eachus, who has portrayed in them the epitomy of the story, and most prominently, the gentle spirit of "Martha", as the embodiment in all that is best in women and particularly women of the Alpine Club.

The presentation of the idea has created the Alpine Club of Canada's "Martha Fund" for prisoners of war. It is in fact *the fund*, for it is the intention of the author, should this issue prove successful, to supplement it with another Martha tale, and then another.

The hero and author is not so dialetory as he would have us believe. He is in fact a mighty hunter, and a keen lover of the wilderness and all it stands for, who is in search of further adventure.

Should the call of the great hills of Canada not appeal to you, then think of the object in view and buy a copy - think that every twenty-five cents for each copy sold will bring pleasure and relief to some prisoner of war and, very possibly will help fill an aching void. If you have friends, get them to buy copies or, better still, take a number yourself and sell them for us on behalf of our heroes now far from home in the hands of the enemy.

Copies can be obtained by addressing S.H. Mitchell, Secretary-Treasurer, Alpine Club of Canada, Banff, Alberta.

The Director

MARTHA

"Respectfully dedicated to those cheery Amazonian spirits, who, having spurred mere man onto mountaineering effort all day, sooth his physical ills with their presence around the campfire when the evening shadows fall, and to all dutiful wives who consent there to."

Perhaps to be technically exact, I should call these reminiscences "Martha's Elopement with Me!" That would not quite hit the nail on the head, because it was an escape or running away, but I did the escaping and running, not Martha.

Do not for one moment imagine, kind reader, should you rejoice in the appellation of "Martha," that there is anything personal in this narrative, or that I am thinking of you in particular.

Martha is the embodiment of all we men find in the gentler sex ever to a more or less extent spiritually present, urging us on with the magical word "Excelsior," whether it be mountaineering or any other feat requiring some effort, and never leaving us until it is accomplished. "Martha" is the name I have chosen, and "Martha" I mean to stick to throughout these pages, just as "Martha" stuck to me.

IT WAS A CHEERFUL PROSPECT !

To be brief, I have been a member of the Alpine Club of Canada for five years. With what enthusiasm I joined and mentally painted a beautiful halo around my head as a Graduating Member at the first succeeding Camp, others have no doubt experienced and the rest can very well imagine. It was not to happen, however – the halo was not for me. There appeared to be more alluring, albeit less satisfying recreation at hand, or that evil spirit "Procrastination" acquired a foothold, and the year went by.

It was the next year I first heard of Martha. She had been there. She had climbed the 10,000 feet over rock and glacier.

I felt a gentle tapping at the storehouse door of things neglected. A gentler voice with apparent timidity seemed to say, "Get up for your climb," and I, poor slothful mortal, turned again on the other side to sleep – it was so much easier – and so this other year rolled on.

The war upon us, perhaps, afforded some reasonable excuse for unfulfilled qualifications to some who obeyed the Higher Call, or tried to do so.

Not so the next year that followed, and Martha plainly told me so, when, figuratively speaking, she packed her dunnage bag and hit the trail to Banff, to make her third real ascent. The fishing was so very good in the Spray Lakes that year, and oh! How I wanted to hunt mountain goat and sheep in the fall. I abandoned the task at hand for the pursuit of the chase.

If there is any Graduating comrade as delinquent as I, whose resolutions have fallen unfulfilled on the hillside leading to the Club House, even as mine, I hope, companion in misery, Martha's spirit troubles you as much as it did me. I know of one such case – perhaps it is yours,

AROUND THE CAMP FIRE

sympathetic reader!

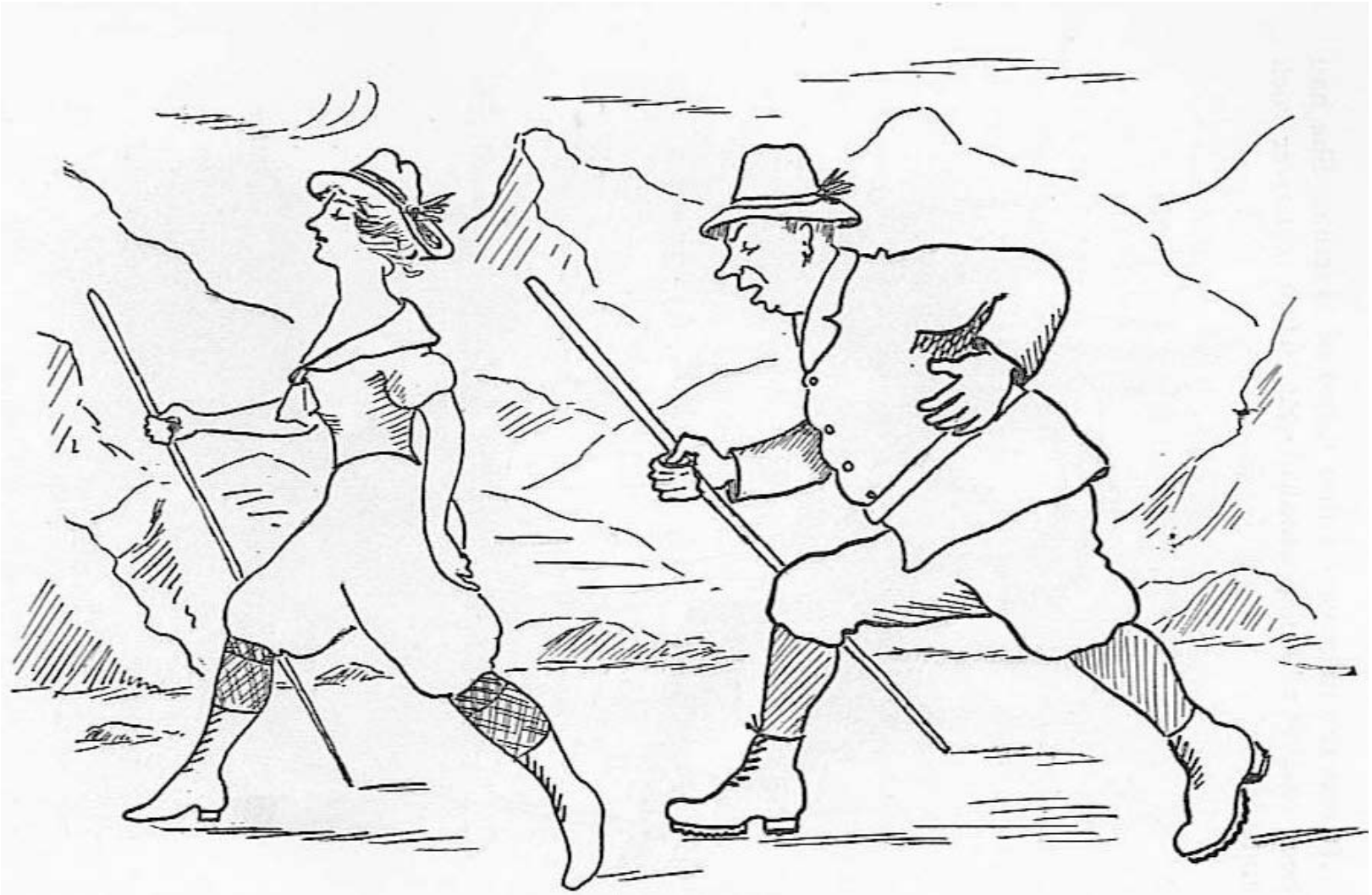
Martha returned from her third Camp calm and dignified, with the conscious strength born of something attempted, something done. The subject was not alluded to. Her spirit treated me with cold disdain. I had played truant for the third time since the first gentle reminders reached me from her spiritual world. I had fished in the Spray and shot my limit of mountain goat – I had clearly departed from the path of duty – I was still unqualified for the Alpine Club of Canada – almost an outcast.

THE GREAT MOGUL!

When the camp at Hector was announced this year, conscious of some spiritual irritation, I took counsel with myself, and summoned Martha. I expected a scolding. I expected to be told I was not worthy of any further effort on her part. To my relief, she was kind and forgiving; in fact, she was quite sympathetic with my contrite spirit. Her message was brief and very simple. "Wilt thou climb now?" she said, and with all the courage I could summon, I heartily replied, "I will."

The compact was made. Her spirit was to go with me to cheer, urge and carry me on. The camp was well nigh over. Time was of considerable moment. Oh how I regretted, at every turn of the hurry and bustle of getting away, the past opportunities; when, in the light of subsequent events, I might have climbed even as Martha, and never have been missed from the High Executioner's list in the toiling world of the plains.

It was a gorgeous morning, after the much needed showers during the night, when we



A Good Start

alighted, after breakfast on the train, and commenced our walk to the Main Camp, three miles distant from Hector. With the lure of the wild mountain scenery firmly grafted into my limbs, and Martha's spirit ahead, we swung along at a comfortable pace, arriving at the Main Camp well under the hour.

The genial Secretary met us, as the say in the West, with the Glad Hand and Cheery Smile, neither lacking in sincerity, and, as customary, at once proceeded to chide me for failing to herald my approach as a would–be active with a timely warning of my intention. It was here that Martha relieved the tension of the situation with her playful aside, "Here's another truant," and the joy of the lost sheep come to repentance made everything appear plain and smooth sailing; in fact, I at once felt I was one of Mr. Mitchell's family and quite at home.

THE HALO WAS NOT FOR ME !

After registration and the necessary camp accommodation had been allotted, the question of climbing possibilities was discussed and decided upon. "You must take a short stroll to the

subsidiary camp at Lake O'Hara, about six miles distant," whispered Martha. "Then the next day you are down for a try-out on Mount Schaffer." (A name one at once associates with "Old Indian Trails.") I was quite jubilant – then the awe-inspiring thought – a real climb up a glacier-hung mountain over 10,000 feet.

Still A Graduating Member

"Odaray is a beautiful climb," chimed in my newly-found Amazonian friends, looking up quite unconcernedly from their knitting; "and a 'ducky' walk of six miles before you reach the base of the mountain."

It was a cheerful prospect for my soft and pampered flesh to attempt to endure (comme il vous plaira) and I felt a sinking heart, a flagging spirit and an absolute absence of courage, until Martha reassured me, sotto voce, "It is not a difficult climb. We will be perfectly safe with Christian," she said.

And there he was, ready for my boots to put the creepers on the soles and make a pair of mountaineer's boots out of my perfectly good hunting shoe packs. And he did it, regaling me with sundry bear and goat-hunting stories the while, causing me again to experience pangs of remorse.

To think that I had irretrievably lost the association of these perfectly splendid specimens of physical, fearless, modest manhood for five years past and no earthly chance of overtaking it!

I was introduced to the Camp Fire that first evening after six o'clock supper. Camp fires are a sine qua non of all journeys into the forest primeval. Nevertheless, I like now, in the quiet seclusion of my own domestic hearth, to think that the Camp Fire evenings of the Alpine Club of Canada bid fair to be unique. Annie S. Peck, who searched for the apex of America, making a record climb of over 20,000 feet above sea level, was there to delight and instruct with her

reminiscences. What a joy to meet the Alaskan scenic artist, Davis, in the flesh, and to hear how he kept warm in the lone Northland. To hear from the lips of no less than an authority than Taverner, the Dominion Ornithologist, that hawks by destroying gophers at the rate of at least one every other day, atone for all the alleged depredations in the poultry yard, in this age of high cost of wheat. To see the Three Graces – mother and two daughters – entering into the spirit of camaraderie with a Graduation Song.

I Made My Vow!

Alas! that I should not be permitted to meet the Great Mogul Director, Wheeler, at this Camp Fire. The reason will appreciate the moral of my random story and will be sympathetic with my conclusion, if not deeply touched by my epilogue.

I assembled at roll call the next morning almost to the minute. L'exactitude est la politesse du Roi. I felt a kingly spirit and it was good to the taste. I was scheduled to conquer a mountain – attempt something, and Deo volenti, accomplish it.

With a large plat of porridge tucked away comfortably, and my trusty alpenstock in hand, we started. I felt quite proud to be entrusted with a rucksack, the repository of three lunches, to be handed over to the guide at Camp O'Hara before starting on the ascent. We were away to a good start. The air was cool after the early morning shower – Martha was with us, and all was well. We arrived, as we had departed, on schedule. A righteous judgment upon me. The clouds were there first and shed a sprinkling of rain, increasing with each effort at half-hourly intervals, until, unable to resist the temptation to rub it in to all slackers, even as I, the Great Unknown controlling the elements turned the rain to snow, and with sinking hearts we retraced our steps to the Main Camp – disappointed, but not (Oh, dear me, no!) downhearted, for in that retirement I learned many things. Martha realized she was not very successful with her remark that it was a pity we had not

come into Camp when it opened, and sough to encourage me with the hope and expectation of a fine to-morrow.

To-morrow is the thought that had pursued and overtaken me for the past five years, and I was still a Graduation Member. To-day, the one period in that long lapse of time when the glorious possibility of seeing my name posted as an Active Member was almost within my grasp, had become Yesterday.

What a hopeless predicament – how could I face the wife of my bosom, the God-given mate, who, having tearfully consented to my "escape" to the perils of the mountains with their gaping crevasses and treacherous rock faces, anxiously awaited the moment of my victorious descent from the clouds and return to the felicity of our domestic hearth with the halo. To think that I could never tell my children I had climbed above the timber line – on over the glacier field – up the chimney – upon the ridge, and sat away up on the cairn and coasted part of the way back with true mountaineers' delight.

As I stated at the commencement of these last few thoughts – what a hopeless predicament!

Martha came to the rescue again. Brave Martha. "Never mind if it does snow all night and we can't climb to-morrow or the next day. It will soon be fine again. Why not try Stephen some week end?

With my hands firmly clasping the trusty Guide Book, and with all the solemnity I could summon for the occasion, I made a vow, and whether it is laid down in the regulations of the Alpine Club of Canada or not, I neither know nor care. What I do know, and here write down, is, that when the mystical spirit of Martha in my evident distress whispered, "Wilt thou climb Mount Stephen soon?" I answered fervently, "I will; lead me to it."

HAPPY THOUGHTS

Epilogue

It if be profitable to "Do it now," whatever the work at hand is in business pursuits, it is equally advantageous not to put off one's play. To you, sympathetic readers, who for a brief moment have turned Westward, and for a breathing space hovered on the summit of our Canadian

Rockies, but have never explored the vastness of this great domain, I urge you to partake of the joy of your first Camp Fire without delay. To those Unqualified Members still struggling amid many temptations with their known duty to graduate as Actives of the Alpine Club of Canada, I conjure you to listen to Martha, make good your vow and climb something.

The Seven Ages Of The Mountaineer

By Allen H. Bent

All the world's a playground
And all the men and women merely climbers.
They have their ups and their downs;
And the climber in his time takes many parts,
His acts being seven ages.

At first the aspiring school boy, with his satchel,
And shining morning face, creeping like snail
Unwillingly to school, with his eyes upon the hills.
And then the youth, feeling his strength,
Teaching his feet to feel the ground,

And making his first little ascent.
Then the enthusiast, sighing like furnace
And perspiring like rain, toiling unceasingly
Above the trees and above the clouds.

And then the traveller, full of strange notions,
And, bearded like the pard, seeking the bubble reputation
Even in the volcano's mouth.
And so he plays his part.

And then the lean and hob-nailed alpinist,
With colored goggles on nose,
With rope and ice-axe daring the eternal snows.

The sixth age shifts to the towering rock peaks,
Where full of honors and years the veteran
Completes his climbs. Last scene of all,
That ends this strange eventful history,

Is the age of reminiscence and authorship.
Sans hobs, sans rope, sans ice-axe, sans knapsack,
The old mountaineer summons from the shadowy past
The climbs that once have been.

Climbers

By Cyril G. Wates

"Whither away, Friends ?"
"When the gray of the dawn lies cold and still
"
On snow-clad mountain and spruce-clad hill,
"And down in the valleys the purple of night
"Still waits for touch of the sun's first light
"To drive it hence."
To the dizzy heights, Friend.
Scaling the rocks to the névé white
And the snow-dome corniced on left and right,
And when sunrise comes in its regal state
You shall hear us shout from yon far arête
On our upward way.

"What do you seek, Friends?"
"Know you not that the valleys hold
"Wealth of silver and wealth of gold?"
Yes, but the mountains which seem so bare
Have burden of treasure more rich and rare
Than any you know.

"What treasures are these, Friends?"
The winds of God are more than wealth,
For they tint the cheek with the glow of health,
And the pulses throbbing in every vein
Give a sense of joy that is almost pain
To the thrilling heart.

"But what of the risks, Friends?"
"Do ye not crawl with bated breath
"Where every step is a game with Death?"
The rotten rock and the sliding snow
Are trials to be overcome in the glow
Of our youth and strength.

"What of the goal, Friends?"
"What of the summit ye strive to reach?"
Ah, the climber knows, but he cannot teach,
And he never forgets, though he rarely speaks
Of the boundless sea of snow-clad peaks
That is stretched below.

And wot ye well, Friend.
That whoso the summit doth once attain
Shall never be quite the same again.
Like the aged Rabbi of Levi's race
Who in the flesh beheld God's face,
As the Talmud saith.

"What of the Man, Friends?"
The soul of the Climber may well be known
For the mountains have voices which call to their own.
And he would climb must be true and tried
For the lives of the many full oft reside
In the hands of one.
"But what is the end, Friends?"
Little we reck what the end may be,
But more than the present in Life we see
And give good heed while the truth we tell,
The Man who would love the Maker well
Must love His works.

Graduation

By Rhoda W. Edwards

In the morning, oh! ye climbers,
Though the dawn be cold and grey,
You must leave your beds of balsam
And with ice-axe pick your way.

You must climb above the timber,
Cross the fields of ice and snow,
Ere the avalanche be on you
Or crevasses wider grow.

Though the shale be slipping, slipping,
Though the rocks are flying fast,
Though your brow with sweat be dripping,
You will reach your goal at last.

Up the chimney, round the cornice
Then a traverse on the ridge,
Hold the rope taut!
Here's a chasm,
One by one you'll have to bridge.

Grip with knee, with toe, with finger,
There's the peak with cairn in sight.
When you've scaled it you may linger,
With a mountaineer's delight.
Then retrace your footsteps slowly
To the glacier fields below,
Where you glissade homeward swiftly,
Coasting, sliding down the snow.

Oh, the welcome that they give you,
When you reach the Camp at night,
And they lead you to the bonfire
Where you've earned a seat by right.

ALPINE CLUB NOTES

A New Centre of Mountain Attractions at Atlin, B.C.

Mr. L. G. Read, of Atlin, B.C., has brought to the attention of the Alpine Club of Canada a new centre for mountaineers and mountain scenic attractions. His letter of February llth, which is here published, was accompanied by twelve beautiful views from his own camera, eight of which, in reduced form, are now reproduced. A number of these views are telephotos taken at distances from the subject ranging from 6 to 40 miles. The original size of each view is 5 by 7 inches, and the price varies from 50c. to $1.00 per print. Prints can be had on application to Mr. L. C. Read, Atlin, B.C. His letter follows:

Atlin, B.C., February llth, 1918.

Mr. A. O. Wheeler, A.C.,
Sidney, B.C.

Dear Sir,—Mr. Scarlett, of this place, a member of the Club, tells me that you would like some views of the region and a short description of the same, so I am sending you, under separate cover, several views that I think will interest you, from a scenic standpoint, of a practically new and delightful portion of British Columbia that has hardly been touched as yet by members of your Club.

I will say, to begin with, that Atlin is to be reached by boats from Vancouver, B.C., to Skagway, Alaska; thence by White Pass, railroad and boats to Atlin, which is on the east side of the lake of the same name. The lake is some ninety miles long by from four to twenty miles wide, making it the largest lake in B.C., and not to be surpassed by any other part of the world for beauty of its scenery.

Parties should always get a lay over of at least two weeks at Atlin in order to see this vast region. Our mountains are not as high as those of the Rocky Mountains' region, as we are near the coast. Atlin is 2,230 feet above sea level; the mountains rise about 4,000 feet more on an average; timber line is about 1,700 feet above the lake and most of the mountains are easily accessible from the lake shore.

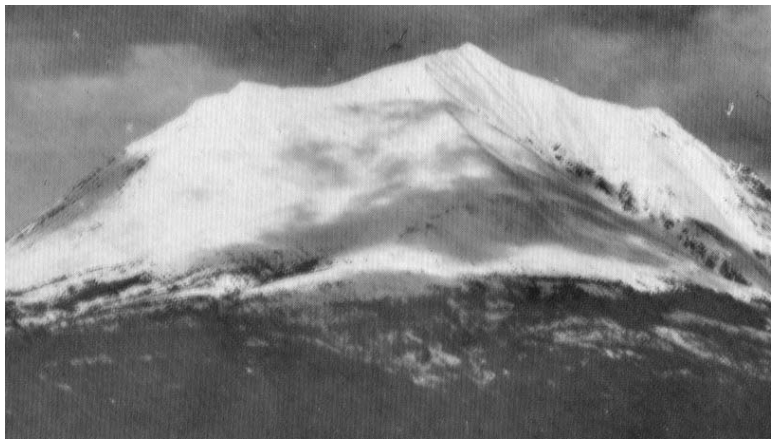
Llewellyn Glacier, at the south end of Atlin Lake, is one of the largest in the world, being some 75 by 40 miles in size; the western or southwestern side is known as Taku Glacier and is to be seen from the boats on the way north in good weather.

I have numbered the views with a blue pencil so as to be able to describe each one in detail to you from No. 1 to No. 11.

No. 1 is a view of a mountain some 25 or 30 miles north of Atlin, on the edge of the lake, which rises to 6,950 feet above sea level; it is given on the map as "Minto," but is locally known as "Jubilee," while the Indian name is "Keyun." I very much prefer the Indian name in this case, as it is a rather pretty name, and means the mountain with birch trees growing about it—so the Indians say. This picture is a telephoto, taken at about fifteen miles distant.

No. 2 is a view of Atlin Mountain, taken from third island, about a mile in front of the town of Atlin. Views Nos. 1 and 2 were both taken in April, 1916. Atlin Mt. is given as being 5,500 feet. The ice was still on the lake when these views were taken.

No. 3 is a telephoto of the Sloko Range, which lies some distance south of Atlin Lake; it



View No. 1: “Keyun” (Minto) Mt., North End Of Atlin Lake.
Telephoto At 15 Miles, Negative No. 35

View No. 2: Atlin Mt. From 3rd Island.
Negative No. 22

View No. 3: The Sloko Range From O’Donnell River.
Telephoto At 45 Miles, Negative No. 50

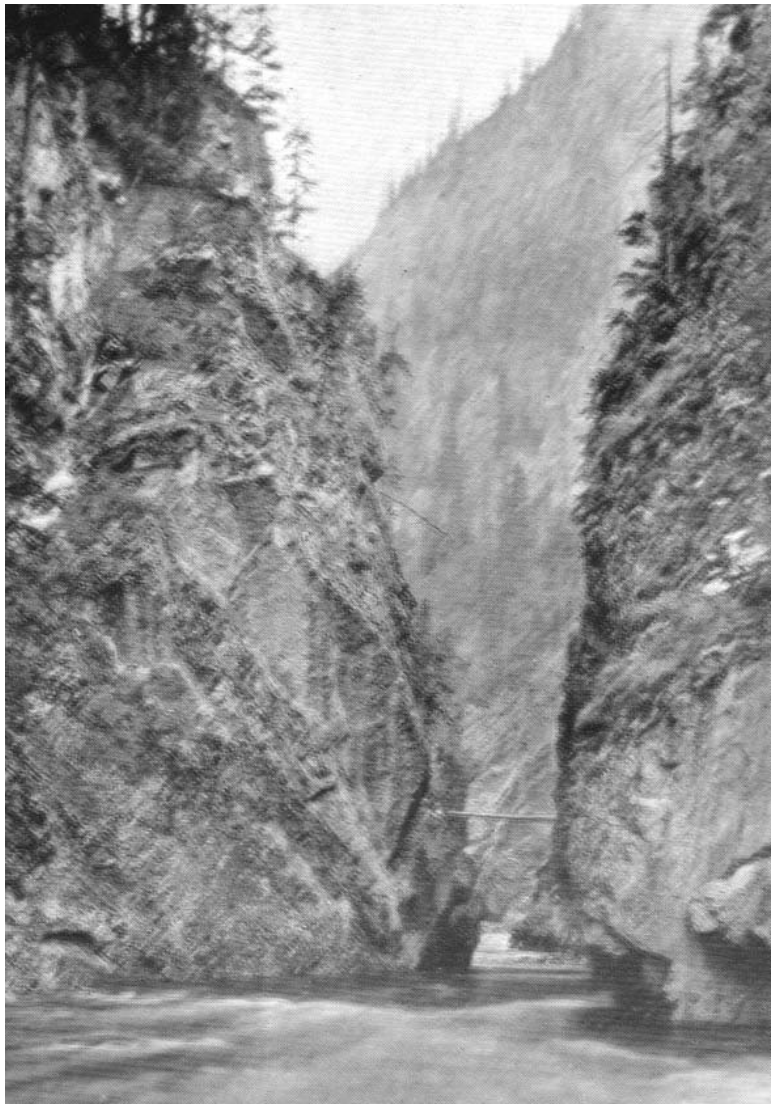
View No. 5: Mussen Peaks West Bay. Photos, L.C. Read
Telephoto At 25 Miles, Negative No. 97

View No. 7: Quartette Peaks From S. Atlin Lake
Telephoto At 35 Miles, Negative No. 96

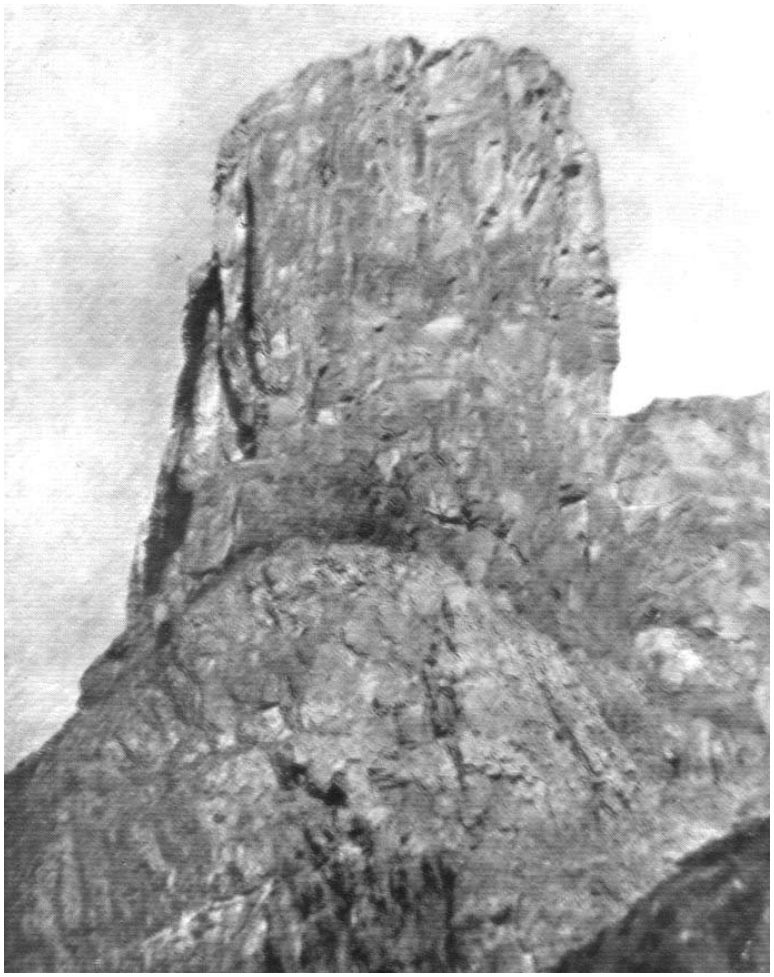
View No. 8: Llewellyn Glacier From Bluff Above Moraine Lake.
Negative No. 92

View No. 10: Llewellyn Glacier From S. Zendu
Telephoto At 40 Miles, Negative No. 102

View No. 11: Read's Lake From Bluffs. Photos, L.C. Read
Negative No. 86



Fiddle Creek Canyon Near Pocahontas. Photo, C.G. Wates



The Watch Tower (Still Unclimbed) Cataract Valley. Telephoto, C.G. Wates

was taken on the 24th May, 1916, from the east side of the O'Donnell River and at a distance of some forty or more miles.

No. 4 is also a telephoto, taken at about six miles distant, of Cathedral Mt. in Tores Inlet, to the west of Atlin about twenty-five miles; by a slight stretch of the imagination you can make out the face of the old man on the topmost peak, looking south in the direction of the great glacier. This mountain is given as being at an elevation of 6,000 feet.

No. 5 is a telephoto of the Mussen Peaks, which lie to the southwest of Cathedral Mt., at the end of West Bay, and on the edge of the great ice. I made this negative from the south side of Teresa Island, from a high bluff above Roderick's camp. These peaks seem to have the euphonious title of "Caplice" Mt. on the maps available, and are given as 5,500 feet.

No. 6 is a view of "Tsatia" (Indian name for rocky mountain) at nearly the extreme south end of Atlin Lake. Like Cathedral and Keyun, it rises direct from the water's edge and at quite a sharp angle, as may be seen from the photo. The map I have before me does not give the height of the peak, but it must be 6,000 feet. I should judge that from its summit fully three-fourths of all the great glacial region could be seen, but as yet I have not verified this. There certainly must be a very fine view of the "Quartette" peaks from the south (left hand) side of the mountain, as seen in the view.

No. 7 is a view of the "Quartette" peaks from the south side of Teresa Island, taken July 28th, 1917. The lake is over twenty miles across at this place, though it does not look it in the view; hence I conclude that the Quartette Peaks are forty miles away at least. This view is almost identical with the one that may be seen from the deck of the W.P. boat, Tarahne, on the great south lake, with an 8-power pair of binoculars.

No. 8 is a view of the eastern face of the great glacier, Llewellyn, as seen from the bluff above Moraine Lake. In the foreground is seen the lake, while beyond is the moraine in front of the ice, which is receding, like nearly all our glaciers of to-day here in the north. From the spot where I took this negative the ice is fully two and one-half miles distant. The front of the ice is estimated to be four miles across. Strange as it may seem, Moraine Lake is not fed by the glacier, but from a high lake half way to the top of Mussen Mt. on the right and to the rear of where this view was taken. The medial moraine, as seen here, extends back for a number of miles and I have estimated it to be at least 150 feet in depth of rock and gravel deposited on the surface of the melting ice, which is anything but nice and clean on the surface as a rule, though clear streams of pure ice water are encountered continually while travelling over the glacier. The distant mountain seen in the upper right hand side of the picture is a prominent landmark throughout this region and certainly is more than twenty miles away from this viewpoint.

No. 9 is a view taken in June, 1916, from a point some eight miles south of the view point of No. 8. It shows the mountain referred to in No. 8 which, by the way, has no name as yet, so far as I can find out. The mountain is surrounded on all sides by glacial ice, the same as the foreground of this view represents. The picture was taken about the middle of June, 1916, and I feel sure that a barometer on the highest peak would register over 7,000 feet, and that it is higher than "Tsatia." From the point where I took the view to the edge of the ice I estimated to be three-fourths of a mile, while it was fully two miles to the séracs at the right; the medial moraine in the middle distance was, we estimated, five miles away, while the distant mountain could be not less than twelve or fifteen miles, probably much more. This splendid mountain was veiled in cloud and mist nearly the whole day, but when I had the camera set up ready for exposure, after waiting about ten minutes, the veil lifted as if to favour me, and I got the negative here shown, when the cloud returned and

enveloped the scene for the remainder of the day. I felt this was a great honour to me by the genii of the mountain, as it is very rare that a photographer is so favoured, as we all know well from experience.

No. 10. In this telephoto view, taken on July 28th, 1917, from the south side of Teresa Island, at about seven magnifications, the point where I took No. 9 may be seen in the right centre of the scene, also the séracs, though the view was taken looking more to the southwest, and shows the high glacial range far beyond and to the right of the one seen in No. 9. The range is really the head of all this glacial region, as the ice flows in nearly all directions from it as a common centre. Taku, Denver and Llewellyn Glaciers all have this range for their fountain-head. The snowfall is always heavy here and the great pressure readily forms it into ice, which is then slowly started on its journey to the lower elevations; there it is melted faster than it is formed, which causes recession of all the fronts except, possibly, Taku, which I have not seen as yet. When more ice is formed than the sun and Chinook winds can melt we have an advancing glacier, but when it is the reverse, recession occurs. Llewellyn Glacier has receded for several hundred feet since it was discovered, not so many years ago, and the whole front of the ice is greatly changed since I first saw it in 1911. At times there seems to be a lake break forth from the ice that floods all the ground-moraine, so that it is a dangerous quicksand and cannot be used to arrive at the ice; but these floods occur at rather rare intervals and, so far, I have had no trouble in getting on the ice from the trail, but others have had difficulty so great as to prevent their parties from putting foot on the ice-field. I have been too busy, heretofore, when at the glacier, to set motion-stakes and record the movement of the ice, but this year I hope to be able to plant stakes and take measurements to determine the rate of flow.

No. 11. In the extreme distance may be seen the same range as described in No. 10, while this southernmost peak of Mussen Mt. dominates a very great portion of the glacier region. I propose to cut a trail from my camp on Glacier Bay to the top of the peak the coming season, as it will be a by no means hard six miles to the peak, though the first mile will be of a very rising nature; once above timber-line the old game trails will be quite comfortable to negotiate, I am sure. The foreground of this view is my ideal beauty spot, named for me by my friends who, figuratively, with great pomp and ceremony, presented me with it, that I should have it for my very own, as far as they were concerned; however, I am not inclined to be selfish about it, and will relinquish title when a more worthy shall appear.

In conclusion, I will say that I have never seen a more lovely region for grand mountain scenery. Few tourists have, so far, seen it except from a distance. The region is a vast one and takes several days to visit. June, July and August are the only months when it can be reached with comfort and in good weather. The whole journey from Vancouver is one grand panorama of beautiful views and, perhaps, I may be allowed to quote the words of Mr. Alfred Chetain to me last summer, when he said: "There is no better scenery to be found anywhere in the world."

L. C. Read.

From subsequent correspondence the following information is gathered:

"The view, No. 102, that I sent you, seen from the top of Mussen Mt., which is on the right and close up to the region of the giant nunataks seen in the distance, will give one a never-to-be-forgotten view of the great ice at close range that, I am sure, will please all lovers of grand mountain scenery. And yet the distance will be vast, even from Mussen.

"On or about the 24th June (full moon) I intend to get a view of the moon at midnight

when it will be exactly in the south. At that time one can read a paper without difficulty in this latitude. The print will look like a daylight exposure with the exception that the moon will show very plainly and record the exact exposure by its oblong figure (one-minute arc) in the southern sky; of course, the exposure will be one minute, which I have found ample at this time of the year. A similar negative, made two years ago, gave very good results, but was injured by dust in the plate holder, caused by the shaking of the boat by the out-board motor, so I seldom make a print from it.

"I think the return fare from Victoria to Atlin is about $110.00. The White Pass and Yukon Railroad Company have a good inn here, and twice a week the boat takes tourists around Teresa Island, but they do not go to the glacier or stop. The W.P. have boats for hire, 14 feet long, with out-board motors.

"There are no Alpine guides here, and local prospectors and hunters would be about all that could be relied upon. However, most of the desirable places for A.C.C. members to visit would hardly need a guide. Camp would be made on the lake, near the commencement of the climb, and people accustomed to it would have no trouble going alone or in small parties.

"My Glacier Bay camp will be a sort of general headquarters for most of the trips at the south end of the lake, but the lake is about ninety miles long and twenty-five wide at the south end, so it is necessary to have boats of our own. A second boat can be procured, I think, in case there were more than four people to go at a time.

"The summer is remarkably free from rain and storms—cool nights and no hot days; the only thing to reckon with on trips is the wind from the great ice, which seems to blow in every direction away from the glacier and, sometimes, but not often, is so strong as to make me take cover with a pleasure boat. There are days when the reflections in the water are wonderful. I consider June and July about the best time to come." Mr. Read's prospectus for 1918, which is published below, sets forth the programme and facilities he offers to visitors to the region.

Prospectus For 1918

This season of 1918—from about June 15th to September 1st— I propose to hire out to go to the great Llewellyn Glacier, with from two to four people at a time—ladies and gentlemen—who wish to see the region and have an outing at the south end of Atlin Lake.

I have a 17-foot Turner boat, outboard motor, tents, bedding, Yukon stove, etc. You will need to get a lay-over ticket, so as to remain in Atlin something like two weeks, as it takes from six to ten days to do the glacier region. The trips are as follows:

Atlin to Lunch Camp, about 18 miles by boat.

Lunch Camp to Glacier Bay, about 18 miles by boat.

Glacier Bay Camp to the Glacier, about 3 miles.

Glacier Bay Camp to the top of Mussen Mt., about 6 miles.

Glacier Bay Camp to Read's Lake, by boat, about 12 miles.

Glacier Bay Camp to Sloko Bay, by boat, 18 miles; and by trail to Sloko Lake, some 2 1/2 miles.

One needs good strong clothing, hob-nailed boots, Kodak and plenty of films, a good pair of field glasses and a suitcase for personal effects. I furnish the rest needed.

I will not take chances on the lake when it is too rough to be safe. I shall expect each one to help me slightly at camp duties and cooking, as I can not do everything alone, though willing to do all I can.

Pure air, pure water, plenty to eat and a good camp bed—a good time in a new, wild, uninhabited region; and there is no finer scenery to be found anywhere in the world.

The glacier is one of the largest and, from the top of Mussen Mt., over half of the glacial region can be seen—a great ice plain spread at your feet. We are liable to see wild moose, goats and bear on these trips.

My price is $6.00 per day for each person, and I furnish everything necessary—about what you pay for fare alone at a good hotel.

The trips will be from six to ten days' duration, as there is much to see and many places of interest to visit.

I will say, in conclusion, that very few people have seen this region, except from a distance, that few tourists have been on the great ice, and that I have trails of my own making to places that no one has as yet visited. There is surely a good time to be had here for those who are not averse to camp life and mountain climbing.

Your route is via Skagway, Alaska, and the White Pass and Yukon Railroad, and boats to Atlin, B.C., Canada.

L. C. Read,
Photographer and Guide,
Atlin, B.C., Canada.

Climbs in the Neighborhood of Lake Louise

On August 1st I climbed Haddo and Aberdeen by myself, leaving the Chateau at 4.30 a.m. I reached the cabin in Saddle Back Pass at 6.00 a.m. At 6.30 began the traverse to the foot of the glacier coming down between Sheol and Haddo, followed a rib of rock dividing the glacier, then the glacier itself, up to the foot of a deep, curved snow couloir on the west, followed the rocks on the north side of the couloir to the foot of the east face of the final peak and up it to the summit, which was reached at 11.10 a.m. Left at 11.40, descended to the Aberdeen Glacier and reached the summit of Aberdeen over the steep snow and ice ridge at 12.30 p.m. Descending by the usual route along the south arête, I reached Lefroy Glacier close under the Mitre Pass, and was back at the hotel at 5.30 p.m.

On August 4th, Rudolph Aemmer and I left the hotel at 4.08 a.m., reached the Saddle between the north peak of Victoria and Collier at 10.30 a.m. After half an hour's rest, made the north peak of Victoria in one hour and thirty minutes. Leaving the summit at 2.30, we followed the ridge to the summit of Collier, which was reached at 3.15 p.m. I felt too tired to go on to Pope's Peak, although we started in that direction, and so descended the southeast face of Mt. Collier to the upper Victoria Glacier, making the Chateau in a little under four hours.

On August 12th, climbed the Devil's Thumb with Dr. Withmer, from Philadelphia, and Mrs. Fynn.

On August 13th traversed Mt. Whyte with Dr. Withmer, leaving the hotel at 7 a.m., reaching the summit at 11.55 and descending the southeast face by way of the couloir between the two highest summits, in three hours to the glacier trail.

On August 15th, Rudolph and I left the Chateau at 12.55 a.m., reached Abbot Pass at 5.30, rested until 6.05, reached Lefroy after a good deal of step cutting at 9.30, rested until 10, and were back at Abbot Pass at 11.30. Left at 12.05 for Victoria, which we reached by the ordinary route at 4.20 p.m. The going was slow and sometimes quite difficult, owing to great masses of fresh snow. Leaving at 4.58 p.m., we were back in Abbot Pass at 8.15 p.m., picked up our rucksacks, and five

minutes later were on our way down to Victoria Glacier, reaching the trail at 9 p.m., and the hotel at 11.10 p.m.

On August 17th, traversed Mt. Whyte with Mrs. Fynn and Rudolph. On the way down, followed the west arête to near the bottom of the gap between Mt. Whyte and the unnamed peak west thereof, and then took to the southeast face, reaching the glacier trail near the spot where it leaves the moraine on its way to the plain of the Six Glaciers.

On August 22nd, left hotel at 6.10 a.m. with Dr. Withmer and Mrs. Fynn. Reached Abbot Pass at 12.10 p.m., rested until 1.00 and descended to the south. Made O'Hara Camp at 4.50 p.m.

On August 23rd, we left camp at 8.30, reached Opabin Pass at 12.15 p.m. and Prospectors' Valley at 1.35 p.m. After an hour's rest started for Wenkchemna Pass, which we reached at 5 p.m. Following the upper trail we made the Moraine Chalets at 7.40.

On August 25th, left the hotel at 6.30 a.m. with Dr. Withmer, reached Mitre Pass at 10.15, left at 10.45 and made the summit of Mitre at 12.15. After an hour's rest reached the Pass at 2.43, remaining until 3.30 p.m., and were back at the hotel at 6.10 p.m.

On September 1st, left Moraine Chalets at 4 a.m. with Dr. Withmer and Rudolph. Reached the col between Pinnacle and Eiffel at 7.15 in bad weather. The mountain was covered with fresh snow, the temperature was very low, and we had occasional flurries of snow. Leaving the col at 8.20 we found the rocks in the lower part of the climb all iced, and were unable to use climbing shoes. Reached the summit of Pinnacle at 10.15, remaining until 10.40, and were back in the col at 12.20. In the meantime Mrs. Fynn had left Moraine Chalets at about 8.00, and we now saw her high up on the Eiffel ridge and about on the level with our col, so we traversed in her direction, reaching the Eiffel ridge at 1 p.m. After thirty-five minutes' rest we completed the ascent of Eiffel in a snowstorm, reaching the summit at 3 p.m. At 3.15 we started down with the snowstorm still raging and reached Moraine Chalets at 5.45 p.m.

Val A. Fynn.

[Mt. Collier lies to the N.E. of the North Peak of Mt. Victoria, between it and the secondary summit of Pope's Peak. The name has not been authorized by the Geographic Board and does not appear on the maps. It is called after the two brothers who first climbed it.]

Roche Miette

Mr. C. G. Wates last summer journeyed to Pocahontas, west of Edmonton, hoping to climb Roche Miette, which rises 5,000 feet above the surrounding country and terminates on the west in a precipice which drops 2,000 feet from the summit, sheer and smooth.

Bad weather prevented the ascent, but Mr. Wates and his companions plotted out a route which may be useful to other climbers.

"Passing the Punch Bowl Falls, we skirted the upper side of a series of couloirs and followed the N.E. spur of the mountain to tree line. Here we got a piece of real rock work which tried our skill, the rock being exceedingly rotten. Reaching the top of this cliff we crossed a scree slope to a snow pass which dips down on either side to Fiddle and Miette Canyons. From the farther side of the saddle the summit rises steep, but quite practicable."

Lieutenant H. J. Palmer

We regret to record the death of Lieutenant H. J. Palmer, D.C.L.I., who was killed in action at Villers-Bretonneux, near Amiens, on March 29th, Good Friday last. He had been in the thickest

and the fiercest of the fighting in the retreat from St. Quentin, and was inspecting a trench when he was hit by an enemy sniper and instantly killed. Members who were present at the early Annual Camps will remember "Jack Palmer" of Banff, foremost among the scouts. He went to England to study medicine at Guy's Hospital and joined the D.C.L.I. Very many letters of appreciation and regret were received from comrades and friends by his parents. To them, members of the Club since its inception, we extend our sincerest sympathy.

At the Cataract Valley Camp a collection was made in aid of the Royal Flying Corps Hospital, which realized $85.75. At the New Year a collection was started for tobacco to be sent to soldiers on active service. Thus realized $82.90, the contributions being limited to one dollar.

Maps Missing from the Library at the Alpine Club House, Banff

The Librarian has brought to my attention the fact that maps attached to or accompanying valuable books in the Club Library have been taken away by visitors to the Club House using these books.

It is much to be regretted that the depredations of such light-fingered gentry will, should further thefts be noticed, necessitate placing the books under lock and key and inaugurating a system of registration.

The privilege of free access to the Club Library has always been in force and that there would be such a lack of honour has never occurred either to the Librarian or myself, and has been unknown until it became necessary to use the missing maps for reference purposes. Unfortunately the sins of the few generally react upon the many.

The maps taken away are:— Map attached to Stutfield & Collie's "Climbs and Explorations in the Canadian Rockies"; Map in pocket Wilcox's "Rockies of Canada."

A. O. Wheeler, Director.

REVIEWS

The Life of Sir Clements Markham—By Sir Albert H. Markham[10]

The life of Sir Clements Markham, the eminent explorer and geographer, written by his kinsman, Admiral Sir Albert H. Markham, is one of the books proper to an Alpine Club's library. Admiral Markham has presented his career and his character with distinctness, revealing an explorer and man to win the admiration and regard of every reader in our Alpine Club. His effectual interest in Polar exploration, Arctic and Antarctic, from the search for Sir John Franklin's remains in 1850 to Scott's expedition in 1910, is a story to make any man eminent. But Sir Clements Markham has other claims on the gratitude of his countrymen and of his Empire; he it was who conceived and carried to a very fruitful end, the large and difficult enterprise of transplanting from South America to India the cinchona tree. Several chapters of the book are taken up with the expeditions in South America and his work in India. It is a story of exceeding interest hitherto unknown to many who knew Sir Clements as an active promoter of Antarctic discovery.

Clements Markham began his career in 1844 as a cadet on the flagship Collingwood under Admiral Sir George Seymour, Commander-in-Chief of an expedition to the Pacific South American coast, being then a lad of fourteen. His much dreaded but highly successful academic examination consisted of writing out the Lord's Prayer! Indeed, his paper was taken away before he was half through the task, and he was told that he had passed! The physical examination was equally brief; a fat old doctor made his appearance and, pinching him violently in the wind, asked "if it hurt?" It did not hurt, and he was reported as "medically fit for service."

Young Markham was one of the first to be called "Naval Cadet," officers of that rank in the Navy being termed "first-class volunteers." While on the Pacific Station, he came under the influence of an officer who impressed upon him certain essentials to success in the Navy: A good naval officer was not only a good sailor, but he was well informed in history, geography and poetry. He recommended "Paradise Lost" because it was the "grandest poem in our language and the richest storehouse of good English words and phrases."

Markham was nearly four years in Pacific waters, improving every opportunity that offered for education on sea or land. A visit to Lima quickened his interest in ancient Peru; and horror at the severity of corporal punishment in the service, together with a longing to become a geographer and explorer, made him decide to abandon the Navy. After a furlough at home he joined the Mediterranean squadron. There, a close study of Prescott's "Conquest of Peru" begat a desire to investigate the remains of the Incas, but meanwhile he spent a year and a half in Arctic seas searching for the remains of Sir John Franklin, doing ample share of the sledgework. He read much that winter, notably on Arctic history, and he wrote a tragedy on the last of the Incas.

The expedition reached England on October 1st, 1851, and Markham left the service. His mind was on Peru, and it came about that his father, never a rich man, gave him £500 and his blessing. In August, 1852, he set sail on his lonely quest, travelling by way of Halifax and Boston, where he visited and received ardent moral support from Prescott; thence to New York and down the coast, across the Isthmus; thence to Callao and to Lima, to Nasca and Cuzco and Lima again, so crossing the Andes in two different directions. He accomplished a prodigious amount of study and investigation during this expedition, which was one of fascinating adventures. He saw cultivated on the slopes of the Andes, where they flourished luxuriantly, the cinchona trees, whence quinine

10 John Murray.

is obtained, and his second expedition to the Andes was concerned with these trees.

How he conceived a scheme to bring cinchona plants and seeds, sufficient to start a large plantation at the same altitude and temperature and on similar soil in India; how he kept his secret and packed the plants which he conveyed over Andean passes 13,000 feet high, protecting them from change in temperature and from robbery, is a tale of thrilling interest. It was Clements Markham who brought to fever-stricken India the medicinal forests of cinchona. And he turned the healing enterprise into a profitable commercial venture— for the Government of India, mark you, not for private profit. To this day there is a large revenue accruing to that Government from the trade in quinine. With shame the reader thinks of bacon to feed the Allies and fighting men, and of Canadian profiteers.

One chapter is devoted to Sir Clements' work in India; one to the Abyssinian War, he being geographer to the expedition sent to Abyssinia under General Napier; and others to his intimate and active connection with the Royal Geographical Society and with Arctic exploration. Later in life came his work for Antarctic discovery. It was to him that Colonel Longstaff (father of Dr. Longstaff, the mountaineer) wrote, placing a gift of £25,000 in his hands for the "Discovery" Expedition, a gift to which he later added £5,000. Never a rich man, Sir Clements used his great organizing powers to further polar exploration, and he was behind expeditions that cost enormous sums. Rich men and governments trusted him. He was the friend and counselor of Scott, whose death in harness on the Antarctic ice was a severe personal loss. The last entry in his diary was: "Sturdy little Peter Scott came and walked with us in the Square Garden. I often think of his dear father and the men he has trained to fight his country's battles."

The revival of Antarctic exploration was due to Markham. They named a Polar Mountain for him, and a glacial "bluff" for his wife— "Minna Bluff." All through the years of his geographical activities, he was writing or editing books. The list is a very long one. His work for the Hakluyt Society alone has given him rank in literature. His first love, which he never abandoned, was Peru; and his second, Polar exploration. He died, on January 29th, 1916, at the great age of eighty-six, after a life of hard, happy useful work.

It is a biography of singular interest, written "with love," the reader well knows. The portrait drawn is of a man of Christian ideals, with great talents and with an enormous capacity for work.

At the time of his death, says Admiral Markham, he was the greatest geographer living.

Elizabeth Parker.

Blazing the Trail through the Rockies—By Noel Robinson[11]

The story of Walter Moberly and his share in the making of Vancouver is a very remarkable sketch of a very remarkable man. It claims to be by "Noel Robinson and the Old Man Himself." In reality, it is compiled from a series of interviews with Mr. Moberly by Noel Robinson, and the results of these interviews have been pieced together into a more or less connected history of the main features of Mr. Moberly's activities from the time he first set foot in British Columbia until shortly before his death, including a short sketch of his life prior to that time.

The reminiscences set forth appeared, first of all, Sunday by Sunday, in the Vancouver News-Advertiser[12], but have recently been embodied in pamphlet form and printed by the News-Advertiser.

11 The News-Advertiser, Vancouver, B.C., 25¢.

12 The News-Advertiser as a newspaper is no longer printed and applications for the booklet do not evoke a reply.

The pamphlet, though somewhat kaleidoscopic in its arrangement, is of fascinating interest: First, because it sets forth the career of a pioneer of British Columbia, who had much to do with the development of the Province in the very early days when all was in the rough; and not alone with the affairs of the Province but with the initial stages of the great transcontinental highway of traffic from ocean to ocean, known the world over as the C.P.R.

Second, the story incidentally brings into its limelight many of the now historic characters of those early days of the Crown Colony before it joined the Confederation—the officers of the Royal Engineers and the men of the Old Brigade.

Third, the pamphlet is most delightfully illustrated and is replete with scenes of those thrilling times. Noticeably may be mentioned: New Westminster in the early sixties; the Mint, New Westminster, 1862; the Old Brigade; old view of Victoria, showing the bridge across James Bay and, as a sheet of tidal water, the site on which the C.P.R.'s palatial hotel, The Empress, now stands. There are several good pictures of the old Cariboo Road, clinging high in air to the precipitous sides of the Fraser Canyon. A group showing British Columbia's first Legislative Assembly is of special interest. The driving of the last spike of the Canadian Pacific Railway by the late Lord Strathcona (then Sir Donald Smith) is of historical importance. At the end are a number of views of Vancouver, both of old and more recent date; two specially worthy of note are: the meeting of Vancouver City Council after the great fire of 1886 in an old tent, which did duty as a city hall, and J. W. Home's real estate office in the hollow of an immense fallen cedar after the fire.

Interspersed through the text are many portraits of men whose names have gone down to history in connection with the early days: the Old Man himself, Mr. Walter Moberly, Sir James Douglas, Sir Joseph Trutch, "Cariboo Cameron," Major Rogers, Lord Strathcona, Mr. Henry J. Cambie and the Hon. Edgar Dewdney. All the scenes and portraits mentioned are introduced in connection with incidents of Mr. Moberly's career.

Walter Moberly was born in 1832. His father was a retired post-captain of the British Navy, who fought in many battles of the Napoleonic wars, and his mother was a Polish lady. There was a large family of sons, six or seven. Four of these, George, Frank, Clarence and Arthur, it has been my pleasure to meet and with two, Walter and Henry, I have had correspondence.

Mr. Walter Moberly came to British Columbia in 1858 with letters of introduction from Sir George Simpson, Governor of the Hudson's Bay Company, to Sir James Douglas, Governor of the Colony, by whom he was warmly welcomed and soon set to work as architect and engineer upon the construction of the City of New Westminster, or Queensborough as it was first called, where there was not even a shack when he began work.

Moberly's outstanding work was his fight for and share of construction of the old Cariboo Road, a wonderful piece of engineering, giving access to the far away Cariboo gold mines. The story of the difficulties overcome in getting the work started, the scarcity of funds to carry it on and the financial ruin it caused to Mr. Moberly's private purse are told in thrilling detail, mingled with many delightful incidents and anecdotes.

The road was built; and to-day, as one flies swiftly down the Fraser Canyon in a comfortable observation car of a Canadian Pacific or Canadian Northern express train on one side or the other of the river, as the case may be, fragments of the old road bed are still to be seen high on trestles or carved from the precipices that overhang the swirling torrent below. In imagination, you can still see the long trains of pack mules and hear their jingling bells, or listen to the crack of the whip as a teamster with abundant warmth and eloquence urges his four or six teams along the narrow pathway as confidently and as casually as though on a wide prairie road, and little heeding the fact

that a bare foot or two separated him from an awful descent to eternity.

Moberly's fixed idea, that from which the Cariboo Road was born, was the finding of a route for a railway to connect the Pacific seaboard with the railways reaching out westward from the Atlantic. In 1865, he discovered Eagle Pass, through which the C.P.R. now crosses the Gold Range. Asked what gave him the impression that there might be an opening through the mountains there, he replied: "It was the eagles. I watched them as they flew up the Columbia and I saw them make a big bend off. I knew eagles always follow along a stream or make for an opening in the mountains and I just followed the direction they took, with the result that I discovered, and, I think very appropriately named, Eagle Pass." Near Craigellachie, where Sir Donald Smith drove the last spike of the C.P.R. on the 7th November, 1885, Mr. Moberly blazed a tree and wrote upon it in chalk the words: ''This is the pass for the Overland Railway." That was in 1865.

The same year, with his assistant, Mr. Alfred Perry and a party of Indians, Mr. Moberly proceeded up the Illecillewaet River valley to the head of its north branch, which ended in a cul de sac. He wished to explore the valley of the southerly branch, which the C.P.R. now follows through the Selkirks by Rogers' Pass, but it was late in the year, winter was at hand and the Indians refused to go farther. Moberly claims that he sent his assistant up the southern branch the following year and that Mr. Perry then discovered the pass, which discovery is generally attributed to Major Rogers, after whom the pass has been named.

In 1871 Moberly became locating engineer in charge of the mountain division of the C.P.R. under Sir Sandford Fleming, Chief Government Engineer. He was busy for this and part of the following year exploring a route through or around the Selkirks by the Big Bend, and had ascertained the feasibility of a location up Blaeberry River, via Howse Pass, to the Saskatchewan and so to the prairies, when he was instructed to leave this location and proceed north with all his survey parties as it had been decided to build the road through Yellowhead Pass. Intensely disappointed, but obedient to orders, with immense difficulty, he overcame almost insurmountable obstacles of mountain travel and winter weather, transferred his operations to Yellowhead Pass and commenced work there. He was never in sympathy with the change and, shortly after, Mr. Marcus Smith having been placed in charge of the work, Moberly severed his connection with it.

Mr. Moberly's explorations and locations were, to a considerable extent, adopted as the route over which the line of the first transcontinental railway now runs but, personally, he had no further executive connection with the work of construction, although he did his utmost in various ways to get the line carried through Winnipeg, and used his influence fully to have it built along its present location from Revelstoke to Vancouver.

Mr. Moberly did not again take part in great public enterprises. The good work that he did and the prominent part he took in opening up and giving access to the resources of the interior of British Columbia were never fully recognized. To realize the difficulties he encountered and the years of toil, hardship and privation he endured it is necessary to visit the wilderness of mountains, the trackless forests and jungles and the dangerous waterways comprising the territory over which he worked; and even then, the strides of civilization have been so great of recent years that it is difficult to picture these wilds as they were when only inhabited by Indians and wild beasts, when the influx of the white man was a slow and difficult process.

It can be said, only with profound regret, that Mr. Moberly died a poor man, the largest portion of his personal means having been spent in carrying out enterprises for the good of the country by which others reaped a full profit.

Noel Robinson tells the story of "Blazing the Trail through the Rockies" in a most attractive

manner. It is full of adventure, racy anecdotes and personal incidents that bring out the character of his hero very vividly, and everyone interested in the history of British Columbia and of the construction of the Canadian Pacific Railway should read it and preserve it in his library.

I may add that at the time I was writing "The Selkirk Range of British Columbia" Mr. Walter Moberly very kindly loaned me his only remaining copy of a delightful little pamphlet published by him in London, England, in 1885, entitled "The Rocks and Rivers of British Columbia." This is a personal sketch of his work in British Columbia and bears out fully all that is written of it in "Blazing the Trail."

Mr. Moberly's memory is well perpetuated in the naming of topographical features throughout the region over which he worked. Moberly Peak and Moberly Station lie along the C.P.R. quite close to the crossing of the Blaeberry River, and Moberly Lake and Moberly River, tributary to Peace River, are to be found farther north.

"Blazing the Trail through the Rockies" ends with a tribute to Mr. H. J. Gamble, "explorer and railway builder," and one of the pioneer engineers of the Canadian Pacific Railway who, as Noel Robinson puts it, "is admitted to be the Grand Old Man of railway construction in the Province." A number of delightfully interesting reminiscences by Mr. Cambie are given, which introduce the names and personalities of many men who have been and are to-day connected with the building up of the Province and with great commercial enterprises of the Dominion.

Arthur O. Wheeler.

The Mountains of California—By John Muir[13]

John Muir was the greatest and noblest mountaineer that the United States has ever known. With the most ardent enthusiasm and love for the mountains, he combined the deep insight of a scientific mind that studied their formation and gloried in their trees and flowers. His true home was in the heart of the Sierra Nevada mountains, and he always felt curiously lost in a city.

Starting from San Francisco in the days before the flower fields of the central valley of California had been ruined by the plough, he journeyed across their wide expanse afoot to the Yosemite Valley. No one who has not roamed amid the mountains of California can realize their peculiar charm. They are distinctively a range of light, imparting as it were to the mountaineer the full, rich happiness of the sunshine which they continuously receive. They are peopled with the oldest and most majestic of trees, the sequoia; while their forests of pine and of fir are unsurpassed. Everywhere are magnificent glacier-polished domes and deep rugged canyons through which there leaps and foams the clearest of singing water. No falls in the world are finer than those which liven the Sierra landscape, and no flowers are more exquisite in beauty than those which carpet the valleys and climb toward the summits of the mountains.

John Muir yielded to the charm of these mountains of God and spent his life amid them. Not until he had become their intimate friend, and their spirit had long mingled with his own, did he write at length about them. In the pages of the Century magazine there finally appeared many of the chapters which in 1894 were collected in book form under the title of "The Mountains of California." The beauty of Muir's style is unequalled in the literature of nature description, and he has a marvellous ability to convey his thoughts and feeling to the reader. Such variety of language, and such inner interpretation of the Spirit of Nature comes only with the truest love and the deepest insight Writing was slow and laborious for Muir, but his message is of surpassing value and interest. Any one who reads his books with sympathetic understanding may wander over these

13 Century, 1911, $2.00 net.

mountains always at home, for he will find them his friends through the heart of John Muir.

In this first volume of Muir's writings he tells us of the glaciers which have shaped and polished the range; of his tireless rambles in the high Sierra; of their forests, lakes and meadows; of the squirrels and the birds; and always of the flowers. To him their silent language was ever audible, for his love was that of a lifelong friendship. 1 have roamed over many mountains far and near, but I have found none so lovable, none whose ability to impart true joy is greater than the mountains of California.

Le Roy Jeffers.

The Cruise of the Corwin—By John Muir[14]

In 1881 John Muir joined the U.S. Revenue Cutter Corwin on an Arctic cruise in search of the ill fated Jeannette, which had sailed with Captain DeLong on a voyage of exploration in the summer of 1879. Search was also made for two whalers which had disappeared. The Corwin skirted the Alaskan and Siberian shores, stopping at all the native villages for information. This gave Muir exceptional opportunity to study the botany of the region and to observe its glaciation. While the expedition failed in its object, the scientific world was rewarded by Muir's report on the Glaciation of the Arctic and Subarctic regions visited, and by his Botanical Notes which were published by the government.

Professor Bade has compiled the account of the voyage from letters which John Muir wrote to the San Francisco "Bulletin," and lie has included material from Muir's journal, together with an appendix of Muir's scientific notes of the trip. The book contains much information about the life and customs of the natives. The Eskimos are an apparently happy race when left to themselves. When they have food they eat as long as they desire, then sleep without regard to time, and have great endurance on their hunting expeditions.

On nearing Wrangel Land the steamer gave chase to three polar bears who were on an ice floe, and who doubtless made their first acquaintance with man. Five men enjoyed the sport of shooting them about forty times before they succumbed. Would that all sportsmen might read Muir's account as he flames forth. "They had no chance whatever for their lives, and the whole affair was as safe and easy a butchery as shooting cows in a barnyard from the roof of the barn. It was prolonged, bloody agony, as clumsily and heartlessly inflicted as it could well be. ... How civilized people, seeking for heavens and angels and millenniums, and the reign of universal peace and love, can enjoy this red, brutal amusement, is not so easily accounted for. . '. ". The frame of mind that can reap giggling, jolly pleasure from the blood and agony and death of these fine animals, with their humanlike groans, is too devilish for anything but hell. Of all the animals man is at once the worst and the best."

Le Roy Jeffers

Two Summers in the Ice Wilds of Eastern Karakoram— By Fanny Bullock Workman and William Hunter Workman[15]

This is a well published book, giving a detailed account of the explorations of Dr. William Hunter Workman and Mrs. Fanny Bullock Workman, extending over an area of nineteen hundred square miles of mountains and glaciers in the ice-wilds of the Eastern Karakoram during the summers of 1911 and 1912.

14 Houghton, 1917, $2.75 net.

15 E. P. Button & Co., New York.

The book is magnificently illustrated with one hundred and forty-one reproductions of photographs taken by the authors, and three maps which show clearly the route of travel by the explorers. Of the photographic illustrations it is not too much to say that they are superb and indicate clearly not alone the mighty vastness of these great ice solitudes full of Nature's most august wonders at her outposts but also a tribute to the skill and science of the explorers. Specially fine are the following: The cloud from an avalanche descending between two granite peaks on the Bilaphond Glacier; the view from Junction Mountain, opposite page 156; Mt. Lakshmi on the south side of Tarim Shehr Glacier; panorama of Tarim Shehr Glacier; panorama of head of Peak 36 glacier; Peak at north head of Rose Glacier; Telephoto of King George V. group from Ledge Camp; Lake in centre of Rose Glacier; Peaks on Peak 36 Glacier; Granite monolith on west side of Bilaphond Glacier showing fine specimens of glacier tables.

Many of the pictures are delightfully artistic and the authors have secured with them a splendid idea of mountain atmosphere; specially so in the view showing the massif of Peaks 35 and 36 from the centre of Rose Glacier (Siachen). The Hawk Peak, a telephoto from thirteen miles distant, is very fine.

By no means least wonderful and instructive are the illustrations of ice and snow formations in the last part of the work dealing with the physiographical features of the Bilaphond, Siachen and Kaberi Basins and Glaciers. Of these the panorama of thirty miles of Siachen Glacier taken from Junction Mountain is truly magnificent, and conveys a very striking impression of the immensity of the glacial rivers of the region. The White Ice-Stream on Rose Glacier showing the sérac penitente is unique. Also may be included the picture showing thin debris or pocket-penitente on Rose Glacier and that showing séracs on Rose Glacier dissected by heat; in both of these the artist has caught the luminous transparency of the ice in a most charming manner.

In referring to the pictures as above only the best have been touched upon. It is a wonderful collection and no mountaineering or geographical library should be without the volume.

The work is divided into three parts.

Part I., by William Hunter Workman, M.A., M.D., deals with the exploration of the Sher-pi-gang, Dong Dong, Masherbrum, Khondokoro, Chogolisa and Aling Glaciers and their basins. In stating the lines of travel and setting forth the scope of the exploration and its results, Dr. Workman has incidentally said much that is of deep interest about the native dwellers on the borders of the vast solitudes explored, and has brought to light their customs and method of life.

If a criticism were permitted of the narrative of an explorer of so great reputation and such an extended career, it would be that expeditions of this sort have become to him so matter of fact that most of the routine detail and little incidents of travel which delight the lay reader have been omitted, or passed by with a casual reference as of every day occurrence, which indeed they are to Dr. and Mrs. Workman.

Part II. is by Mrs. Fanny Bullock Workman and deals with the conquest of the Great Rose, or Siachen, the world's longest non-polar glacier. Mrs. Workman, in addition to her world renown as an explorer and mountaineer, has also the power to impart to others clearly and interestingly her acquired knowledge and impressions. Chapter IV., which recites the legend of the Rose Glacier or Siachen is very interesting. It also refers to the previous visit to the locality by Dr. (Capt.) Longstaff, the well known explorer, a life member of the Alpine Club of Canada.

Part III. is by Dr, William Hunter Workman. It deals with the physiographical features of the Bilaphond, Siachen and Kaberi Basins and Glaciers. This portion of the work is of great scientific interest and adds much to the valuable information already given to the world by Dr.

Workman from data supplied by his previous explorations. As already stated, the illustrations for this part are very excellent and are as near perfection as can be had. The views of rock and ice formations so graphically depicted reflect the greatest credit on the photographer and lend much interest to the text.

An Appendix gives: —

(1) Notes on rock specimens collected by the expedition on the Siachen Glacier, by W. Campbell Smith.

(2) Notes on rock specimens collected by the expedition in the Bilaphond and Kondus Bassins, and on the Khondokoro and Masherbrum Glaciers.

(3) A note on the construction of the Siachen map by C. Grant Peterkin.

There is also a note by Fanny Bullock Workman explaining her status in connection with the expedition.

A sketch of the triangulation control and details of the survey made closes the work. There is a very fair index which necessary adjunct is so often omitted in works of this nature.

Apart from the story of the exploration, a feature of great interest is the information given concerning the methods of camping at such high altitudes and in the midst of a wilderness of snow, ice and the highest rock peaks in the world. The explorers have evidently reduced this necessity to a science.

As already stated there are three maps. Two are good topographical maps, well drawn and easily read, with the routes of travel clearly shown upon them by red lines. The third is a sketch map of Kashmir, showing the routes of Dr. and Mrs. Workman's explorations from 1898 to 1912 inclusive.

Map No. 1 accompanies Dr. Workman's account of the explorations in 1911-1912 and illustrates the Hushe and Kondus Glacier systems.

Map No. 2 is of the Siachen or Rose Glacier and its tributaries, and accompanies the part of the work specially written by Mrs. Workman. Both maps are based upon the trigonometrical survey of India supplemented by observations and photographs of the Workman expedition.

The other members of the expedition, apart from native assistants, were as follows:—Cte. Dr. Cesare Calciati, who acted as topographer; Dante Ferrari, an assistant; Cyprien Savoye, guide; Simeon Quaizier, Cesar Chenoz and Emile Gléry, porters; the last four from Courmayeur.

Illness of a member of the party delayed the start in 1911 and many minor delays occurred through the uncertainties of native assistance. Notwithstanding, with the exception of the tragic accident at All Bransa, resulting in the death of Cesar Chenoz of Courmayeur through a fall of eighty feet into a crevasse, a graphic account of which is found in chapter II., part II., the expedition seems to have been highly successful and the thanks of the geographic, scientific, mountaineering and, by no means least, the artistic world are due to Dr. and Mrs. Workman for the valuable addition they have contributed to the already published knowledge of the great ice region of the Karakoram.

Arthur O. Wheeler.

Voyages on the Yukon and its Tributaries—By Hudson Stuck[16]

Mountaineers will remember Archdeacon Stuck's climb on Denali (Mt. McKinley) and welcome a new book of travels from his pen. This time we have an account of a voyage up the

16 New York, Charles Scribner's Sons.

coast of British Columbia to Skagway and across the Height of Land to the head waters of the Yukon. Here they embark on the launch "Pelican" and start the real work down the 2,200 miles of river to its mouth, besides ''side shows" up the tributaries Chandalar (Gens de Large), Tanana and Koyukuk.

The steamboat trip to Skagway is memorable with its vistas of fiords and mountains, its curious Indian life and touch of the romance of the navigator Vancouver; but the real interest of the book centres on the Yukon River.

For ten years Archdeacon Stuck has travelled the Yukon country establishing, renewing and heartening the Church Missions on the River. Books of tourist travel seldom convey more than a passing glimpse of country. Here we have an intimate picture of the pioneer life: the extremes, the very best and the very worst types of man, cut loose from all restraints of civilization, in pursuit of the most demoralizing occupation in the world—the Eldorado of placer gold.

The Yukon River is the open road of the whole life and activities of the Canadian Yukon and Alaska. Rafts, canoes and steamboats of all kinds ply the road and make the most of the short season.

As far as the White River the mountains are hard rock, the water clear and the scenery impressive. Below that point the hills are round shouldered, with rocky ranges breaking into view at intervals. At Eagle we pass into Alaska. At Fort Yukon the river turns west and south through the delta of the Yukon Flats, where the mosquito reigns supreme. The whole country shows signs of inundation and sudden changes from tropical to arctic climate. Our author rightly points to an entrancing field for some geological student of the type of Hugh Miller, accurate but interesting, to carry forward the work of Robert Campbell and the old discoverers.

We catch glimpses of the various forms of Yukon government, from the Hudson's Bay Company, through the Mounted Police to the majesty of the law. We are glad to see that our author heartily agrees with those who hold that under Yukon conditions the Mounted Police system is the best, and gives more substantial justice than primitive law courts run by "outlander" lawyers.

We must leave our readers to follow the Pelican in its wanderings and to make friends and acquaintances by the way. This—the human interest—is the vital part of the book. We realize the life of this strange medley, and so are justified in our travels.

We do not forget that Archdeacon Stuck is a mountaineer of the best. We have room for just one appealing quotation.

"From far out on the lake, so that he had its blue waters as a foreground, I would suddenly present to the traveller the best view of mountains in all North America, and surely one of the noblest in the whole world. From that level, less, I think, than a thousand feet above the sea, I would show him the sheerest, most precipitous face of Denali and Denali's Wife, companion peaks, rising by escarpment upon escarpment to jagged pyramids that thrust themselves, one nearly four miles and the other more than three miles into the 'stainless eminence of air'; with their buttresses and ridges, their connecting arcades, their steep slopes and awful, headlong pitches, all glittering in perpetual snow."

Before parting with our author, we must make some brief reference to the object of his travels. The scenery and the experiences by the way are engrossing to the reader, but the native population, the adjustment of their lives with the advent of outside civilization, their future in this world and the next—these great matters are the objects for which Archdeacon Stuck devotes his life and well being.

The highest praise we can give this book is that the voyage of the Pelican shows that some

one, at any rate, carries high the flag of the Christian Missionary Spirit.

We are glad he is a mountaineer.

H. B. Mitchell.

The Bird Study Book —By T. Gilbert Pearson[17]

(Secretary, National Association of Audubon Societies)

To begin with, this instructive and useful volume is very attractively published. The print is large and easily read. It has a charmingly life-like coloured frontispiece of the Wood Thrush; there are sixteen excellent photographs, all of unusually interesting bird subjects, and many good pen and ink sketches explanatory of the text. If I may be permitted a criticism, it is that the book is so full of information, and so useful for general reference, that a detailed index would have been a valuable adjunct.

That the author knows his subject thoroughly, both from personal study and from practical observation, goes without saying; in addition he has presented his knowledge in such a simple and interesting form that not alone the grown up reader but the youngest child, with an ordinary amount of intelligence, cannot fail to enjoy every chapter of it. I know I did, and also derived a very large amount of information from it—information that everyone, from those engaged in the most useful and productive forms of agriculture to the dilettante in Nature study, from the dweller in the city to the habitue of the country, should possess.

The majority of books dealing with the study of birds are so mingled with scientific nomenclature, technical description and measurements, species and sub-species that, to the ordinary reader they are to a large extent a study of a foreign language. This work, on the contrary, omits the classics of the subject altogether and deals only with the everyday names, appearance and habits of the birds of the North American Continent, to which have been added many vivid little incidents illustrative of such habits.

Instructions are given how to observe the actions of birds so as not to unduly alarm them while under observation, and their nesting habits and domestic life are dealt with. The chapter of migration is of great interest and is very instructive. How birds that do not migrate live in the winter and succeed in obtaining food and the casualties occurring from inclement weather are clearly shown. To the agriculturist the economic value of birds is pointed out and is good solid information. The effect of civilization upon the bird supply is made apparent, and the traffic in feathers is shown to be a reason for the growing scarcity of many species and the extinction of others. The author says: "In 1886 Dr. Frank M. Chapman walked through the shopping district of New York City on his way home, two afternoons in succession, and carefully observed the feather decorations on the hats of the women he chanced to meet. The result of his observation, as reported to 'Forest and Stream,' shows that he found in common use as millinery trimming many highly esteemed birds, as the following list, which he wrote down at the time, will serve to show: Robins, Thrushes, Bluebirds, Tanagers, Swallows, Warblers, Bobolinks, Larks, Orioles, Doves and Woodpeckers. In all, the feathers of at least forty species were discernible."

One chapter deals with bird protection laws and their enforcement, and another with bird reservations. The last two chapters tell of the making of bird sanctuaries and the teaching of bird study to children.

The scheme of the book is excellent and carries the reader along from the life and

17 Doubleday, Page & Co., Garden City, New York, 1917, $1.25 net.

habits of the everyday birds to those of the rarer and more elusive species, deals with their usefulness and friendly relations with mankind, shows how many species have become extinct and finally gives the measures that are being taken to preserve the species that are still common to most localities. The book should be in every library, for it will prove a rare treat to all readers.

I gave the book to my father-in-law, Professor John Macoun, F.R.S.C., F.L.S., Naturalist to the Dominion of Canada, to read and asked him to give me a few words upon it. This is what he has written: "I have never read a bird book with more pleasure and profit, because the author speaks unsparingly from his own experience and knowledge, judicially mixed with the observations of others. I consider it a book for both old and young, male and female. It is valuable to the old, as it shows them the great value of birds in the economic life of the world, and to the young it opens a never ending vista of the bird world by which we are surrounded. A perusal of this book will immediately awake in them a desire for more scientific works which give the life history of any bird they see and deal on to a wider knowledge of bird life in general.

"It appeals to the city boy or girl just as much as to those in the country if they desire to use their surroundings to extend their knowledge or gratify their youthful desire for some change from the humdrum life of the streets. There are many references to birds in winter and summer that would help the city boy or girl very much in more ways than one.

"References to particular birds are most interesting and instructive in respect to their food, nesting habits and migrations, etc."

Arthur O. Wheeler.

On the Headwaters of Peace River—By P. L. Haworth[18]

It is the custom to talk of the United States as a new country. This has been repeated for so many years that speakers do not realize that the remark as well as the country is getting old and that the boundaries of the new are further afield. Perhaps one of the most obvious symptoms of the change is the publication of works of travel by citizens of that country dealing with other lands, the number of which has become large in recent years. This obsession of the wilderness, of the desire for the remote regions, seized upon our author and led him into the northern mountain country at the sources of the Peace River. He has the real love of such a world When he came there, "It seemed as if this were my kingdom and that after long years of absence I was once more entering it." An unconscious echo of Coleridge: "It is their appointed rest and their native country and their own natural home, which they enter unannounced as lords that are certainly expected, and yet there is a silent joy at their arrival." He rather happily hits off the intimate life of the hills as distinguished from that understood by the tripper. "There is as much difference between viewing mountains from a car window or the top of a coach and travelling among them on foot or with a pack train as there is between seeing a beautiful woman on the other side of the street and being married to her."

He had heard, as many have heard the stories of mighty snow mountains in the north "higher than Mt. Robson," but no one has found them; the explanation being that the snow level is lower there than round the Canadian Pacific Railway, the country which is always used as a base of comparison, and the general elevation of the mountains is much less, hence lending the appearance

18 Chas. Scribner's Sons, New York, 1917, $4.00.

of great height to any mountains which stand out above their fellows.

Travel was made by canoe, a dream of luxury to one who has been compelled to adjust himself to the moods of the restive pack horse—at any rate down stream. Water was taken on the Fraser at Hansard not very far from Prince George, on the Grand Trunk Railway. Thence by Giscome Portage to Summit Lake, from thence the Arctic waters flow. Apparently the portage was crossed without a rain storm. Popular opinion is that every one gets soaked in crossing it; it is a country of quickly changing weather—mostly samples. The Crooked River which flows thence is popularly known as the Waggon Road, as along many of the shallows there lay on either side a line of boulders that had evidently been rolled out of the way. The road mender is said to have been "Twelve-Foot Davis," who took his name from the size of his mining claim, not his stature. His characteristic epitaph reads: "He was every man's friend and never locked his cabin door."

The many eagles all through this country create havoc among the lambs of the mountain sheep, which probably accounts for the rarity of their appearance. Fish were plentiful in places, trolling being the most successful mode of capture. The Crooked River ends in McLeod's Lake, on whose western shore is the Hudson's Bay Company's Fort McLeod, originally established in 1805 by the Northwest Company. It is the oldest settlement west of the Rocky Mountains north of California. At the foot of the lake a number of preemptions have been located by men who have hopes that the Pacific Great Eastern Railway may pass that way on its passage to the Peace River Country. The only habitation, except a few trappers' cabins between Ft. McLeod and Finlay Forks, is the house of Ivor Guest, who, himself of U. E. Loyalist stock, inherits names well known for generations in the west of England. He possessed a dug out some forty feet in length, which will probably surprise Eastern readers. From McLeod's Lake the river to its junction with the Parsnip is called the Pack. Below the mouth of the Pack on the opposite side of the Parsnip rises the striking cut bank which should have been the landmark of Warburton Pike on that disastrous journey of which he tells in "Barren Ground of Northern Canada" in vivid language. He was misled by a cut bank opposite the mouth of the Nation River, and followed that stream until he realized he was nowhere near McLeod, and was almost without food. Returning through the winter snows the party at last reached Hudson's Hope within a short journey of death, as Milton and Cheadle reached Fort Kamloops thirty years before.

Very little is known of the immense mountain mass lying between Pine Pass and Peace River. It is a hard country to travel. Somers-Somerset's expedition which went through Pine Pass from Dunvegan in 1893 was reduced to killing pack horses for food before they reached Ft. McLeod. Here seems to lie the borderland between the real bighorn (ovis canadensis) and the black, Stone's sheep (ovis stonei). Biologists are yet ignorant if this is a debatable land, biologically as well as geographically, and if the two species intergrade.

At Finlay Forks the Parsnip joins the Finlay, pouring down from the north and their mingled waters form the" Peace. Even at a low stage of water the Finlay is three hundred yards wide at the mouth and the "Forks" would seem a fine natural townsite. Along the banks stretches a level plain thickly timbered and possessing a rich soil; in the distance are the mountains and a mile down stream are the Finlay Rapids. For a few miles up stream the choicest land has been pre-empted, but many of the preemptors have gone to the war. "A finer thing than this rallying from the ends of the earth the world has never seen."

The "joy ride" was now over. Up the Finlay every mile had to be won by hard work. Often magnificent views of the mountains were seen on either side of the stream. On the left is the gneissic ridge which begins at the Black Canyon of the Omineca and runs northward along the

Finlay; on the right rise the main Rockies, chain after chain, and through passes splendid glimpses were caught of the rugged white peaks which sent a challenge to come and climb.

Shortly before Fort Grahame was reached a brown bear was killed. Bears of all kinds seem fairly plentiful in the country. The Indians are strictly in the hunting stage; they raise no crops of any kind and subsist entirely on meat. Freight into the Fort is ten cents a pound, and "White man's grub" is an expensive luxury. Moose is the staff of life with rabbit standing second. Stone's sheep and mountain goat are also found in the neighbouring mountains, but the goat are fond of wild garlic which gives the meat an unpleasant taste.

At Deserter's Canyon above Ft. Grahame the river contracts to the width of about a hundred feet and the water rushes through with racing speed. The canyon walls are hard conglomerate and sandstone through which the stream has cut a narrow gorge. Here is a complete barrier to navigation up stream, but a good Indian path makes the portage not too severe. A superb, nameless peak, culminating in a pinnacle bearing patches of snow, towers above the canyon on the eastern side.

Above the canyon comes in the Ackie, which, according to Indian tradition, flows through a wonderful country. In it there are spots where the water is boiling hot and at night the narrator once saw in the face of a mountain opposite a great bright eye, fully a foot across which stared down at him and made him afraid. Could this be a "hole in the wall," like the one above Healy Creek, with the moon shining through? It is possible.

After some days' journeying the mouth of the Quadacha or Whitewater was reached and the unknown and most interesting portion of the expedition began. The river is milky and the question as to the origin of the colour was in dispute; was it from glacial silt or from white cut banks, as trappers suggested? The canoe and some food were cached near the mouth of the river and the travellers set out to find the reason.

This section is the most vivid and interesting in the book. The country was a difficult one and the best way to get an idea of the surroundings was to get on a high ridge. This was achieved, with the too familiar result—it was the wrong ridge. It was determined to go on, however, until the forks of the stream of which the Indians had spoken were reached. The North Fork showed clear water, while the East Fork was quite white. Between the two streams, which are nearly equal in volume, rose a high mountain ridge. The East being white, the explorer thought should hold the name of Quadacha, while to the North Fork he gave the name of Warneford after the heroic aviator who won the Victoria Cross. It was impossible under the conditions of the trip to go further up stream, but a barren mountain on the homeward way would evidently afford a fine view and this was climbed. The view was well worth the climb, commanding the country. To eastward and northeastward the travellers overlooked the whole of the unexplored region of the Rockies from Laurier Pass on the south to the Liard River on the north. "There was no peak taller than Mt. Robson. Much the finest lay far to the northeast with three great summits, two of them peaks, the third and tallest an immense block. . . . Down the south slope of it, filling a great valley miles wide and miles long there flowed a perfectly immense glistening glacier. . . I venture to predict that when the glacier has been more closely examined it will be found to be one of the biggest of the whole Rocky Mountain system."

On the North Fork of Warneford River there was at least one, perhaps two or three, much smaller glaciers. The ranges run parallel to the Finlay. The author named the mountain beside the Glacier Mt. Lloyd George.

Of the hunting along the upper reaches of the Finlay, the shortage of food, the running

of the Long Canyon to Fort Grahame on a raft, the long journey down the mighty Peace to rail head, we have no space to speak. The book is full of interest and the style is straightforward and unpretentious.

The publishers have printed and illustrated the book well, but a house of the standing of Scribner's should provide an index to a book of this character.

An interesting appendix is supplied by a transcript of Finlay's diary on the first exploration of the stream in 1824.

S. H. Mitchell.

Flora of the Rocky Mountains and Adjacent Plains

(Containing descriptions of the native and naturalized flowering plants and fernworts, growing in Colorado, Utah, Wyoming, Idaho, Montana, Saskatchewan, Alberta and the neighboring parts of Nebraska, South Dakota, North Dakota and British Columbia. By P. A. Rydberg, Curator, New York Botanical Garden[19])

When first science sends her explorers into a new world they are more mindful of their native parishes than of the future people of a young territory. Their reports are sent home and often buried in the periodicals of a more or less obscure society or government blue book. Hence, when the time comes for full information, a book must be compiled by one writing with authority and possessed with profound patience for research work. Dr. Rydberg has adventured in the field and his work of labour and of love will be invaluable to all who take interest in the botany of the mountains.

Naturally, the book is written primarily for readers in the United States, but flowers do not recognize the 49th parallel; their zones are of climate not of geography. Probably many of the species only so far recorded south of the border will be found to grow also in Canada and be duly noted by our own botanists.

It is to be regretted that Dr. Rydberg has not followed in his system of nomenclature the "Vienna Rules" which most botanists in this country and in Europe agree to be truly scientific and adapted for universal use, thus standardizing and therefore lessening the labour of the worker. He prefers the American system and also follows the national habit of minute subdivision of genera, which annoys many biologists of wide experience as tending to triviality.

These are but spots upon the sun. The book is of capital importance and should be in the hands of all serious botanists.

Editor.

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19 Published by the Author, price $4.05 post free.

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Note.—The Editor will be glad to receive any additions to the above list.

No attempt has been made to catalogue magazine articles. In the case of the more important magazines the first article dealing with the subject of the Canadian mountains has been noted. The index can be consulted for subsequent references.

Maps Of Canadian Mountain Regions

The following maps may be obtained from the Topographical Surveys Branch of the Department of Interior, Ottawa, Canada: — Selkirk Range— Scale 1/60,000, contour interval 100 feet. (Report and maps in 2 vols.) Price $1.00.

Crowsnest Forest and Waterton Lakes Park.—Scale 1.014 inches to mile. Contour interval 100 feet. By M. P. Bridgland, 1913-14. (In 5 sheets.) Price 50c.

Banff and Vicinity.—Scale 1 mile to 1 inch. Contour interval 100 feet. Free.

Mt. Robson and Mountains of the Continental Divide, north of Yellowhead Pass.—Scale 1.9 miles to 1 inch approx. Free.

Portion of the Foothills Region (S.W. of Calgary).—Scale 1 mile to 1 inch approx. By A. 0. Wheeler, F.R.G.S., 1895-96. Price 50c.

Central Part of Jasper Park, Alberta.—By M. P. Bridgland, 1915. Scale 1/62,500. Contour interval 100 feet. In 6 sheets. Price 60c. (This map may be obtained dissected and mounted in a case. The price, which will not be less than $3.00, has not yet been set.)

Central Part of Jasper Park, Alberta.—By M. P. Bridgland, 1915. Scale 1/125,000. Contour interval 100 feet. Free.

Waterton Lakes Park, Alberta.—By M. P. Bridgland and A. O. Wheeler. Scale 1/100,000. Contour interval 100 feet. Free.

The last two maps may be obtained, dissected and mounted. The price, which will not be less than 75c. each, has not yet been set.

The following may be obtained from the Chief Geographer, Ottawa: —

Rocky and Selkirk Mountains adjacent to the C.P. Railway. Scale 2 miles to 1 inch (in 2 sheets). Price 20c.

Rocky Mountains between lat. 51° and 53° 10’. Scale 4 miles to 1 inch (in 2 sheets). Price 20c.

The following may be obtained from the Secretary, Geological Survey, Department of Mines, Ottawa. A nominal price of 10 c. a copy is charged.

No.	
942	Peel and Wind Rivers, Yukon Territory. Scale 1/506,880.
1099	Pelly, Ross and Gravel Rivers, Yukon Territory. Scale 1/506,880.
40A	Bighorn Coal Basin, Alberta. Topographical. Scale 1/125,000.
9A	Bighorn Coal Basin, Alberta. Geological. Scale 1/125,000.
930-2-4-6	Cascade Coal Basin, Alberta. Topographical. Scale 1/63,360.
929-31-33-35	Cascade Coal Basin, Alberta. Geological. Scale 1/63,360.
142A	Field, Kootenay District, B.C. Geological and Topographical. Scale 1/126,720.
19A	Lardeau, W. Kootenay District, B.C. Topographical. Scale 1/253,440.
791	W. Kootenay Sheet, B.C. Topographical. Scale 1/253,440.
792	W. Kootenay Sheet, B.C. Geological and Topographical. Scale 1/253,440.
165A	Windermere, Kootenay District, B.C. Topographical. Scale 1/125,000.
175A	Ymir, Kootenay District, B.C. Geological and Topographical. Scale 1/63,360.
1667	Slocan Mining Area, Kootenay District, B.C. Geological. Scale 1/63,360.
1068	Sheep Creek Mining Camp, Kootenay District, B.C. Geological. Scale 1/63,360.

107A	Blairmore, Alberta. Geological. Scale 1/126,720.
174A	Blairmore, Alberta. Topographical. Scale 1/63,360.
767	Crowsnest Coal Fields, E. Kootenay District, B.C. Geological and Topographical. Scale 1/126,720.
57A	Frank, Alberta, showing landslide 1903. Topographical. Scale 1/9,600.
99A	S. portion of Cranbrook map area, E. Kootenay, B.C. Geological and topographical. Scale 1/253,440.
147A	Cranbrook Map Area, E. Kootenay, B.C. Geological and topographical. Scale 1/253,440.
166A	Flathead Coal Area, Kootenay District, B.C. Topographical. Scale 1/62,500.
182A	Flathead Coal Area, Kootenay District, B.C. Geological and topographical. Scale 1/62,500.
834	Boundary Creek Mining District, B.C. Topographical. Scale 1/63,360.
828	Boundary Creek Mining District, B.C. Geological and topographical. Scale 1/63,360.
74A to 90A	International Boundary Maps. W. longitude 122° 30’ to 113°. Scale 1/62,500.
55A	Alberta, Saskatchewan and Manitoba. Geological. Scale 1/2,217,600.

OFFICIAL SECTION

Report Of Cataract Valley Camp

The twelfth annual camp was held in the Valley of Cataract Brook on the same site as that of the Camp of 1913, from the 17th to 31st of July. A subsidiary camp was placed in the meadow near Lake O’Hara where was held the great camp of 1909. Ninety-one in all were placed under canvas; an excellent attendance considering how heavily the war has drawn on the membership of the Club.

There were present members of the English, Swiss and American Alpine Clubs, and of the Royal Geographical Society.

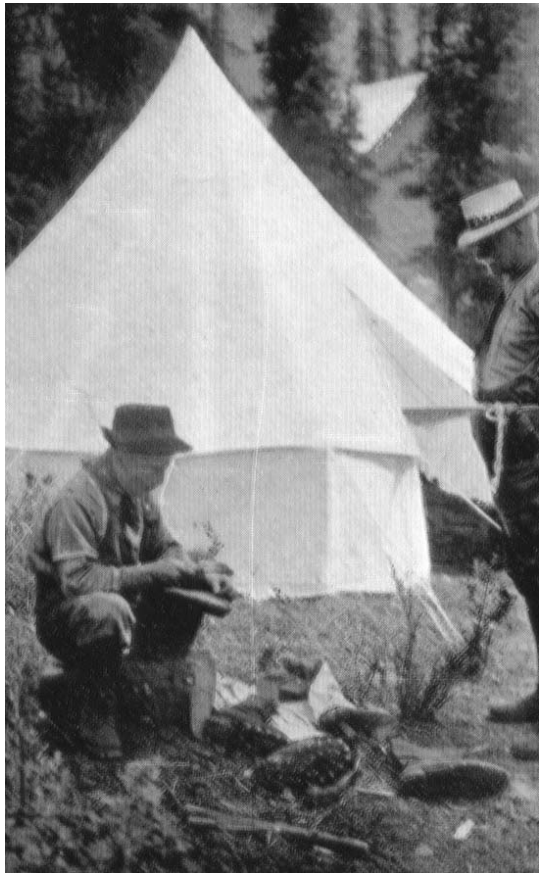
Attendance at the Camp was drawn from the following places:

Canada

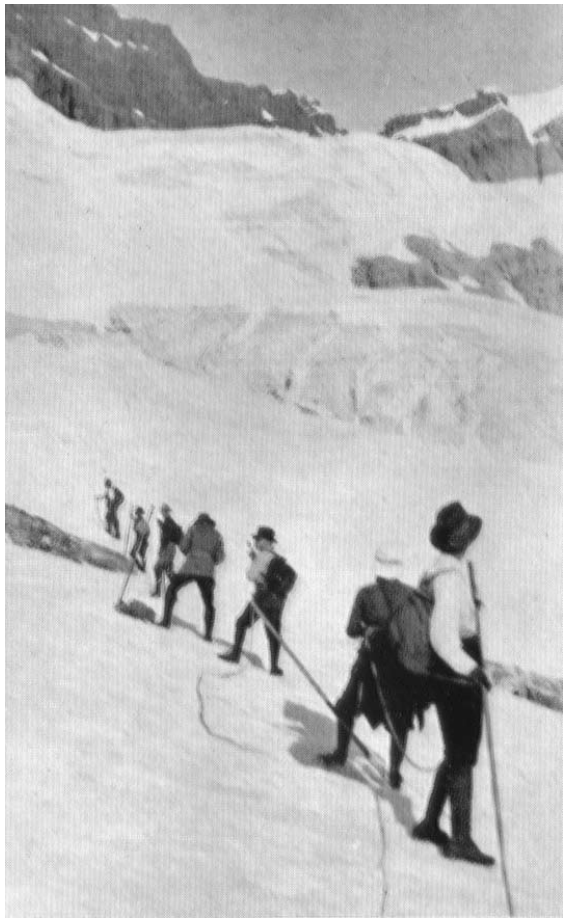
British Columbia: Cameron Lake, Field, Kelowna, Sidney, Vancouver,Victoria and Wilmer.
Alberta: Banff, Calgary, Carmangay, Didsbury, Edmonton, Irricana, Macleod, Soda Lake and Vegreville.
Saskatchewan: Regina, Saskatoon.
Manitoba: Virden, Winnipeg.
Ontario: Ottawa.
Quebec: Montreal.
Nova Scotia: Windsor.

United States

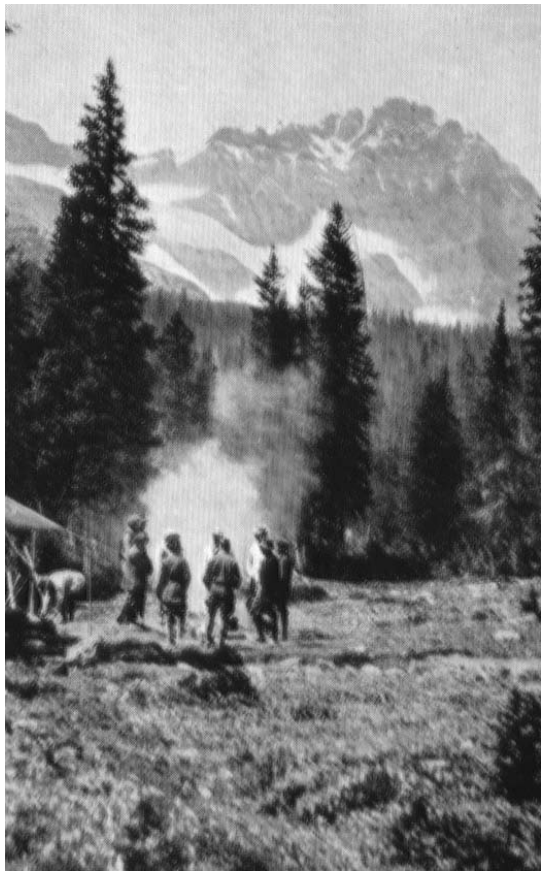
District of Columbia: Washington.
North Dakota: Grand Forks.
Massachusetts: Boston.



Swiss Guide Nailing Climbing Boots. Photos, H.E. Bulyea



Climbing Party Ascending Odaray Glacier.



Upper Camp In O'Hara Meadows Cataract Valley, 1917.

New Jersey: Summit.
New York: New York, Brooklyn.

Switzerland
Chur: Interlaken.

The Annual Meeting

The Annual Meeting was held at the Camp Fire on the morning of July 25th, the Director taking the chair.

The President's address was read, regretting his absence caused by heavy pressure of business and suggesting that former precedents should be followed and a resolution of sympathy and appreciation should be sent to members on war service.

Communications were read from Col. W. W. Foster, Vice-President, expressing the gratification of himself and other members at the front that "the Club continued to fulfil its mission and maintain the great traditions associated with it"; also from Capt. G. S. Provis, Major H. W. A. Foster, Dr. J. Norman Collie and Dr. W. E. Stone, regretting absence and hoping all things from the continued activity of the Club.

The Director's report was then submitted. He summarized the history of the Club during the past year and emphasized the duty of its members at home to carry out the often expressed wish of the members at the front so that the Club would be in unimpaired vigour when all were united at the close of the war. He suggested a resolution of appreciation of the entry of the United States into the war for freedom, and made clear the work the Club was doing in the interests of the mountain regions of Canada, both among the people of Canada and other nations.

The Hon. Treasurer wrote saying that the finances of the Club were in a healthy condition and called attention to the fact that Club dues of all kinds were kept at an exceedingly low figure, and that only by prompt payment from members could the Club pay its necessary expenses.

The Secretary-Treasurer stated that the membership was not increasing, but new members were coming to replace those who had dropped out, and urged the younger members to carry on the Club's work with the Club's traditional enthusiasm.

Resolutions were passed, of sympathy and appreciation to all the members on war service, and of gratification at the entry of the United States into the war, to be sent to the Mountaineering Clubs of the United States.

The usual votes of thanks were passed to all who had helped to make the work of the Club a success.

Dr. Hickson enquired as to the possibility of erecting huts in the mountains for the convenience of members wishing to make independent expeditions, without the heavy expense of a camp and pack train. The Director stated that the Club executive had long had this matter under consideration, the chief difficulty was that of finance.

Dr. Hickson also suggested a Club memorial to members who had been at the front. This, the Director said, had also been considered and one member had already made a promise of substantial assistance. No definite action could be yet taken and the Executive was open to suggestions.

The Chairman, in closing the meeting, said that all members should consider that they were not merely casual supporters of a sporting institution. "Each is an actual owner of the Alpine Club. All property is owned by members themselves — the Camps, the Club House. Think what it means! Some day you will be proud of it."

The meeting then adjourned.

Report On Mountaineering And Expeditions

The Camp was surrounded by attractive climbs and fascinating expeditions. For the greater part of the time the weather was perfect. A snowstorm gave an opportunity for rest, and the weather turned to summer again.

The following mountains were climbed: Hungabee, Huber, Odaray, Cathedral, a peak of Victoria Ridge, south of Pope's Peak, and Schaffer. Vanguard Peak of Mt. Cathedral proved a most excellent rock climb, by no means a task for a tyro.

The magnificent two-day trip was made by Abbot Pass and Mitre Pass "to Paradise Valley, and thence by Wastach, Wenkchemna and Opabin Passes back to camp; a journey which reveals the heart of the mountains without too exhausting labour.

Trips were also made to Lake Oesa, Lake McArthur, McArthur Creek for fish, to Field, to Sherbrooke Lake and many another coign of vantage. The snowstorm prevented the ascent of Victoria by the Huber Ridge, a climb anticipated with pleasure by the more skilled climbers.

Mr. and Mrs. MacCarthy with Conrad Kain made the ascent of Hungabee, the first climb of this peak by a lady.

The professional guides were Christian Jorimann and Christian Häsler.

Twenty-one passed the test for active membership The list follows:

Peak of Victoria Ridge, south of Pope's Peak, July 20th
Mrs. E. B. Edwards

Mt. Huber, July 22nd
Miss M. E. Pierce
Miss L. E. Rupp

Mt. Odaray, July 24th
Miss R. Waterman
F. N. Waterman
F. M. Black
H. E. Bulyea
J. W. Keith
D. M. Sinclair

Mt. Cathedral, July 26th
Miss H. M. Greenway
Miss N. B. Hendrie
Mrs. M. C. Johnston
Miss B. A. Mitchell
Miss E. McDonald
Miss A. Whittaker
J. R. Brown
W. Johnstone
N. D. Keith
L. H. Lindsay
A. S. Sibbald
W. B. Whittaker

The Club Library

The subjoined annotated list gives an account of the books presented to the Club this year.

Lieut.-Colonel Mitchell, our Eastern Vice-President, in the midst of his vital work for the allied armies, has found time to send us attractive and informative books published by the Italian Alpine Club. We trust he will interest the Club in the Canadian Rockies and induce some of its members to visit us. A camp amidst our finest peaks for mountaineers of the allied nations should be a delight.

Mr. LeRoy Jeffers, who is secretary of the Bureau of Associated Mountaineering Clubs of North America, as well as one of our own members, has presented a large number of books, some being of great interest.

Mrs. E. B. Edwards has most kindly given the book cases asked for in the last Journal, to commemorate her graduating climb. They were much needed and are still more appreciated.

The most striking addition to the library is an excellent portrait of Mr. A. O. Wheeler, the Director of the Club. It is the gift of Mr. Harry Pollard, of Calgary, who enlarged it from a negative taken by himself and presented the finished picture to the Club. It is a speaking likeness and occupies the place of honour over the fireplace.

The late Captain E. N. White, whose portrait appears on a previous page, shortly before his death in action, collected and packed some war souvenirs for the Club House. They include the nose and part of the body of a German shell, a German leather ammunition case and a small tin box painted to represent an oak chest such as is used to store household linen in Germany. They were taken at La Boutellerie in 1914. His father kindly forwarded the parcel after the death of his son.

Mr. Hornibrook sent a copy of the 1917 List of Members picked up by his brother in a German dug-out at Vimy Ridge, still showing the trench mud.

Mr. Harkness have given an album of views in various districts of the main range. Such albums form a never failing delight to members at the Club House.

Sundry gifts of necessary furnishings for the Club House were presented by Mrs. A. 0. Wheeler.

A handsome lounge seat and pillows were the gift of Miss E. Savatard.

The usual exchanges have been received. Owing to lack of new climbing records, the European magazines have "dug up" many accounts of early climbs of great interest and historic value. The Swiss Alpine Club is still opposed to lady members.

The list of additions follows:

The Bird Study Book. By T. G. Pearson. Pub. Doubleday, Page & Co., New York. Donor LeRoy Jeffers. Reviewed on a previous page.

Blazing the Trail through the Rockies. By Noel Robinson. Pub. News-Advertiser, Vancouver. Out of print. Donor H. O. Frind. Reviewed on a previous page.

The Book of Camping. By A. H. Verrill. Pub. A. A. Knopf, New York. Donor LeRoy Jeffers.

An elementary book giving such obvious advice as to avoid camping with over fastidious people, or those who drink to excess. There are many hints in it of a certain value.

Camping Out. By W. H. Miller. Pub. G. H. Doran Co., New York. Donor LeRoy Jeffers.

This book, by the editor of "Field and Stream," gives many hints. It is pleasantly written, being a compromise between the magazine article and the "pemmican" of the handbook.

Camping and Woodcraft, vol. II. By H. Kephart. Pub. Outing Co., New York. Donor LeRoy Jeffers.

A book containing much valuable information, recognizing that a book can only be a stepping stone for a beginner, not a foundation. It gives a clear idea of general principles and shows how not to do a thing, and why. An invaluable work might be produced if the many recent volumes on camping were boiled down into one by an expert with a gift of lucid writing.

Canada the Spellbinder. By L. Whiting. Pub. J. M. Dent & Sons, London and Toronto. Donor H. R. Charlton.

A primer of the country traversed by the Grand Trunk system for American readers. It contains a precis of Canadian history and an appreciation of her poets, as well as the usual chapters describing the country, which are not too rhetorical. It is well illustrated and has a good map and index.

The Cruise of the Corwen. By John Muir. Pub. Houghton Mifflin Co., Boston and New York. Donor LeRoy Jeffers. Reviewed on a previous page.

Green Trails and Upland Pastures. By W. P. Eaton. Pub. Double-day, Page & Co., New York. Donor LeRoy Jeffers.

A series of essays, mostly reprinted from magazines, being appreciations of different aspects of the country. They give the impression of being written to order. Rare among the citizens of the United States is the intense longing to return to the country as soon as the city sets them free, to have a garden, to make things grow, which bespeaks the real countryman. The book is too sentimental to be sympathetic.

The Life of Sir Clements Markham. By Sir Albert H. Markham. Pub. John Murray, London. Donor Mrs. H. J. Parker. Reviewed on a previous page.

The Mountains of California. By John Muir. Donor Miss Lydia B. Edwards. Pub. Century Co., New York, Reviewed on a previous page.

The National Parks of U.S.A. First Annual Report, Pub. Government Printing Office, Washington.

On the Headwaters of Peace River. By P. L. Haworth. Pub. Chas. Scribner's Sons, New York. Donor LeRoy Jeffers. Reviewed on a previous page.

Travels in Alaska. By John Muir. Pub. Houghton Mifflin Co., Boston and New York. Donor Miss Rhoda W. Edwards. Reviewed in Canadian Alpine Journal, vol. VII.

Two Summers in the Ice Wilds of Eastern Karakoram. By Fanny Bullock Workman and William Hunter Workman. Pub. T. Fisher Unwin, Ltd., London. Donor LeRoy Jeffers. Reviewed on a previous page.

Voyages on the Yukon and its Tributaries. By Hudson Stuck. Pub. Chas. Scribner's Sons, New York. Donor LeRoy Jeffers. Reviewed on a previous page.

Altitudes in Canada. By James White. Pub. Mortimer Co., Ottawa. Donor James White.

Dictionary of Altitudes in Canada. By James White. Pub. Mortimer Co., Ottawa. Donor James White.

Georgian Bay Place Names. By James White. Pub. Ontario Historical Society, Toronto. Donor James White.

Quebec, Thousand Islands and Northern Canada Place Names. By James White. Pub. Geographic Board of Canada, Ottawa. Donor James White.

Southern Rockies Place Names. By James White. Pub. Royal Society of Canada, Ottawa. Donor the Author.

Alpine Club House On Sulphur Mt. At Banff. Telephoto, C.G. Wates

Edward Ermatinger's York Factory Express Journal: Being a record of journeys made between Ft. Vancouver and Hudson Bay in the years 1827-1828. Introduction by C. O. Ermatinger and Notes by C. O. Ermatinger and James White. Pub. Royal Society of Canada. Donor James White.

Handbook of Indians of Canada. Tenth Report of Geographic Board of Canada. Edited by F. W. Hodge and James White. Pub. King's Printer, Ottawa. Donor James White.

[The above seven volumes, several of which are now unobtainable, are, as their titles tell, of the utmost value to students of Canadian history.]

Sunset Canada, British Columbia and Beyond. By Archie Bell. Pub. The Page Co., Boston. Donor LeRoy Jeffers.

A beautifully printed and illustrated book, suitable for the drawing room tables of those who explore from hotel verandahs. The English is careless and the information often inaccurate. The origin of the name "Kicking Horse Pass" is well and definitely known. It was so called from the accident to Dr., afterwards Sir, James Hector in August, 1858, near the present Leanchoil station. Sir James was never "first president of the Canadian Pacific Railway." The picture facing p. 288 does not represent "Climbing on Mt. Lefroy," but two well known members of the A.C.C. on the rocks above Robson Glacier. Mt. Lynx appears in the background. The account quoted of the accident on Mt. Lefroy is not by "a local guide" but by Professor Fay, and appears in Vol. VIII. of "Appalachia." The Columbia does not rise "far to the north" of the Arrow Lakes, nor is the motto of British Columbia "Splendour sine occasu."

Sign Talk. By Ernest Thompson Seton. Pub. Doubleday, Page & Co., Boston and New York. Donor LeRoy Jeffers.

In the history of humanity gesture comes before speech, and among primitive and emotional peoples the sign language is much used. Some signs are instinctive, others purely arbitrary. This book is an attempt to codify 1,600 signs used by the Plain Indians, together with some of those used by the deaf and others in Europe and America.

A Guide to the National Parks of America. Edit, by E. F. Allen. Pub. R. McBride & Co., New York, 1918. Donor LeRoy Jeffers.

A compilation "to supply all necessary information as to what each of the parks offers to the tourist and the various ways of seeing these features to the best advantage." This booklet includes the more important of the Canadian parks, but is somewhat out of date. One of the Banff "Guides" recommended died of war wounds in May, 1917, and three of the hotels mentioned are closed. Mounts Rundle and Cascade rise over 5,000 feet not "900 feet above the winding Bow River." The livery rates have been raised.

Guida dei Monti d'ltalia: Regione dell Ortler; Alpi Retiche Occidental. Published by the Italian Alpine Club. Donor Lieut.-Col. C. H. Mitchell.

These two guide books to the regions of the Ortler, the Engadin, the Splugen, etc., are elaborately equipped with maps and illustrations. Besides the usual guide book information, references are given to books which deal with the places mentioned, such as the Alpine Journal, the Swiss Alpine Journal, and also to the best maps. Mention is also made of the parties, including the guides, which made the first ascents. Colonel Mitchell has also sent some books of views and some very handy pocket maps.

Finding the Worth While in the Southwest. By C. F. Saunders. Pub. R. McBride £ Co., New York, 1918. Donor LeRoy Jeffers.

Another of the multitude of handbooks manifesting the different parts of the United States

to the world. This deals with districts of Arizona, New Mexico and Southern California in a gossipy way, and contains a good deal of historical interest lacking in the usual tourist books.

Practical Bait Casting. By L. St. John. Pub. The Macmillan Co., New York. Donor LeRoy Jeffers.

Unfortunately this book was received too late to be reviewed adequately. It contains practical and lucid information principally concerning black bass fishing, and is written from a sportsmanlike point of view. There is no index.

In Good Company. By Coulson Kernahan. Pub. John Lane Co., London and New York. Donor L. C. Wilson.

A series of interesting personal studies of well-known men, the most interesting of which to mountaineers is the one on Edward Whymper. It is a vivid and sympathetic picture of the great climber in his later days.

Glacier National Park. By M. E. Hold and K. I. Bemis. Pub. G. H. Doran Co., New York. Donor LeRoy Jeffers.

Pleasantly written, discursive chapters on various aspects of this beautiful region.

Your National Parks. By Enos A. Mills. Pub. Houghton Mifflin Co., Boston and New York. Donor LeRoy Jeffers.

This book, dealing with the National Parks of the United States, and, on a smaller scale with those of Canada, contains information both historical, descriptive and statistical. It is for the public to decide whether it is more convenient to have the guide book details, which vary from year to year, published separately. The pemmican and the padding do not very well combine.

Flora delle Alpi Atlante. By O. Penzig. Pub. Ulrico Hoepli Milan Donor Lieut.-Col. C. H. Mitchell.

A popular botany of Italian mountain flowers beautifully illustrated with chromolithographs of 250 species.

Pamphlets

Shall the Name of Mt. Rainier be Changed? By C. Hart Merriam. Donor the Author.

Statement of C. T. Conover and V. J. Farrar in the Matter of the Proposal to Change the Name of Mt. Rainier. The Decision.

The U.S. Geographic Board held a public meeting on May 2nd, 1917, to hear arguments for and against the change of the name of Mt. Rainier, and a special meeting on May 11lth, 1917, at which the evidence presented on May 2nd, together with other data were considered. The Geographic Board established the name Mt. Rainier.

The Woodpeckers of Colorado. By F. C. Lincoln. Publisher and donor The Colorado Mountain Club.