



*Norman Collie, photo.*

MOUNT LEFROY.

*Swan Electric Engraving Co.*

## CLIMBING IN THE CANADIAN ROCKY MOUNTAINS.

By J. NORMAN COLLIE, F.R.S.

**I**N 1897 Professor Dixon asked me to join him in an expedition to the Rocky Mountains of Canada, and, as an outcome of that expedition, last year he read a paper before the Alpine Club on 'The Ascent of Mount Lefroy, and other Climbs in the Rocky Mountains.' Since that time I have been again to those wild valleys of Western Canada, and, in company with Hermann Woolley and H. E. M. Stutfield, pushed farther to the northward, partly in order to explore the main chain of the mountains north of Laggan on the Canadian-Pacific Railway, and partly in search of two mountains Brown and Hooker reputed to be 15,000 and 16,000 ft. high.

Mountaineering as a recreation amongst these Canadian mountains was first undertaken by members of the Appalachian Club, of Boston, our cousins in Canada not yet having arrived at that state when they find it necessary to rush off the moment they have a holiday to ice- and snow-covered mountains surrounded by a country without roads, and often even without trails. But perhaps Canadians may be excused from blame on this account, because it is a fact that only within the last thirteen years—that is to say, since the Canadian-Pacific Railway has been opened—has this country been within the reach of ordinary travellers. But the fact still remains that Americans from the States were the first who seriously began mountaineering in this district. To Professor Dixon, however, belongs the credit of being the first member of the Alpine Club who has explored the main range of the Rocky Mountain system in Canada. It is true that the Rev. W. S. Green climbed ten years ago in the Selkirks, but he made no new ascents of snow-peaks on the dividing range of the continent.

Whilst Professor Dixon's party was at Laggan in 1897, two peaks were ascended—Mount Lefroy on August 3 and Mount Victoria two days later. As Professor Dixon gave no account in his paper before the Club of the ascent of Mount Victoria, a brief description of the route followed will not be out of place. Accompanied by Professors Fay and Michael, and Peter Sarbach as guide, I started early on the morning of August 5. Under the brilliant stars we stepped out of the door of the chalet at Lake Louise almost into a boat, and in

the silence slowly rowed across to the farther end of the lake, where the stream from the glacier enters. As we pushed up the valley we were able to make much better progress than two days previously, for we now knew the best route to take. Following the glacier up through the huge gateway (the Death-trap) between Victoria and Lefroy, we clambered up to the col—Abbott's Pass—that lies between Lefroy and our peak. Here, turning to the right instead of the left, as we had done in the ascent of Lefroy, we rapidly gained height by climbing a series of small terraces of excessively rotten rock. Occasionally during a halt we would look back at the snow-slope of Lefroy up which the party had so laboriously toiled forty-eight hours before, and we were glad that we had not to do it over again, for now the ice was showing through in many places in long, dirty streaks—the result of two days of hot, fine weather. The long arête was soon reached that can be seen against the sky from the chalet at Lake Louise.\* Below, on our right, the ice-slopes fell away with great steepness to the bottom of the Death-trap, whilst on the western side of the mountains a sheer black wall of rock plunged down as far as we could see to the bottom of the O'Hara Valley. The climbing along this ridge was not difficult, but required care; and it was only the last five hundred feet of arête that were at all narrow. About midday, after breaking many steps in soft snow, we finally came to the summit—a small pinnacle of soft snow. From here we made all sorts of signals to our friends at the chalet on Lake Louise to inform them of our successful ascent. On our return, however, it turned out that not only had they missed all our signals, but had failed even with a good telescope to see us. This failure on their part set me pondering on the question of danger signals on mountains, and I shuddered as I thought of our chances of succour should an accident have overtaken any of us, and if we, relying on the sun and an empty sardine-box as a mirror for conveying the message to the bottom of the mountain, had fondly expected that succour to arrive. The view to the S. and W. was across a sea of jagged rock peaks, and, as far as the eye could see, mountain succeeded mountain. The most striking in height and form were Hungabee, Goodsir, Ball, and, farther S., the black rock pyramid of Assiniboine.

On August 7 G. P. Baker joined the party, and with men, horses, and an outfit we all started up the Bow Valley with

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\* See *Alpine Journal*, vol. xix. p. 98.

the intention of climbing Balfour. Professor Dixon has already, in his paper last year, described how we missed Mount Balfour but ascended Mount Gordon instead, and how from its summit the high peaks to the N. were seen. It had been my intention at the end of the week, when our American friends left us and Professor Dixon returned eastward to the British Association meeting at Toronto, to go S. to the Assiniboine country; but those peaks farther N., when seen from Gordon, seemed far more attractive, and made me change my mind, so that, after returning to Banff in order to outfit for another expedition, Baker and I, with P. Sarbach, finally returned, on August 17, up the Bow Valley with three men--W. Peyto, L. Richardson, and C. Black (as cook)--a dozen ponies, and provisions for at least a month, to plunge into that unknown country beyond in search of a magnificent rock-peak which we had seen towards the N.W. from the summit of Gordon.

The weather was very hot, and travelling up the Bow Valley was slow, for the burnt forest and muskegs are bad in the lower part of this valley; in fact, Peyto even suggested that, in order to avoid the excessively mean trail, for the first fifteen miles we should make a detour up the neighbouring Pipestone Valley, and then, by means of a pass at the back of Hector, come back again into the Upper Bow Valley. After three days we camped about a mile short of the pass, and on the morrow Baker, Sarbach, and I ascended a couple of rock-peaks just W. of the pass, between 9,000 ft. and 10,000 ft. high. Mr. Parker, one of our American friends, had started a plane table survey of the Balfour group. His results he had kindly handed over to Baker to continue as we went N. along the main range of the Rockies, and from the top of our peak Baker's survey began.

The horses having had a rest, next day the party pushed on to the N.W. over the pass (6,800) and down Bear Creek or the Little Fork of the Saskatchewan, passing on our way a stretch of burnt forest and two beautiful lakes with wild-fowl on them. On the 23rd, after a long day through great pine-woods that entirely filled the bottom of the valley, the foot of Bear Creek was reached where it joined the main Saskatchewan (4,500). The scenery on the W. side of Bear Creek is wild and forbidding; half-way down by the two lakes a rocky wall rises sheer from the bottom of the valley for at least 4,000-5,000 ft., making the eastern faces of the Pyramid and Howse peaks look exceedingly grand, especially in the evening light, when the gloomy shadows hide the

somewhat uninteresting colour of the parallel limestone terraces of thin precipices.

During the last fortnight the weather had been fine and excessively hot; consequently the rivers were in full flood from the melting snow and ice, and it was with not unmixed feelings of fear and anxiety that on the morrow I watched Peyto on his mare trying to ford the stream coming down from Bear Creek—first at one place and then at another. The best of these Indian ponies are wonderfully clever at this kind of work, and as a rule may be left to find their own way across most mountain torrents. This I only found out later, and, in the meantime, to see all one's baggage and provisions for the trip entirely at the mercy of a self-willed pony who is expected to follow the leader over a difficult and dangerous crossing is—at least, I found it so—very anxious work. This particular ford, when the river is in full flood, is distinctly a dangerous one; although the water is not deep, yet it is running rapidly, and the bottom is treacherous with boulders. Should a horse stumble and fall here, he would have but little chance of escaping the numerous rapids and deep pools that are below. My saddle-horse was an old grey, stiff at the knees, but wonderfully surefooted; whilst threading the intricacies of the pine-woods never would he as much as brush my leg against the stem of a tree, and I have known him on our return journey avoid a bad piece of muskeg that he had only just got into several weeks before and over which the whole of the rest of the horses had gone. He was a most gentlemanly old animal, never frightened, never in a hurry, very fond of going to sleep and having his own way, and his way was usually the right one. When it was necessary, he would carry as heavy a pack as any of the other ponies. Wilson, who owned him, and who supplied us with the 'outfit,' told me that this old grey in his younger days had done more than one hundred miles over the prairie in the twenty-four hours. After having safely crossed Bear Creek we pushed in a westerly direction up the Saskatchewan.

On the 25th we climbed our next peak—Sarbach, 11,100 ft. (named after our guide). The first thousand feet was through primæval forest, then up a steep gully through a limestone escarpment, and finally over steep scree to the foot of the final peak. This mountain, like so many others in this district, is a mass of crumbling rock; everything is loose, and the greatest care is required in order to avoid launching tons of debris on one's companions should they be

below. The actual summit ridge of Sarbach is, however, somewhat better in condition, very narrow and precipitous on both sides. Unfortunately for us, the clouds were drifting over the peaks nearly the whole day, and anything over 11,500 ft. was hidden; consequently we could only guess which was the base of the peak we were in search of. To the N.W. we had a good view of the great Lyell ice-field and a snow and rock peak (Mt. Lyell) at its head. To the right of the rock peak there must be an excellent snow-pass from Glacier Lake on the S. to the upper part of the W. branch of the North Fork of the Saskatchewan. To the westward a great glacier could be seen winding down through the hills towards us, and we concluded that the peak we were in search of was probably near to this glacier, so we could explore both together. Below us stretched the valley of the Saskatchewan, filled to the foot of the hills on either side with stones, whilst the river itself made tangled courses through all this debris. These shingle washouts are common in these parts, not only at the head-waters of the Saskatchewan, but, as we found later on, the Athabasca as well.

Next day, leaving Mt. Sarbach behind us, we turned due S., following the Middle Fork of the Saskatchewan, and soon came to a wooded island that lies in the middle of the valley; on its western side the river has cut a way through a rocky canyon, and on the eastern side a particularly bad muskeg barred the way. We were perforce therefore obliged to cut our way through the thick timber over this knoll and down the other side, and it was not till late that we camped on the S. side of a shingle flat, with one big peak opposite to us in a north-westerly direction.

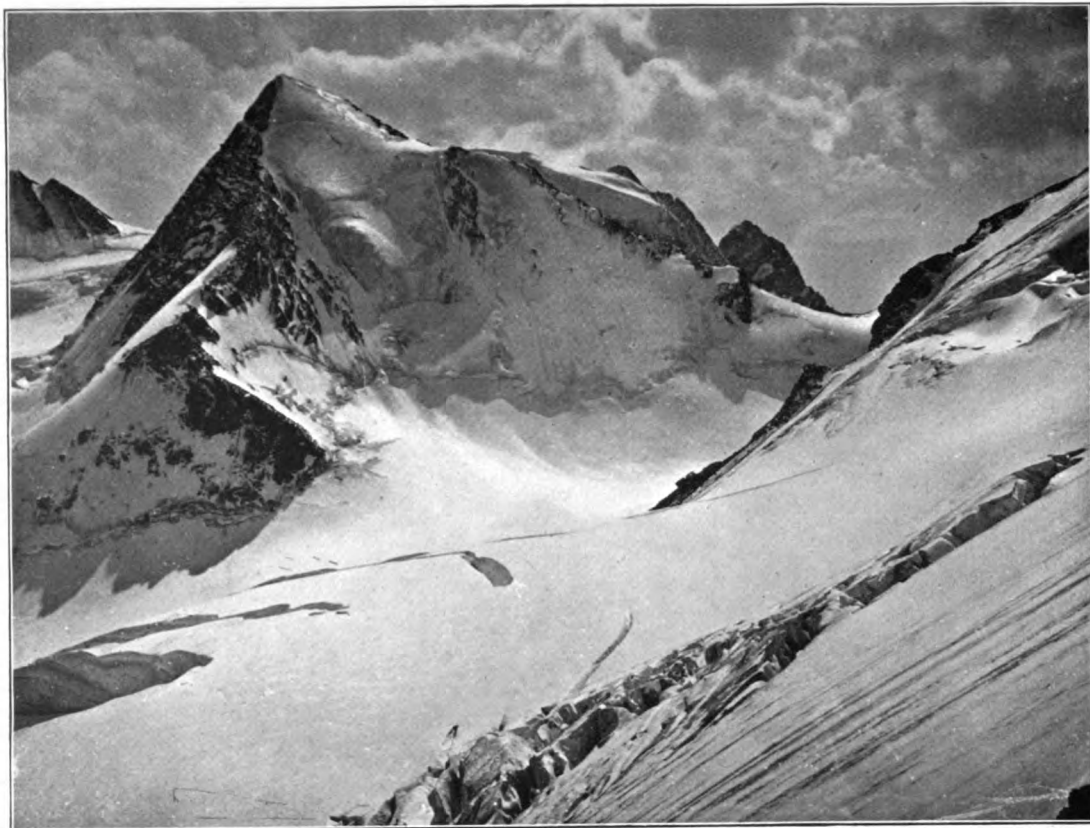
The weather, that had been almost perfect since the 9th, now began to get steadily worse, snow-showers falling and powdering the giant precipices of our peak (Mt. Forbes, about 14,000 ft.). This peak is the finest rock peak I have seen amongst the Rockies. It is a combination of the Matterhorn and the Dent Blanche, and as it rises straight from its base, which is only 4,600 ft. above sea-level, the precipices that surround it, especially those above Glacier Lake on its northern side, are exceptionally grand. In the condition we found it, it would have been folly to attempt an ascent. As far as we could see, the only feasible route of ascent lay up the S.W. ridge to a very sharp arête with broken towers, whilst just below the pointed snow summit the arête was heavily snow-corniced, and did not look as if the last bit of climbing would be either safe or easy.

It was particularly disappointing that on the very day we had found our mountain and sat down at its base the snow-showers—the first for weeks—should so spoil our chance of a successful ascent.

On the 28th we climbed to about 8,000 ft. on the peak that lies at the junction of the two streams that drain the Freshfield and the Forbes glaciers. The higher we went the more imposing Mt. Forbes became, and the better were we able to see the S.W. ridge of the great mountain. From what we saw we were quite certain that up to the final arête there was nothing to stop us, and we imagined that the weather would soon clear again. Whilst we were waiting for the snow to melt off the precipices and ridges of Forbes, a visit was planned to the glacier (Freshfield Glacier) that had been seen from Sarbach. So, taking a couple of ponies and the men, we pushed as far up the valley as we could, and camped on the northern side of the glacier.

The morrow (August 30) was gloriously fine, but it was late before we finally started, and later the penalty was paid. We followed the glacier, which is remarkably free from crevasses, till, when the sun rose, we found ourselves on a vast ice-field. Before us rose three shapely peaks; the one nearest to us seemed the highest. During the time spent over breakfast we discussed the best route up. On its northern face this peak was precipitous down to the glacier; but on the south-eastern side a ridge ran down to a glacier whose level was about 500 ft. above the snow-field we were on. To reach this upper glacier we should have to ascend a very broken ice-fall; but finally we determined that it was not safe to attempt it, and eventually climbed the steep rock precipice on its northern side. The glacier above was crevassed, and it took us some time also to cut our way up an ice-slope before we ultimately succeeded in reaching the ridge that led to the top.

The day was perfect; in every direction except to the W. the mountain land stretched away into the far distance. Consequently, Baker at once began his plane table survey. Just S. of us were two mountains—the nearer a rock peak, the farther covered with snow. The peak we were on (Mt. Freshfield) has been named after Mr. Douglas Freshfield, the two others after Mr. Pilkington and Mr. Walker. This method of nomenclature has been in vogue since the early days of discovery in the Rocky Mountains. There are no Indian names, for the country is, and always has been, uninhabited.



*J Norman Collie, photo.*

MOUNT PILKINGTON.

*Swan Electric Engraving Co.*

On the day we were on Mt. Freshfield, Baker was the only energetic member of the party. Sarbach had been carrying Baker's photographic apparatus, &c.; he now went to sleep in the sunshine—I presume as a sort of protest, for, during our ascent of the rocks below, when I had suggested that we should move a little faster, he had called my attention to the camera, and I heard something that sounded like 'furchtbar schwer und ganz gefährlich.' As both Sarbach and Baker seemed to be enjoying themselves, I basely broached the idea that to climb the peak was what every ordinary member of the Club would do under the circumstances, but that plane tabling was far more difficult, more useful, and generally that it behoved Baker to take extraordinary care over the work he was engaged in, which was of the greatest importance; moreover, that it was late, and that, as our men had returned to the lower camp, should we persist in going on there was certainly no doubt that we would have no dinner, neither would there be the faintest chance of our leaving the glacier that night. The result was quickly attained, and all intentions of climbing further were abandoned. We had reached an altitude of about 10,000 ft. Since then many times have I regretted that we did not push on—not because I should have got to the top of the mountain, but because to this day I do not know what lies on the farther side of Mt. Freshfield. But whilst the interesting operation of surveying the country was being proceeded with by Baker I did not waste my time. I went round a rock ridge and across a small rib of snow to find out what the view to the N. was like. It is curious often how small things directly determine the course of future events. The view that lay before me was to be the means of bringing me back to Canada in 1898. Far away—perhaps thirty miles to the N.W.—a magnificent snow-covered mountain was to be seen, its western face falling sheer for thousands of feet; and from the way it towered above its neighbours it seemed to me to be at least 15,000 ft. high. Mt. Forbes from this point also overtopped all the surrounding peaks by about 3,000 ft.—a rocky pyramid capped by snow. The mountain far away to the N.W. interested me far more, for only two peaks of that size N. of Lyell are marked on the map. These are Brown and Hooker, 16,000 ft. and 15,000 ft. high. I returned to Baker, woke up Sarbach—who was scandalised that we were not going to make any attempt on the peak when the top was so near—and, having packed up all our baggage, proceeded

down the mountain, finding an easier descent through the rock-wall on to the ice-field below. On the lower part of the Freshfield Glacier are a series of large blocks of stone, some even as much as 10 ft. to 15 ft. cube. It is a curious fact that Hector, in 1860, who probably was the only other person that ever has visited this glacier, noticed the same thing. He says: 'Its surface is remarkably pure and clear from detritus, but a row of angular blocks followed nearly down its centre; its length I estimated at seven miles.' The interesting question at once arises, Can these be the same blocks? Hector may have seen them some distance up, as he states he went three to four miles over the ice; we noticed them within a mile of the snout, yet less than three miles in thirty-eight years is very slow progress. We also noticed that the snout of the glacier was ploughing up the debris in front.

After the sun had set we emerged from the forest into the shingle flat within a quarter of a mile of our camp, but on the wrong side of the torrent. With great difficulty I just managed to ford the rapidly running stream, but Baker and Sarbach, being less impatient, lit a fire, and waited till Peyto brought over one of the ponies.

On the next day (September 1) we started up the valley that comes down from Forbes, taking the men and a pony with us. To start with, some difficulty was experienced in skirting through the woods in order to avoid a rocky canyon; but ultimately that night we camped in the forest at the foot of the mountain, in wet weather. Next morning Sarbach and I pushed up almost to the limit of the trees on the slopes of Forbes, but we were soon soaked to the skin from the wet undergrowth, and heavy snow and rain finally drove us back down the valley to our camp on the desolate shingle flat. The weather was getting worse and worse, and it was near the time when we should be thinking of our return journey; moreover, at the beginning of September, often heavy falls of snow occur before the Indian summer sets in, and none of us were anxious to be snowed up amongst such inhospitable wilds for the best part of a week, and so far from provisions and civilisation. Therefore on September 3 the camp was packed up, and, saying good-bye to Forbes—or at least to as much as we could see of him—we made our way S. over the summit of the Howse Pass. On the N. side the ascent to this pass is hardly appreciable, and it is difficult to say almost where the summit may be. Its height is about 4,800 ft. These low passes across the main chain, sur-

rounded by lofty mountains, are quite a feature of the Canadian Rocky Mountains. As soon as we got into the Blaeberry Creek, the woods, being on the western side of the main chain, became very dense, and we had considerable trouble in getting the horses through. On the second day the valley opened up a little, but the weather continued wet and gloomy. It was soon found to be quite hopeless to think of taking horses farther down the valley, owing, first of all, to the fallen timber, and, secondly, because a forest fire was burning lower down. Our only chance was to try and force a way over some pass to the S., in the hope that we should ultimately reach Field on the Canadian-Pacific Railway. Having ascended a peak about 8,000 ft. on the N. side of the Blaeberry, the most promising dip through the mountains opposite was picked out, with the hope that it would prove to be possible for our baggage-animals. The party therefore, on September 5, started for this pass, and, after a very stiff ascent of nearly 4,000 ft. through thick forest, finally camped at the limit of the pine-trees, at about 7,500 ft. Next day the pass was reached (6,800 ft.) which I have called Baker Pass. During the night a heavy snow fell, which cleared the air; and then, just as we were leaving the mountains, brilliantly fine weather again set in. No difficulty was experienced in descending the valley to the S., and after three days we arrived at Field. On the last day Baker and Sarbach climbed a fine rock peak, called Mt. Field, which can be seen from the railway. This ended our expedition for 1897.

During the winter I consulted all the literature I could obtain that dealt with this district. In that rare book 'Palliser's Journals' was the only record of previous exploration through the Mt. Forbes country. I also found out that Professor Coleman, in 1893,\* starting from Morley, had instituted a search for Mts. Brown and Hooker; because, although these peaks are to be found on every map of Canada, yet so little was actually known about them that it was vaguely reported that they did not exist.

To quote from Green's paper †: 'For many years much mystery has hung about the sources of the Athabasca, where Mts. Brown and Hooker were supposed to tower above all adjacent mountains to a height of over 16,000 ft. More recent travellers threw much doubt upon the measurements. Mts.

\* *Geographical Society's Journal*, January, 1895.

† *Alpine Journal*, vol. xvii. p. 295.

Brown and Hooker gradually came down in the world, and so rapidly was this descent accomplished that some United States geographer predicted that in the end it would be found that they were no more than hollows in the ground.' According to Professor Coleman, 'there seems no record as to who determined the reputed heights, nor how the work was done.' In a work by Robert Greenhow,\* Mr. Thompson, who was acting as astronomer for the Hudson Bay Company, is said to have estimated these peaks at 16,000 ft. and 15,700 ft. respectively. Beyond these references I was unable to find out anything more concerning them, except that David Douglas, the botanist, was credited with their discovery during one of his early journeys across the mountains with the Hudson Bay Fur-trading Company's servants. The only pass across the Canadian Rocky Mountains used in those days was the Athabasca Pass, and these two giant peaks were supposed to stand guarding this remote gateway connecting the E. with the W. In Professor Coleman's paper he describes how he finally arrived on the summit of the Athabasca Pass, and how some of the party climbed the highest peak on the northern side of the pass, but found it to be only 9,000 ft. ; he also further identified the pass he was on by the presence of a small circular lake on the summit called the Committee's Punch-Bowl.

Now, from the slopes of Mt. Freshfield I had seen a mountain that appeared to me to be about 15,000 ft. high. Of course, the idea at once suggested itself that perhaps it might be either Brown or Hooker. This explanation, however, entailed the supposition that the Athabasca Pass Douglas had traversed was not the one that Professor Coleman had visited. Now, there was not the slightest doubt that Professor Coleman had reached the pass which now is called the Athabasca Pass ; therefore, unless it could be proved that the peak that I had seen was on one side of a pass which crossed the main chain and connected the head waters of the Athabasca with the Columbia, and a second mountain almost as high was on the other side, I could bring forward no argument in favour of Mt. Brown, after all, being 15,000 ft. in altitude. If I could have found some description of Douglas's journey, I might have been able to settle the question ; but I could find no reference to any, and Professor Coleman, who had studied the literature of the subject, gave none in his

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\* *Memoir Historical and Political on the North-West Coast of North America and the Adjacent Territories, 1840.*

paper. So the end of the matter was, I returned to the mountains in 1898, with H. E. M. Stutfield and H. Woolley as companions, in order to find the peak I had seen from Mt. Freshfield, and determine how the land lay round about it. I also wished to finish Baker's plane table survey and clear up some points connected with the map. Of course, also, this map could be continued along the main chain N. of Mts. Freshfield and Forbes as far as we should be able to get.

On July 31, with Peyto as our head man, Nigel Vavasour, Roy Douglas, and M. Byers as cook, together with thirteen ponies, we started from Laggan railway station. Instead of following up the Bow Valley, as we did in 1897, I determined to reach the Saskatchewan by means of the Pipestone and Siffleur Valleys, in order that we might investigate another somewhat mythical peak (Mt. Murchison), reputed by Dr. Hector to be 15,789 ft. high. On the maps it is placed just at the bottom of Bear Creek on the E. side. But Baker and I had never seen such a peak from the top of Gordon nor from the peak above the Bow Pass nor from Sarbach, that should be within 10 miles of the mountain. On arriving at the Pipestone Pass I climbed a small peak (8,700 ft.) that rises out of the centre of the pass (8,400 ft.). A high mountain could be seen far away to the northward, but all the mountains in the immediate neighbourhood were none of them higher than 11,000 ft. at the most, and it was only later that we were able to settle the question of the approximate height of Mt. Murchison. In fact, I do not believe that Murchison is visible from the summit of the Pipestone pass, and Hector was mistaken when he thought that he saw it. From the pass we descended to the valley of the Siffleur. At first the country was open, and we made rapid progress; but soon we came to the pines and camped amongst them for the night. The valley of the Siffleur drains to the northward, but about 12-15 miles down it is joined by another valley that comes in from the westward. It was up this valley that Mr. Thompson's party had gone a day or so before us; they describe the valley (the Doone Valley) as fairly open at first, with glaciers on the western side and a large lake about five miles up, but higher there are more than one narrow canyon and horses can only be got through with difficulty. Ultimately, after several days, they managed to cross a high pass and joined the Bow Valley a short distance below the Upper Bow Lake. We, however, pursued our way down the Siffleur, which now, owing to the melting snows, had become a fair-sized river, and it was with some difficulty that we managed to cross it. As all

our horses were being used as baggage-carriers, Peyto's mare Pet was pressed into the service, and after half a dozen journeys backwards and forwards she finally landed us all safely on the western bank. Of course, the lower down the valley we went the worse the timber became, but we were on some sort of trail\*—at least Peyto said so, although to an inexperienced eye there was not the slightest difference between our track and anywhere else in the tangled mass of fallen timber, thick undergrowth, and marshy pools; a quick eye might have noticed every fifty yards or so a notch cut on a tree—a 'blaze,' to use the correct expression—and it was by these that Peyto was guiding us through these vast woods. To prove that he was on the track, he found a weather-beaten edition of 'Hamlet' dropped by some prospector who had lately been through the valley. At last the main Saskatchewan was reached; a wide valley lay before us with undulating country mostly covered with fir-trees. In the old days, at the beginning of the century, it was here that a meeting took place yearly between the Kootenay Indians from the western side of the Rocky Mountains and the fur traders from the E., and in consequence this piece of moderately open country hidden away amongst the mountains was called the 'Kootenay Plains.' Now for over half a century it has remained undisturbed save for an occasional hunter or prospector who has wandered thus far into the mountains. We were in hopes that a moderately good trail would be found along the S. bank of the Saskatchewan to Bear Creek, as the valley was open, and the woods were, to start with, not too thick; but, although we were not wrong in our surmise, yet the flooded Saskatchewan was a factor that had to be dealt with—a vast, whitish river, sometimes half a mile wide, and in many places over its banks. It also had often flooded the muskies by its banks, making it impossible to take the horses through.

The weather was terribly hot and sultry, a smoke haze hung over the whole country, probably due to vast tracts of country that had been fired, perhaps two or three hundred miles away to the N., on the Athabasca and Peace rivers, by those who were attempting to reach Klondike from the S.E. from Edmonton. The mosquitoes and flies as usual

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\* Fifty years ago there were good trails through all these valleys; now, however, there are hardly any, for the Indians seldom go near the head waters of the Saskatchewan.

swarmed in countless thousands, the trail went in and out along the banks of the river, and the horses had more than once been within an ace of falling into the rushing water. I was walking in front round one headland, and warned Peyto that it looked very nasty, for the trail was partly under water. However, he thought he would risk it. I watched, and with my heart in my mouth—for to lose our baggage meant the ruin of the trip and possible starvation as well until we got back to civilisation. The first horse just managed to get round this corner, but the second slipped off the trail sideways into the deep running water, then, after one or two feeble struggles, allowed himself to be carried off swimming down stream. One by one our horses, before they could be stopped, followed the leader, and I saw half our baggage swimming to what certainly appeared to me very like perdition. Fortunately they managed ultimately to land on an island, but it was only after a considerable time that they were coaxed back again to join the rest of the outfit.

This mishap caused us to camp at once in a dreary spot, so that the baggage might be dried. On the next day the river was still rising, and the low marshy ground by the side of the stream was partially under water; through this we had to splash. Finally the muskeg became so bad that we took to the woods, and it was not till half-way through the afternoon that an old Indian trail was struck; this enabled us to push on more rapidly past some lakes, and late that evening we arrived at our old camp at the bottom of Bear Creek. It was now August 8—we had therefore taken nine days from Laggan; if we had followed the Bow Valley, instead of the Pipestone, the journey could certainly have been done in seven days.

The next day we gave the horses a rest, and cached about three pony loads of provisions for our return. On the morrow the old crossing of Bear Creek River had to be made, and we were all glad when we were over; six of our horses were now free to ride, and we hoped to make better progress. The trail led for some distance along by the S. bank of the Saskatchewan. As soon as it was possible, about 2 miles below the junction of the stream, from Glacier Lake and the Middle Fork of the Saskatchewan, we forded the stream, and camped on the western bank of the river that comes down the North Fork.

On the morrow Stutfield and I started early from this camp (4,550 ft.), and climbed a rock peak—Survey Peak (8,650 ft.)—from which the plane table survey was started,

or rather Baker's map of the previous year was continued. The weather was hazy, as usual, and thunderstorms threatened all day. From the summit of Survey Peak we were able to see all the peaks of Mt. Murchison,\* just across the valley opposite to us. This mountain certainly cannot be higher than 11,500 ft. There are several summits, and one in particular—a great obelisk of rock—seemed quite impossible to climb, at least on the three sides that we could see. We got back to camp late, and found that poor Woolley had been nearly eaten alive by the mosquitoes.

Next day our object was to proceed up the North Fork; it could be seen that the going was much easier on the eastern side of the stream, but it was absolutely impossible to ford the rapid and swollen torrent. The next four days was one protracted struggle with woods, muskgs, horses, and our tempers; from early in the morning till late in the afternoon Peyto and the men chopped, and yet as a result of it all we only made about 10 miles. All day long, within almost a stone's throw of us, was the opposite side of the river, with moderately open country, and yet we could not cross. On the fourth day, August 15, Peyto, who had gone out early with Byers and Nigel to cut the trail, returned about noon with the information that a large tributary came in from the westward some two miles farther up, that this new valley was one mass of muskeg and water, and that no sane person would attempt to push on farther. This called for heroic measures, so I ignored Peyto's picturesque language and suggested whisky. This saved the situation; for when it was carefully argued a little later that the river must be crossed at any cost, Peyto at once agreed, and finally we all got across somehow, thus making it unnecessary to ford the West Fork at all. This West Fork drains a very large area; all the glaciers on the N. side of Mt. Lyell supply it with water; and although we did not explore this valley, yet, from what I saw of it some days later from the summit of Athabasca Peak, it seems to lead to an easy pass over the main chain of the Rocky Mountains, possibly to the head-waters of the Bush River. Above where this W. branch came in, of course the river in the North Fork was much smaller, and gave us little trouble. One of the sources of the North Fork is in a great glacier that comes from the westward. On August 17, after

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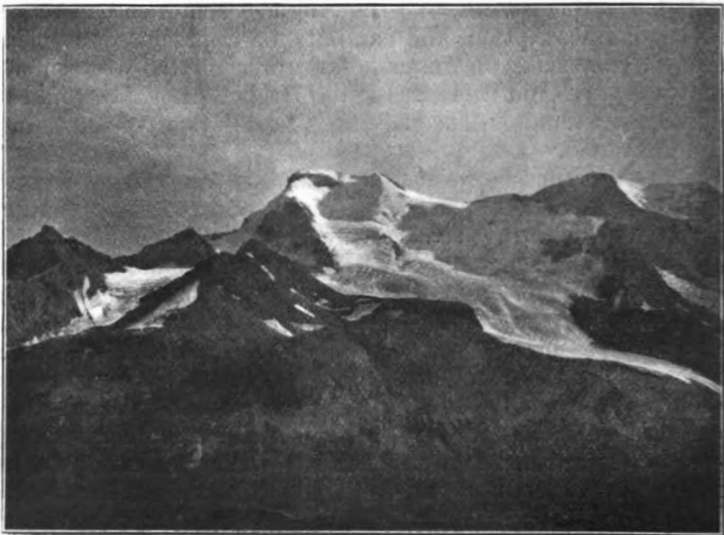
\* Mr. Charles S. Thompson who ascended Observation Peak (in 1898) in the Doone Valley just N. of Mt. Murchison, failed also to notice any peak higher than about 11,000–11,500 ft.

a very long day, during which we rapidly ascended through magnificent pine-woods, we camped on the watershed between the Saskatchewan and the Athabasca. It had taken us, therefore, nineteen days from Laggan railway-station to get to our base of operations. Although the distance travelled had not been very great—about 150 miles—yet we had wasted no time; and it may be well to point out that during the beginning of August, owing to the great heat, the rivers are nearly all unfordable, and the swamps by these rivers are all more or less under water as well. The fallen trees offer great obstructions to ponies, and where woods have been burnt by forest fires, as soon as the roots of the pines are rotten every gale blows them down, and the tangle becomes so bad that it is beyond description, and can only be appreciated by being seen. This state of things is far worse on the western side of the range, and it is very doubtful whether ponies could be used, at least advantageously, in the valleys that drain into the Columbia.

The watershed between the Athabasca and Saskatchewan consists of a flat open valley with plenty of open country through which tiny streams meander. Excellent feeding for horses can be found, whilst occasional clumps of pines afford shelter for tents. Our camp was pitched at about 7,000 ft., not far from the stream that farther N., after having been joined by many tributaries, is the Great Athabasca River. Opposite to us a glacier-clad peak looked most promising from a climber's point of view, and we all were pleased that at last we had managed to get within striking distance of a really good mountain. Woolley especially hailed the prospect of a snow-and-ice climb with delight, for in his Caucasian wanderings nineteen days' travel through valleys had never been part of the programme. On that evening, however, when the commissariat department was overhauled, a most alarming state of affairs disclosed itself—food only sufficient for a week at the very most was found. Of course we had more at Bear Creek, but not very much, and in the meantime our most serious mountaineering had not even begun! The final result of an after-dinner conclave was that Stutfield volunteered to give up the climb and hunt for sheep instead. As it turned out, this piece of self-sacrifice practically saved the expedition.

It was very late on the morning of the 18th that Woolley and I started for our peak. Just after we had emerged from the pine-woods some valuable time was wasted over killing two ptarmigan with stones, but the small glacier on

the E. side of the peak was soon reached. It was not much crevassed, and keeping to the right we soon hit the north-eastern arête. This ridge for a short time gave us good climbing, but, like so many of these limestone crags, was very rotten. As the glacier to the westward appeared moderately easy, we clambered down on to it, and worked our way up into the great basin just underneath the summit. A choice of routes then lay before us—either we could skirt under some overhanging ice-cliffs on our right up to the northern arête, or, by cutting up an ice-slope on our left, the north-eastern ridge could be again reached. We chose the latter, and



ATHABASCA PEAK.

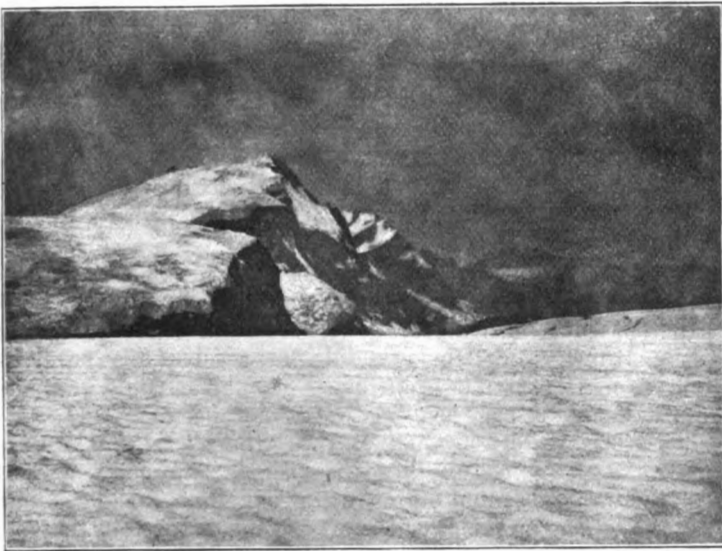
Woolley rapidly led me up on to the ridge ; but a very narrow and steep ice arête lay before us. At first there was sufficient snow to enable us to ascend by merely kicking steps, but soon Woolley was hard at work with the axe. For two hours almost without intermission was he cutting, and the ridge was almost too steep to allow us to change places. Finally we arrived at a small platform just underneath the precipitous rocks that guard the summit, only to find that they were perpendicular. By carefully skirting round their base to the right a narrow chimney was discovered. It was our last chance : either it had to be climbed, or we should have to

return beaten. Owing to the excessively broken state of the limestone rock, produced probably by the great extremes of heat and cold, the climbing was not difficult, but there were many loose rocks that to avoid needed excessive care. With much caution bit by bit we managed to climb up this narrow chimney, expecting to come out within easy reach of the summit; but as we gained the ridge a wall of overhanging rock 15 ft. high seemed to bar further progress. After what we had gone through down below, 15 ft., even though it did overhang, was not going to keep us from the top. How it was conquered I have forgotten, but I remember how we saw the summit almost within a stone's throw of us, and how at 5.15 P.M. we stepped on to it. By mercurial barometer its height is 11,900 ft.

The summit consists of a narrow ridge of snow running E. and W. On the S. side, about 10 ft. below this ridge, is a rocky platform from which the snows have been melted, and which forms a sort of pathway right along the whole ridge. On this platform we halted. The view that lay before us in the evening light was one that does not often fall to the lot of modern mountaineers. A new world was spread at our feet: to the westward stretched a vast ice-field probably never before seen by human eye, and surrounded by entirely unknown, unnamed, and unclimbed peaks. From its vast expanse of snows the Saskatchewan glacier takes its rise, and it also supplies the glaciers that feed the head-waters of the Athabasca; whilst far away to the W., bending over in those unknown valleys glowing with the evening light, the level snows stretched, to finally melt and flow down more than one channel into the Columbia River and thence to the Pacific Ocean. Beyond the Saskatchewan glacier, to the S.E., a high peak (Mt. Saskatchewan) lay between this glacier and the W. branch of the N. fork, flat-topped and covered with snow, on its eastern face a precipitous wall of rock. Mts. Lyell and Forbes could be seen far off in the haze. But it was towards the W. and N.W. that the chief interest lay. From this great snow-field rose, solemnly, like 'lonely sea-stacks in mid-ocean,' two magnificent peaks, probably about 14,000 ft. high, keeping guard over those unknown western fields of ice. One of these, that in shape reminded us of the Finsteraarhorn, we have ventured to name after the Right Hon. James Bryce. A little to the N. of this peak, and directly to the westward of the peak we were on (Athabasca Peak), rose probably the highest peak in the Canadian Rocky Mountains. Chisel-shaped at the head, covered with glaciers

and ice, it also stood alone, and I at once recognised the great peak I was in search of; moreover, a short distance to the N.E. of this peak another, almost as high, also flat-topped, but ringed round with sheer black precipices, reared its head into the sky high above all its fellows. At once I concluded these might be the two lost mountains Brown and Hooker. As rapidly as I could, I drew lines in all directions on my plane table survey towards these peaks and put up my mercurial barometer; but, hurry as fast as I could, it was 6.30 P.M. before we started down from the summit, and Woolley's patience must have been sorely taxed by all these semi-scientific observations. I was not at all anxious to return by the route we had ascended, for it was too difficult to allow of any undue haste being made; I therefore suggested we should follow the rocky platform on the summit, and see how far down the north-western arête it would lead. Moreover, I thought that I had sufficiently reconnoitred a route down this arête whilst Woolley was cutting ice-steps up towards the final summit. At first our new route was all we could wish, and a run down 500 ft. of snow quickly took us clear of the summit; but soon the arête narrowed with rock precipices on the left and ice-slopes on the right hand. Moreover, the rock was of the loosest possible kind, whilst the ridge again and again was broken by perpendicular drops, some of which we had to get down as best we could; others, however, we were able to turn by means of ledges and side gullies. The daylight was rapidly going, and we were by no means clear of difficulties. Below, on our right, was the glacier. Should we reach it before darkness finally came? By hurrying as fast as possible, just as the last colours of the sunset faded out of the sky, the more or less level ice of the glacier was reached. Fortunately there were no crevasses to stop us, so, rapidly crossing to the eastern side, we managed to stumble down in the dark through the small bushes on the mountain-side to the pine-woods. A Canadian pine-forest is bad enough in the daytime, but at night, when one is tired, it is terrible: fallen trunks seem to cover every square yard, whilst the thick underwood, that can be avoided somewhat in daylight, necessitates hard fighting to overcome. After we were clear of the wood the difficulties were merely changed, muskegs, streams, and tangled brushwood were encountered; but we finally came back to camp by 10.45, to find that Stutfield, who had arrived about an hour before us, had managed to kill at least three sheep, thus saving us for the present from starvation.

Of course our next expedition was to this great ice-field that we had seen from the top of the Athabasca Peak. Two days later we all three camped with our sleeping bags as far up the right bank of the Athabasca Glacier (the source of the Athabasca River) as possible, and in the dark next morning started at 3 p.m. by lantern light. The Athabasca Glacier descends from the great snowfield above in three successive ice-falls, the highest one being very crevassed. Through this upper ice-fall we slowly made our way, and after many zig-zags between séracs, ice pinnacles, and yawning chasms of immense depth, at about 7.30 we finally emerged on the



MOUNT COLUMBIA.

unknown snow-fields above. The day was warm and sultry, making us all tired, but for several hours we tramped across this almost level ice-sea towards the goal of our ambition—that great glacier-clad, chisel-headed peak, Mt. Columbia. To the south Mt. Bryce sent its three peaks high above us into the air. To the N.W. rose two isolated summits, a rock and a snow-covered one that we have named the Twins. But the peak we were walking towards was farther off than we imagined, for it lay on the opposite shore of this frozen ocean. It did not look as if it would be difficult to climb, but finally we had to give it up. It was now nearly noon, and we had

arrived almost at the edge of a vast amphitheatre, into which part of the ice of the glacier we were on emptied over a great cirque of precipices that start with Mt. Columbia and continue round the head of a valley as far as the Twins. This amphitheatre is the source of the western branch of the Athabasca River.

To the eastward of where we stood, and almost on our way home, rose a great dome of snow. After a hot and very tiring climb through snow that broke under our feet at every step, we finally attained the summit at 3.15 p.m. We have named this peak the Dome (11,650 ft.). Another peak just to the north I have called Peak Douglas, after David Douglas, the discoverer of Mts. Brown and Hooker. Although we did not know it at the time, we were standing on probably the only peak in North America the snows of which, when melted, find their way into the three oceans—the Pacific, the Arctic, and the Atlantic; for the glaciers from this peak feed the Columbia, the Athabasca, and the Saskatchewan Rivers. Before we returned to camp a thunderstorm overtook us, and when we arrived at our tents just before 7 p.m. we were wet through.

From what we had seen during the day, my idea—that the chisel-headed peak (Mt. Columbia) and the great rock peak farther to the N. (Mt. Alberta) were respectively the two lost giants, Brown and Hooker—did not receive any support. We were more mystified than ever. As far as could be made out, there was no pass leading westwards between these two peaks. The western branch of the Athabasca River, whose source lay at the feet of these peaks, was hemmed in on all sides by the loftiest mountains in the Canadian Rockies. The solution of the problem, therefore, seemed still to baffle us. After our exertions we rested and talked over what the next move was to be. On the afternoon of August 23 Woolley climbed to the summit of a rock peak (Peak Wilcox) that lay N. of our camp (about 10,000 ft.).

Finally it was agreed that we should move half our camp over the Wilcox Pass down into the main valley of the Athabasca, in order, if possible, to find the Athabasca Pass. We imagined that perhaps it might be only two or three days' journey distant; now we know that it would probably have taken us two weeks to get there.

On August 24 we moved over the watershed, leaving Roy Douglas alone in camp to await our return. Once over the pass (7,500 ft.) a rapid descent of nearly 2,000 ft. took us to the Athabasca River that, like so many of the rivers in this

district, has filled the bottom of the valley with an ugly shingle-flat.

After a long day's march we camped at an elevation of 5,600 ft. We had hoped that possibly we should find some valley that would take us to the bottom of Mts. Columbia and Alberta, but soon found that it would occupy the best part of a week to accomplish this, and that to ascend this western branch to its source we should have to descend the eastern branch for at least twenty-five miles to the junction of the two streams. For this we had neither time nor provisions, so we contented ourselves with climbing a peak (Diadem Peak, 11,500 ft.) that lay between these two branches of the Athabasca River, in order that we might at least see as much of the mountains and valleys to the N. as possible. In order to do this we slept out as far up the side valley as we could, just at the foot of Diadem Glacier. The night was wet, and after our breakfast under a dull grey sky we started up the glacier towards a fine rock peak (Peak Woolley, 11,700 ft.). We intended to ascend a steep glacier that descended between Peak Woolley and Diadem, but just as we were putting on the rope several tons of ice came bounding down the centre of the glacier, warning us that danger lay in that direction. Accordingly, we turned aside to climb the face of the Diadem Peak instead.

At first we had to make our way up some slopes of loose shale and ice, but soon a sort of miniature rock-rib gave us greater safety from falling stones, and we followed it up to the summit of the mountain. The rocks, as usual, were terribly insecure and splintered. Near the top they were, fortunately, somewhat firmer, for on the upper part of the mountain the rib was distinctly steep. The summit of the peak consists of a crown of snow about 100 ft. high, set on the nearly flat top of the rocks; and it was owing to the curious appearance of this white crown above the rock precipice below that we gave it the name 'Diadem.' As it was bitterly cold on the top, we only stopped to make a plane table survey, read the height of the barometer, and look over into the western branch of the Athabasca. A few miles away the flat-topped rock peak, Mt. Alberta, rose more than 2,000 ft. above us, with its circle of black cliffs falling sheer on the three sides that we could see. Thunderstorms had been passing over us since early in the morning, and it was with a feeling of relief that we ultimately got on to a glacier below. Just below where we had camped the night before a glacier from the peak I have named after Stutfield had moved down and

filled up the whole valley to a depth of at least 200 to 300 ft. This was due to a huge rock-fall having covered the glacier, presumably, many years ago just under Peak Stutfield. This immense amount of rock prevented the glacier below from melting. Consequently the glacier had moved bodily down the valley, and its snout, a couple of hundred feet high, covered with blocks of stone the size of small houses, was playing havoc with the pine-wood before it. The weather now had decidedly changed for the worse, and we arrived in camp drenched to the skin. During the night more thunderstorms and heavy rain rendered the camp next morning about as



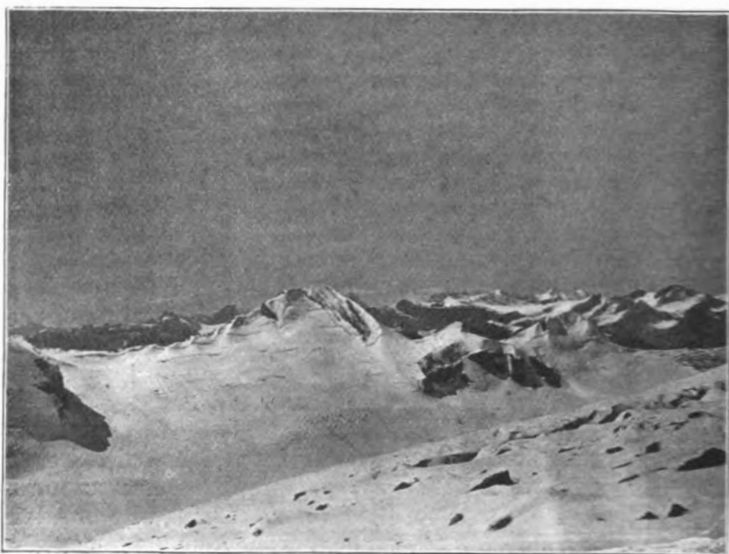
PEAK STUTFIELD.

cheerless as it could well look. We had learned a little more about the geography of the district by our climb—namely, that farther N. the peaks were not so high as those we were amongst, also that the W. branch of the Athabasca could only be reached by a long tramp of about 20 to 25 miles down the valley we were in. Peyto during our absence had been exploring this eastern branch or main branch of the Athabasca, and reported shingle-flats, muskegs, and no feed for the horses. It was dreary enough where we were, and we were not anxious to push farther into these inhospitable wilds; so the wet tents were struck, and, returning over

Wilcox Pass, we rejoined Roy and the rest of the outfit. Our provisions were now getting very short, so there was nothing to be done except turn homewards towards Bear Creek. The weather had broken in just the same way as it had done the year before whilst we were trying to ascend Mt. Forbes, so on August 28 we started. During the late afternoon and evening it rained in deluges. August 29 was fine, enabling us to make a good journey down the N. fork of the Saskatchewan, but next day it rained worse than ever, forcing us to remain in camp, and as we had no meat and very little bread our meals consisted chiefly of 'bovril' and chocolate. Fortunately next morning was fine, so by getting up very early and pushing down the E. side of the river late in the evening we reached our old camp at Bear Creek, where our surplus provisions were cached. During the day's march, which was made on the E. or left bank of the river, we passed no less than five camps that we had made a fortnight before on the opposite side. We were a little anxious about our cache, for if it had been rifled we were still nearly a week from civilisation. However, it was found intact, and that evening we feasted on bacon, apricots, and other delicacies that we had been talking about for some time past. In civilised countries it is not the custom to spend a large portion of the day thinking and often talking of food. But given an individual with a good healthy appetite and an insufficient supply of edible material wherewith to satisfy that appetite, an interesting exhibition will ensue of how the body can tyrannise over the mind. A natural result followed after we had our 'good square meal': we remained in camp all next day. At least, I must except Stutfield and Nigel, who prowled through the woods near for foolhen. They most fortunately got ten. From our camp at Bear Creek on September 2 we attempted to climb Mt. Murchison, but owing to the bad weather only succeeded in reaching a point 8,800 ft., on a ridge. Here I found some most interesting fossil remains of what looked like a petrified pine-forest, where the trees had been broken off about a foot from the ground. I have been told, however, that it is probably the remains of some gigantic prehistoric seaweed.

For the next two days the weather continued gloomy and damp, till the afternoon of the 4th, when a heavy snow-storm came on whilst we were trying to get to the Bow Pass. It forced us to camp in a cold miserable spot just short of the pass. But this was the last of the bad weather, and just as gloriously fine weather followed the snowstorm on Baker

Pass on September 6, 1898, so the same kind of change occurred in 1899. The week that followed was perfectly fine; the haze that had hidden all the distant views during the previous four weeks of the trip was gone, and two days later, when we ascended our last mountain, Thompson Peak\* (10,700 ft.), lying just on the N. of the top of the great ice-fall of the Upper Bow Glacier; from its summit by far the most distant and clear view that we had during the whole of the expedition was obtained. To the S. Assiniboine, Ball, Temple, Lefroy, Hungabee, &c., were clearly seen. A large unknown mountain covered with glaciers was visible about 20 miles



THE FRESHFIELD GROUP, FROM THE SUMMIT OF THOMPSON PEAK.

S. of Sir Donald, which latter seemed almost close. Corners of Bryce and Columbia were visible between Lyell and Forbes. the whole Freshfield group, the Howse Peak, the Pyramid, and the many summits of Murchison completed the view.

On September 8 we arrived at Laggan railway-station once more, having been away from civilisation for nearly six weeks. The free mountain and camp life was at an end—all our diffi-

\* Named after Mr. Charles S. Thompson of Chicago, who has for several years past done excellent mountaineering work in the Canadian Rockies.

culties and struggles would now be with the complex fabric of civilised life, not with the forests, rivers, glaciers, and snow-clad peaks. It was at first hard to realise that we should no longer sleep with the open air playing across our faces during the still nights, nor should we listen to the murmurings of the streams nor the wind in the pines much longer. Our small world was shattered, our conversation and all the small things that had interested us for the last six weeks, when placed before the inhabitants of the ordinary world, would either fail to interest or fall on the ears of those who would not understand. Still, civilisation has its advantages and gains often by contrast with the life that is experienced amongst the mountains and the wild and desolate places of the earth.

The question, however, of Mts. Brown and Hooker had not been entirely settled, and it was not till I returned to England that the difficulty was finally cleared up. Again with greater care I looked up every reference I could find that dealt with the Rocky Mountains of Canada and British Columbia. At last I discovered a reference in Bancroft's 'History of British Columbia' to the journal of David Douglas, the naturalist, which had been published, together with a variety of other matter, in the 'Companion to the Botanical Magazine,' vol. ii. pp. 134-137, by Dr. W. T. Hooker. Douglas's journal contains a description of his journey over the Athabasca Pass, and also how he climbed Mt. Brown. Here, then, was an authentic description of these two mountains and the Athabasca Pass. To quote the journal: after he had started from Boat Encampment, on May 1, he reached the summit of the Athabasca Pass on May 1, at 10 o'clock in the morning. 'Being well rested by 1 o'clock, I set out with the view of ascending what seemed to be the highest peak on the N. Its height does not appear to be less than 16,000 to 17,000 ft. above the level of the sea. After passing over the lower ridge I came to about 1,200 ft. of by far the most difficult and fatiguing walking I have ever experienced, and the utmost care was required to tread safely over the crust of snow. A few mosses and lichens are observable, but at an elevation of 4,800 ft.\* [*sic*] vegetation no longer exists. The view from the summit is of too awful a cast to afford pleasure. Nothing can be seen in every direction, as far as eye can reach, except mountains towering above each other, rugged beyond description. . . .

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\* 14,800 ft. more probable.

The majestic but terrible avalanches, hurling themselves from the more exposed southerly rocks, produced a crash and groaned through the distant valleys with a sound only equalled by that of an earthquake. Such scenes give a sense of the stupendous and wonderful works of the Creator.\* This peak, the highest yet known in the Northern Continent of America, I feel a sincere pleasure in naming "Mt. Brown," in honour of R. Brown, Esq., the illustrious botanist. . . . A little to the southward is one nearly the same height, rising into a sharper point. This I named "Mt. Hooker," in honour of my early patron, the Professor of Botany in the University of Glasgow. This mountain I was not able to climb. The Committee's Punchbowl, is a small circular lake, 20 yards in diameter, with a small outlet on the west end—namely, the Columbia; and another at the east end—namely, one of the branches of the Athabasca.'

Now it would have been quite impossible for Douglas to start at 1 in the afternoon, and get to the summit of either of the peaks that we thought might be Brown or Hooker; in fact, it is highly improbable that he could have climbed them under any circumstances. That he ascended the peak that Professor Coleman's party climbed is much more probable, and to Professor Coleman belongs the credit of having settled with accuracy the real height of these mountains—namely, 9,000 ft. For nearly seventy years they have been masquerading in every map as the highest peaks in the Canadian Rocky Mountains; they must now retire from that position, and Mts. Forbes, Columbia, Bryce, and Alberta will, in future, reign in their stead. The mountain region round the great Columbia ice-field is, therefore, entirely new ground; and placed where it is, at the sources of the Athabasca and Saskatchewan Rivers, it must probably be the culminating point of the Canadian Rocky system.

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\* Compare Ross Cox's description of the Athabasca Pass in 1817. He relates how one of the *voyageurs*, whilst surrounded by the great mountains and amidst the crash of the avalanches, after a period of silent wonder and admiration, exclaimed, 'I'll take my oath, dear friends, that God Almighty never made such a place.'