

THE MOUNTAINS OF THE COLUMBIA ICEFIELD, 1923.¹

(Rocky Mountains of Canada.)

By J. MONROE THORINGTON, M.D., F.R.G.S.

' Our course lay, for the most part, over vast fields of snow, but the early portion of it presented scenery of surpassing beauty, far more magnificent and dazzling than that of the day before. There were broad and bridgeless chasms, whose depths the eye, from their dizzy edges, vainly sought to ascertain ;—towering masses, in forms that, from their strangeness, seemed unreal ;—spires of brightness, grottos and palaces of frost,—here recent, soft, of snowy whiteness,—there older, hardened, passing into crystal azure,—sprinkled with frozen dew, festooned with silver fringe ; their inmost caverns dark, —vast stalactites of ice, in line, guarding the portals.'

DR. MARTIN BARRY, 1836.

' Pursuing the path, I next caught a glance of an icy forest of miniature pinnacles and spires, still freezing in the morning air. However elegantly these fairy structures may be formed, they successively dissolve in the warmer atmosphere, and being hardened again by the nightly frosts, are perpetually starting again into new objects of wonder.'

FREDERICK CLISSOLD, 1823.

' Now the violet tint was upon us, but the summit of the mountain was still burnished with a line of bright gold. It died away, leaving a lovely red, which, having lingered long, dwindled at last into the shade in which all the world around was enveloped, and left the sky clear and deeply azure.'

JOHN AULDJO, 1828.

¹ This article continues and completes a study of the principal icefield sources of the North Saskatchewan river ; it is a sequel to 'The Freshfield Group, 1922' (*A.J.* xxxiv. No. 225, p. 387).

While this region has long been known, this is the first account of exploration based on the maps and nomenclature of the recent Interprovincial Survey. The writer desires to acknowledge indebtedness to the Interprovincial Boundary Commission, and to the Department of the Interior, Topographical Surveys Branch, Ottawa, for many courtesies.—J. M. T.

'Even where all men go, none may have stopped; what all men see, none may have observed.'

JAMES D. FORBES, 1842.

HISTORICAL AND TOPOGRAPHICAL.

IT is of interest to the mountaineer of to-day to learn that the question of altitude in the Canadian Rocky Mountains, and the position of their greatest uplift, was being investigated more than a century ago. Thus, in 1809, at a time when the Continental Alps were shrouded in mystery and superstition, we find David Thompson,² the explorer of the North-west Company, writing as follows:

'To ascertain the height of the Rocky Mountains above the level of the Ocean had long occupied my attention, but without satisfaction to myself. . . . I found the height of Mt. Nelson to be 7223 feet above the level of the Lake,³ which gives 13,123 above the Pacific Ocean; of the secondary Mountains on the east side, of one Peak, 10,889 feet, and another, 10,825 feet above the level of the sea, but for the primitive Mountains I could not find a place from which to obtain a measurement and be in safety; but 5000 feet may be safely added to the height of Mt. Nelson to give the height of the primitive Mountains. At the greatest elevation of the passage across the Mountains by the Athabaska river, the point by boiling water gave 11,000 feet, and the peaks of the Mountains are full 7000 feet above this passage, and the general height may be fairly taken at 18,000 feet above the Pacific Ocean.'

This overestimation of altitude was perpetuated by later travellers, notably by David Douglas,⁴ the Scotch botanist, who, in 1827, crossed Athabaska Pass:

'After breakfast, about one o'clock, being well refreshed, I set out with the view of ascending what appeared to be the highest peak on the north or left-hand side. The height from its apparent base exceeds 6000 feet, 17,000 feet above the level of the sea. . . . This peak, the highest yet known in the northern continent of America, I felt a sincere pleasure in naming Mt. BROWN, in honor of R. Brown, Esq., the illustrious

² *Thompson's Narrative*, 1784-1812, p. 403. Champlain Society, Toronto. 1916.

³ Lake Windermere.

⁴ *Douglas' Journal*, 1823-27, p. 72. Royal Horticultural Society. 1914.

botanist, no less distinguished by the amiable qualities of his refined mind. A little to the south is one nearly of the same height, rising more into a sharp point, which I named Mt. Hooker.'

It was many years before these great heights were proved to be non-existent, and they were the source of much perplexity to the first climbing parties. Thus, after a journey to the Freshfield Group, in 1897, Collie⁵ and his companions are in doubt as to whether 'the high peak he had seen from the slopes of Mt. Freshfield might be either Mount Brown or Mount Hooker, the two mountains standing on either side of Athabasca Pass, and long reputed to be the loftiest summits, not only of North America, but possibly of the entire American Continent.'

The altitudes ascribed to Mts. Brown and Hooker did, however, serve a purpose, because they led to further discoveries in a land of splendid peaks and extensive icefields, and drew men into what is now known to be one of the finest scenic areas in the Rocky Mountains.

In 1858 Dr. Hector, of the Palliser Expedition, sent out from England to explore for passes across the range, discovered the Lyell icefield. He wrote⁶ as follows :

'Two hours, with the aid of the track the men had hewn, brought us to the west end of the lake, where there is a few miles extent of open grassy plain, fringed with woods, intervening between the foot of the great glacier and the water's edge. . . . I wished Nimrod to go with me, but he would not venture on the ice, but told all sorts of stories of sad disasters that had befallen those Indians that ever did so ; how that, if they did not get lost in a crevasse, they were at least sure to be unlucky afterwards in their hunting.'⁷ . . . I now saw that the glacier I was upon was a mere extension of a great mass of ice, that enveloped the higher mountains to the west, being

⁵ *Climbs and Exploration in the Canadian Rockies*, p. 68. Collie and Stutfield. Longmans & Co. 1902.

⁶ *Journals, Detailed Reports, and Observations relative to the Exploration of British North America*, p. 110. Captain John Palliser. Folio. London, 1860.

⁷ While the Indians had a few superstitions regarding glaciers and higher mountain regions, they did not live in the mountain fastnesses, and their legends deal more with the plains, with hunting and fishing. This should be contrasted with the Swiss glacier dragons of Scheuchzer and the 'Geister' of the Mer de Glace and Gorner glacier, extant even in 1894.

supplied partly through a narrow spout-like ice-cascade in the upper part of the valley, and partly by the *re-solidifying* of the fragments of the upper *Mer de Glace*, falling over a precipice several hundred feet in height, to the brink of which it was gradually pushed forward. . . . After examining the surface of the glacier, and arriving at its upper end close to the precipice, we struck off to the north side of the valley, to ascend a peak ⁸ that looked more accessible than the others. . . . We had a splendid view over the *Mer de Glace* to the south and west, the mountain valleys being quite obliterated, and the peaks and ridges standing out like islands through the icy mantle. The valley below us is really fed by three great glaciers, but only the one we had crossed fairly descends into and occupies it. . . . The mountains to the north are very rugged, but not so high as those to the south of the valley. In that direction there is one peak ⁹ which has a pyramidal top completely wrapped in snow and at least double the height of where I stood above the valley.'

The Forbes-Lyell Group of mountains comprises the great icefield and peak area of the Continental Divide, in latitude 52, between Bush and Thompson Passes, an air-line approximating twenty miles. On the British Columbia side the South Fork of Bush river flows from Bush Pass, joined by Icefall creek, descending from the cirque between the south-west Lyell glaciers and Bush Mt. Further north, from the Divide, Lyell creek descends to the North Fork. Western streams from Thompson Pass augment the North Fork of Bush river. On the Alberta side Howse river,¹⁰ formed by Conway creek, Freshfield and Forbes brooks—the latter from Bush Pass—flows northward, receiving the Lyell icefield streams, having their outlets through Glacier Lake and Arctomys creek.¹¹ Howse river joins the North Saskatchewan, flowing south from Sun Wapta Pass, the two streams meeting from almost opposite directions. The combined stream flows eastward, receiving Mistaya river ¹² at a sharp angle from the south, and makes

⁸ Mt. Sullivan of the Palliser map.

⁹ Mt. Forbes. The names Forbes, Sullivan, and Lyell appear on the Palliser map.

¹⁰ The old 'Middle Fork' of the North Saskatchewan.

¹¹ The 'Valley of the Lakes.' See *In the Heart of the Canadian Rockies*, p. 393. James Outram. MacMillan. 1905.

¹² Also known as Bear Creek, or the 'Little Fork' of the North Saskatchewan. Its source is in Peyto glacier, below Bow Pass.

its exit from the mountains through the mighty portals between Mt. Murchison and Mt. Wilson.

The North Saskatchewan, from Sun Wapta Pass, ten miles above its junction with Howse river, receives its western tributary, Alexandra river,¹³ which rises below Thompson Pass in the northern glacier cirques of Mt. Lyell.

The Lyell and Mons¹⁴ icefields, on the Continental Divide, have a combined area of only slightly less than forty square miles, and separate the group into southern and northern divisions. The chief peaks of the southern area are Mt. Forbes,¹⁵ 11,902 ft., east of the Divide, and Bush Mt.—Rostrum Peak, 10,770 ft.; Icefall Peak, 10,420 ft.—in British Columbia. The peaks of the Divide, beginning at Bush Pass, 7860 ft., are Mt. Cambrai, 10,380 ft., Mt. Messines, 10,290 ft., and Mons Peak,¹⁶ 10,114 ft.

The northern division extends from Mt. Lyell to Thompson Pass, 6511 ft., in the splendid range encircling the head of Alexandra river. Mt. Lyell possesses five peaks—(1) 11,370 ft., (2)¹⁷ 11,495 ft., (3) 11,495 ft., (4) 11,260 ft., (5) 11,150 ft.—of which Peaks (3), (4) and (5) are on the Continental Divide, while Peaks (1) and (2) project eastward. From Peak (3) of Mt. Lyell the Divide continues northward over Mt. Farbus, 10,550 ft., Mt. Oppy,¹⁸ 10,940 ft., Mt. Douai, 10,230 ft., and rises to the abrupt, snowy summits of Mt. Alexandra¹⁹—

¹³ The old 'West Branch' of the North Saskatchewan. The stream is now named Alexandra river below the bend where the streams from East Rice and Alexandra glaciers enter. Above the bend it is known as Castleguard river, arising in the Castleguard tongues of the Columbia icefield and receiving, in its middle course, Watchman creek flowing from Thompson Pass.

¹⁴ The 'Kaufmann glacier' of Outram. (P. 311.)

¹⁵ First ascended in 1902, by Collie, Outram, Stutfield, Woolley, Weed, with Hans and Christian Kaufmann.

¹⁶ 'Mt. Kaufmann.' Ascended, in 1902, by Outram and C. Kaufmann.

¹⁷ Peak (2) was ascended, in 1902, by Outram and Kaufmann, from the bend of Alexandra river, via the eastern Alexandra glacier. It was stated at this time that this was the highest peak of Mt. Lyell. The recent Interprovincial Boundary Survey gives equal heights, 11,495 ft., for Peaks (2) and (3).

¹⁸ 'Gable Peak' of Outram. (P. 387.)

¹⁹ The 'Mt. Lyell' of C. S. Thompson; 'Query Peak' of Outram. The first ascent was made, in 1902, by Outram and C. Kaufmann, via East Rice glacier and Trident Col, which was crossed to the

S., 11,214 ft. ; N., 10,990 ft.—thence crossing Mt. Fresnoy,²⁰ 10,730 ft., Mt. Spring Rice,²¹ 10,745 ft., and descends to Thompson Pass from the summit of Watchman Peak, 9873 ft.

The bend of Alexandra river, where it is joined by its headwater from the Columbia icefield, Castleguard river, some seven miles below Thompson Pass, is the camping-place for climbs in the Lyell division. There are joined three glaciers, formerly grouped as 'Trident glaciers,' the northern now known as East Rice glacier,²² while the two remaining have been renamed the Alexandra glaciers. East Rice glacier descends from a snow saddle²³ between Mt. Spring Rice and Mt. Fresnoy ; this col may be reached in a few hours from the tongue, and was the basic route in the first ascents of Mt. Spring Rice, Mt. Fresnoy, and the south peak of Mt. Alexandra. The western Alexandra glacier heads in a cirque between Mt. Alexandra and Mt. Oppy, a precipitous wall affording a possible but difficult route to the crest of the range. The eastern Alexandra glacier descends from a snow pass, *circa* 10,000 ft., between Mt. Farbus and Peak (3) of Mt. Lyell, affording passage to the main Lyell icefield above Glacier Lake and, apparently, a logical route for attempts upon Mts. Farbus and Oppy. The glacier fills the northern basin of Mt. Lyell, from which it pours in a broken icefall to a flat bulbous tongue, with few crevasses, turning in an eastward angle and ending near the river.

British Columbia side, intervening slopes and ridges being crossed below the ridge of Mt. Fresnoy, and Mt. Alexandra (S. peak) ascended from the west. The N. peak is still unclimbed.

²⁰ 'Consolation Peak,' ascended, in 1902, by Outram and Kaufmann, via Trident Col, in an attempt upon Mt. Alexandra.

²¹ Outram and Kaufmann, in 1902, ascended a peak, *circa* 10,200 ft., which they named 'Turret Peak,' traversing it from Trident Col to Thompson Pass. This was probably not the present Mt. Spring Rice, but a rocky eminence on the Divide, unnamed on the Interprovincial Survey map, midway between Mt. Spring Rice and Rice E. stations. If this assumption be correct, the first ascent of Mt. Spring Rice should be credited to Hickson and E. Feuz, who, in 1923, reached the summit by way of East Rice glacier and Trident Col.

²² In the moraines of this tongue we found large balls of iron pyrite, similar to those reported by Outram and found by us, in 1922, on the Freshfield icefield. None was seen in either the Saskatchewan or Athabaska moraines.

²³ 'Trident Col' of Outram.

The Columbia icefield, the largest in the Canadian Rocky Mountains, covers an area of almost 150 square miles. It was discovered, in 1898, by Collie,²⁴ who described the view from the summit of Mt. Athabaska as follows :

' A new world was spread at our feet ; to the westward stretched a vast icefield 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 head-waters of the Athabasca ; while far away to the west, 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 south-east, a huge peak (which we have named Mt. Saskatchewan) lay between this glacier and the west branch of the North Fork, flat-topped and covered with snow, on its eastern face a precipitous wall of rock. Mt. Lyell and Mt. Forbes could be seen far off in the haze. But it was to the west and north-west that the chief interest lay. From this great snowfield rose solemnly, like "lonely sea-stacks in mid-ocean," two magnificent peaks which we imagined to be 13,000 or 14,000 ft. high, keeping guard over those unknown western fields of ice. One of these, which reminded us of the Finsteraarhorn, we have ventured to name after the Right Hon. James Bryce, the then President of the Alpine Club. A little to the north of this peak, and directly westward of Peak Athabasca, rose probably the highest summit²⁵ in this region of the Rocky Mountains. Chisel-shaped at the head, covered with glaciers and snow, it stood alone, and I at once recognized the great peak I was in search of ; moreover, a short distance to the north-east of this mountain, another,²⁶ almost as high, also flat-topped, but ringed around with sheer precipices, reared its head into the sky above all its fellows. . . . At once I concluded that these might be the two lost mountains, Brown and Hooker.'

From Thompson Pass, the Continental Divide swings northward across the eastern shoulder of Mt. Bryce,²⁷ 11,507 ft., and, traversing the centre of the icefield, rises to the summit

²⁴ *Loc. cit.*, p. 107.

²⁵ *I.e.*, Mt. Columbia.

²⁶ *I.e.*, Mt. Alberta.

²⁷ Ascended from below Thompson Pass, in 1902, by Outram and Kaufmann.

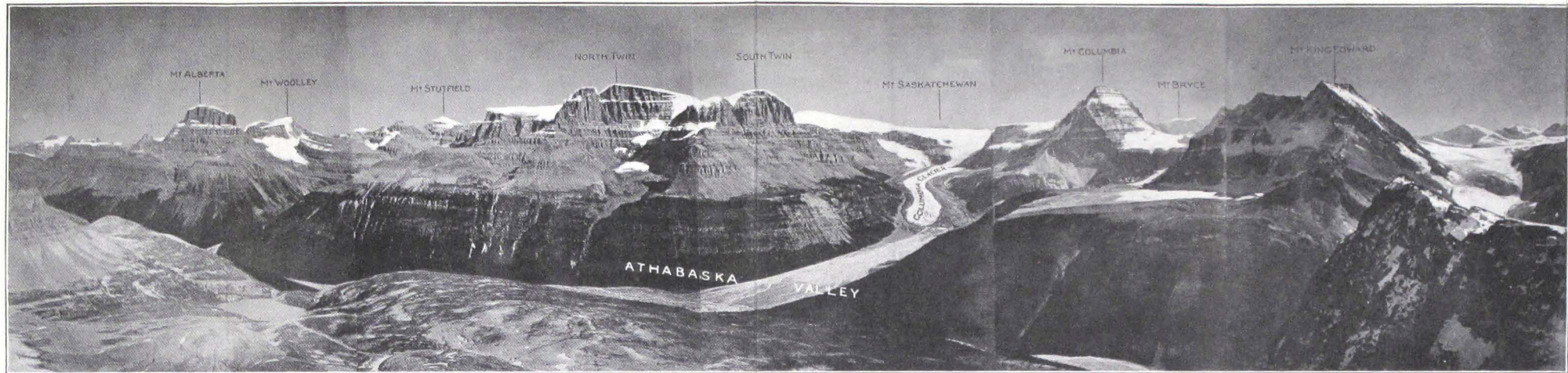


Photo Interprovincial Boundary Survey.

ATHABASKA VALLEY AND PEAKS OF THE COLUMBIA ICEFIELD FROM THE N.E.

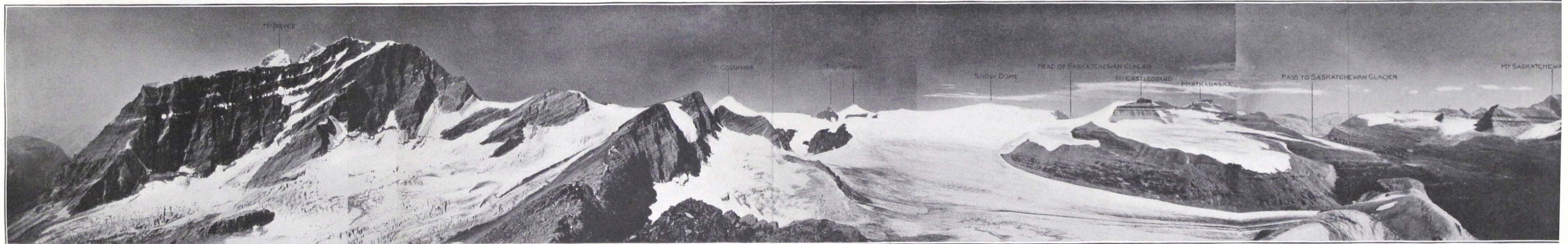


Photo Interprovincial Boundary Survey.

THE COLUMBIA ICEFIELD FROM THOMPSON PASS.

of The Snow Dome,²⁸ 11,340 ft., the hydrographic apex of the Saskatchewan, Athabaska, and Columbia river systems. Almost doubling on itself, the Divide then turns sharply southward and westward to the summit of Mt. Columbia,²⁹ 12,294 ft., the second peak of the Canadian Rocky Mountains, and thence to Mt. King Edward,³⁰ 11,400 ft., and Chaba Peak, 10,540 ft., and peaks along the crest of the Chaba basin, dropping to Fortress Lake Pass, 4405 ft.

In the deep valley north of Mt. Bryce, and below Mt. Columbia, three crevassed glacier tongues supply Bryce creek, which joins with Rice brook from Thompson Pass and the glaciers west of Mt. Alexandra to form the North Fork of Bush river and drain to the Columbia. From Mt. Castleguard,³¹ 10,096 ft., the Castleguard glacier tongues form northern sources of Alexandra river, while to the east of Castleguard Valley, minor, separate snowfields supply Castelets and Terrace creeks. Above Terrace Valley rise the shattered, forbidding cliffs of Mt. Saskatchewan, 10,964 ft., filling in the angle between Alexandra river and the North Fork.

The first white men to ascend the North Fork were W. D. Wilcox³² and R. L. Barrett, who, in 1896, crossed from the Saskatchewan to the Sun Wapta on their way to Fortress Lake. On the route, an ascent was made to a spur on Mt. Saskatchewan, from whence a partial view of the West Branch valley was obtained.

Based on information, from T. E. Wilson of Banff, that there was an Indian trail across a pass at the head of the West Branch, the first white man to travel thither was C. S. Thompson,³³ who, in 1900, with one packer, travelled as far as the pass now known as Thompson Pass. No climbing was attempted, bad weather prevailing, but the pass was explored and the northern glaciers of Mt. Lyell visited.

²⁸ 'Dome' of Collie; name revised by Geographic Board of Canada. First ascended, in 1898, by Collie, Stutfield, and Woolley, via the Athabaska glacier, from camp near Wilcox Pass.

²⁹ First ascended, in 1902, by Outram and Kaufmann, via the southern Castleguard tongue and the icefield.

³⁰ Attempted, in 1920, from Athabaska valley, by Carpe and Palmer, who attained 10,800 feet on the western arête.

³¹ Ascended, 1919, by the Interprovincial Boundary Survey. Other ascents made by the Survey include Arctomys and Watchman.

³² *The Rockies of Canada*, pp. 137, 152. W. D. Wilcox. Putnam, 1909.

³³ *Appal.* ix. p. 372.

The chief source of the North Fork is from the Saskatchewan glacier, swinging eastward from the Columbia *névé* through the gateway between Mt. Castleguard and the fine unnamed snow peaks immediately west of Mt. Athabaska, in a spectacular ice river more than seven miles long and ending in a broad tongue without terminal moraine. North of Mt. Athabaska,³⁴ 11,452 ft., a similar tongue, the Athabaska glacier, supplies the Sun Wapta, Sun Wapta Pass, four miles south-east of Wilcox Pass, dividing ultimate sources of North Saskatchewan from Athabaska drainage. Near by a large dirt-covered tongue, Dome glacier, extends north-east from the Columbia *névé* and also drains to the Sun Wapta, its terminus being close to that of the Athabaska glacier.

The northern margin of the Columbia icefield is bordered by the broad snows of Mt. Kitchener,³⁵ 11,500 ft., and The Twins—South Twin, 11,675 ft.; North Twin, 12,085 ft.—the latter the third of triangulated peaks in the Canadian Rockies. Between The Twins and Mt. Columbia a magnificent precipitous cirque contains the plunging, banded Columbia glacier and the tongue from The Twins, draining to the main Athabaska river.³⁶ The Twins and Mt. Kitchener, grouped with peaks further north, Mt. Stutfield, 11,320 ft., Mt. Woolley, 11,170 ft., Diadem Peak,³⁷ 11,060 ft., and Mt. Alberta, 11,874 ft., make up the gigantic massif in the wedge between the Sun Wapta and the Athabaska rivers.

ROUTES AND ASCENTS.

As no one, for many years, had visited the Thompson Pass area with climbing purpose, and as there remained an unclimbed twelve-thousand-foot peak on the Columbia icefield, many of us, seeing it from afar, had been attracted toward the region.

On June 27, 1923, the climbing party—Dr. W. S. Ladd, the writer, and the well-known guide Conrad Kain—left Lake

³⁴ First ascent, 1898, by Collie, Stutfield, and Woolley, from Wilcox Pass; second ascent, 1920, Hickson, Reford, and E. Feuz. (*C.A.J.* xii. p. 37.)

³⁵ 'Mt. Douglas' of Collie. (P. 121.)

³⁶ The old 'Western Branch' of the Athabaska. It was from the depths of this valley that Habel, the German explorer, in 1901, first saw pyramidal 'Gamma,' since identified as Mt. Columbia. (*Appal.* x. p. 34.)

³⁷ Ascended, 1898, by Collie, Stutfield, and Woolley, from the Sun Wapta.



Photo J. Monroe Thorington.

KAIN. THORINGTON. SIMPSON. LADD.
SUMMIT OF MT. COLUMBIA.

Louise with twenty horses, under the leadership of James Simpson, who, twenty-one years before, with Outram, had visited the icefield.

Our expedition reached Hector Slide camp in less than five hours, favoured with clearing views of the Bow Valley and the Lake Louise peaks, next morning making the short journey to Bow lake. Fisherman's luck here yielded several small trout for the frying-pan, but the Bow icefall, tumbling almost to the water, the light and shadow playing down the lake, afford a setting which makes many an Izaak Walton oblivious to his sport.

June 29 found us crossing the flowering meadows of Bow Pass, a ride of little more than four hours taking one into the Mistaya valley, with an extensive panorama from Mt. Chephren to the peaks about Nigel Pass, to camp ground between Wild-fowl lakes. There we pitched tents, the nest of a ruby-throated humming-bird on a twig above our door, and wandered along the lake shore watching the antics of harlequin duck, diving and disturbing with ripples the reflection of majestic Howse Peak and the jagged ice-hung wall of the northern Waputiks.

Between the lakes one easily fords the Mistaya, the trail passing through Pyramid Slide camp, where horse-feed is scarce, and on, in five hours, to the main North Saskatchewan river. It is a day to remember: the Murchison towers and pinnacles rising across the river canyon; pack-horses splashing through flower-bordered pools and sloughs; rushing, sparkling streams above which rise sky-soaring Mt. Chephren, ice-hung Kaufmann Peaks, and the rock wall of Mt. Sarbach filling in the Mistaya-Howse river angle. And then the long Saskatchewan ford as a climax, where, if one is unlucky, there will be swimming and wet packs; a fascinating stream flowing to far-distant Hudson Bay, but here broken by gravel bars into shallow rapids through which the horses struggle, while their riders attempt vainly to photograph, keep in line, admire the great spire of Mt. Forbes, and remain dry-shod.

The camping-ground, at the junction of the North Fork, Howse and Mistaya rivers, is one of greatest beauty, a panorama strangely suggestive of the Oberland peaks from Grindelwald, where one might pleasantly spend many days. Morning came, filled with colour, a spent moon hanging above Mt. Forbes and its miniature, Mt. Outram; we followed the North Fork trail under the unbroken cliffs of Mt. Wilson, through fine timber, cedar and cottonwood, with bars of sunlight shafting

into the forest darkness. Then out again on meadows, with little meandering streams where fish dart, and quiet pools which mirror the snowy eastern face of Mt. Saskatchewan, guarding the portals of Alexandra river.

Camp-ground, at the foot of Pinto Pass,³⁸ between Mt. Wilson and Mt. Coleman, opposite the mouth of Alexandra river, is known as 'Graveyard,' because of sundry hunting relics which once adorned it. From the gravel bar, covered with magenta fire-weed, one may walk, in a short three hours, up trail to Pinto Pass and thence out to a high forget-me-not-covered bench on Mt. Coleman, commanding a widespread and splendid panorama of the North Fork, from Bow Pass to Nigel Pass, and of Alexandra river. Here, with the winding streams and towering mountains—Wilson, Chephren, Willerval, Alexandra—as a setting, we watched three sheep walk up a near-by ridge and disappear, while evening light silhouetted the jagged pinnacles—the slender northern ridge tower known as the 'Lighthouse'—of Mt. Saskatchewan.

THE NORTHERN LYELL BASIN.

In little more than four hours one may travel up Alexandra river to the bend, in a valley rarely visited by white men. We passed by Outram's Camp Content, forded, and a short distance further on, close to the glacier tongues, named our stopping-place, for obvious reasons, 'Last Grass Camp.' Mt. Oppy and Mt. Alexandra raise their ice-crests above this spot, with the northern Lyell basin close at hand. It was our intention to attack this basin in the hope of attaining the Lyell-Farbus col and the unclimbed Divide Peak (3), 11,495 ft., of Mt. Lyell, equal in height to the central Peak (2), 11,495 ft., ascended by Outram. There also one might traverse the arête of Mt. Farbus, and across a steep little col reach Mt. Oppy, peaks well guarded by icefalls above the Alexandra glaciers.

But weather was ever unkind. After two damp visits to the lower ice, we ascended, on July 4, a cloudy morning, in three hours, into the northern Lyell basin. Our route was by the eastern Alexandra glacier, crevasses in the middle of the icefall soon forcing us to the eastern moraine, a direct ascent to which is unpleasant because of cliff and running water. We

³⁸ North Fork to Cataract river.

made a little fire on a bit of meadow at 7000 ft., where camp might be established, for several hours watching the snow tops play hide-and-seek in the fog, and patches of light wandering across the banded glacier tongues. In drenching rain we descended to camp, where a roaring fire and fresh bear-meat comforted us. The basin offers great climbing possibilities and should be revisited.

CASTLEGUARD CAMP.

Next morning we moved up Castleguard river, passing Outram's Camp Columbia, with its surprising waterfall, and rode up the Survey trail to camp-ground above 7000 ft., in the meadows below Mt. Castleguard and its ice tongues. Here, indeed, is the spot of which wranglers dream: plenty of water, wood everywhere, horse-feed for months, and the cayuses can't get away! Castleguard Camp fulfils one's idea of Alpine Paradise. A meadow, acres of it, with a heather carpet and flowers beyond description; little cascading streams; a tiny canyon, where leaps an arching waterfall, with the peaks of Lyell above. Can you imagine it at evening? Smoke from the camp-fire rising through tall trees beside the tents; horse-bells sounding in the distance; snow summits of Lyell turning heliotrope and violet; shadowed walls of Castleguard Valley seen to the bend; Watchman Peak, with Thompson Pass patched by sunlight, and glimpses of far-away ranges in the west; Mt. Bryce, stupendous, its icy peaks silhouetted and incandescent; the low southern Castleguard tongue brilliant with light reflected from the Columbia icefield; Mt. Castleguard itself, and Mt. Athabaska, at the valley head, old-rose and golden. One despairs in the telling of it. It is a place to which one will return.

From camp, one is but a short distance from Thompson Pass. Two hours' walk to the valley head leads over a low divide to the Saskatchewan tongue, whence Mt. Athabaska could be climbed. East of camp, a range of minor peaks, of which Terrace Mt., 9570 ft., is the chief, separates Castleguard from Terrace Valley. It is easy to cross a low snow pass on the southern slope of Athabaska S. station, and reach meadows below Mt. Saskatchewan. Finally, in two hours, one may ascend the central Castleguard glaciers to the eastern ridge of Mt. Castleguard, at 9000 ft., whence a route to the summit is obvious; or, what is of equal interest, one may circle to the north-west and attain the Columbia *névé* without having crossed

a single crevasse of any size. As many of the icefield climbs are of great length, the gaining of altitude and the avoidance of icefalls is an immense advantage over Outram's route to Mt. Columbia by the low southern Castleguard tongue or Collie's attempted route through the crevasses of the Athabaska glacier.

MT. CASTLEGUARD : FIRST TRAVERSE.

On July 6, we traversed Mt. Castleguard, 10,096 ft., taking up the entire party, including Simpson, our cook, and our wrangler. Above the eastern ridge are short stretches of steep snow, the summit being attained in four hours from camp. The mountain dominates the head of the Saskatchewan glacier and affords perhaps the finest views of the Columbia icefield, which stretches endlessly westward to Mt. Columbia, and northward to The Twins. Mt. Bryce is close at hand, and, across the Bush Valley, distant ranges appear, the Selkirks and peaks along Wood and Canoe rivers. Southward, the panorama embraces the Alexandra-Lyell angle and the great snow-fang of Mt. Forbes. Two hours on the summit flew rapidly, and we descended the northern snow ridge in exciting glissades to the icefield, marching two miles toward Mt. Columbia, breaking trail for future use. It was a day of enjoyment for all, although the disappearance of our cook in a small crevasse frightened us badly.

Next day, the climbing party again ascended the Castleguard shoulder, hoping to reach Mt. Columbia, but snow squalls prevailed and drove us back to camp.

TERRACE MT. : FIRST ASCENT.

On July 9, in threatening weather, Conrad and the writer made a little first ascent of Terrace Mt., 9570 ft., by its southern glacier and the snow col at its head. The glacier is small but of great interest because of the curious wind-blown snow ridges and the fact that the surface supports no less than twelve lakelets, interconnected by ice tunnels. From the col, the south ridge is ascended without difficulty and the corniced summit reached in three hours from camp. It is perhaps the most satisfactory of the easy view-points in the vicinity : the Columbia icefield stretches ahead like a map, while the overlook to Mt. Saskatchewan served us well a few days later.

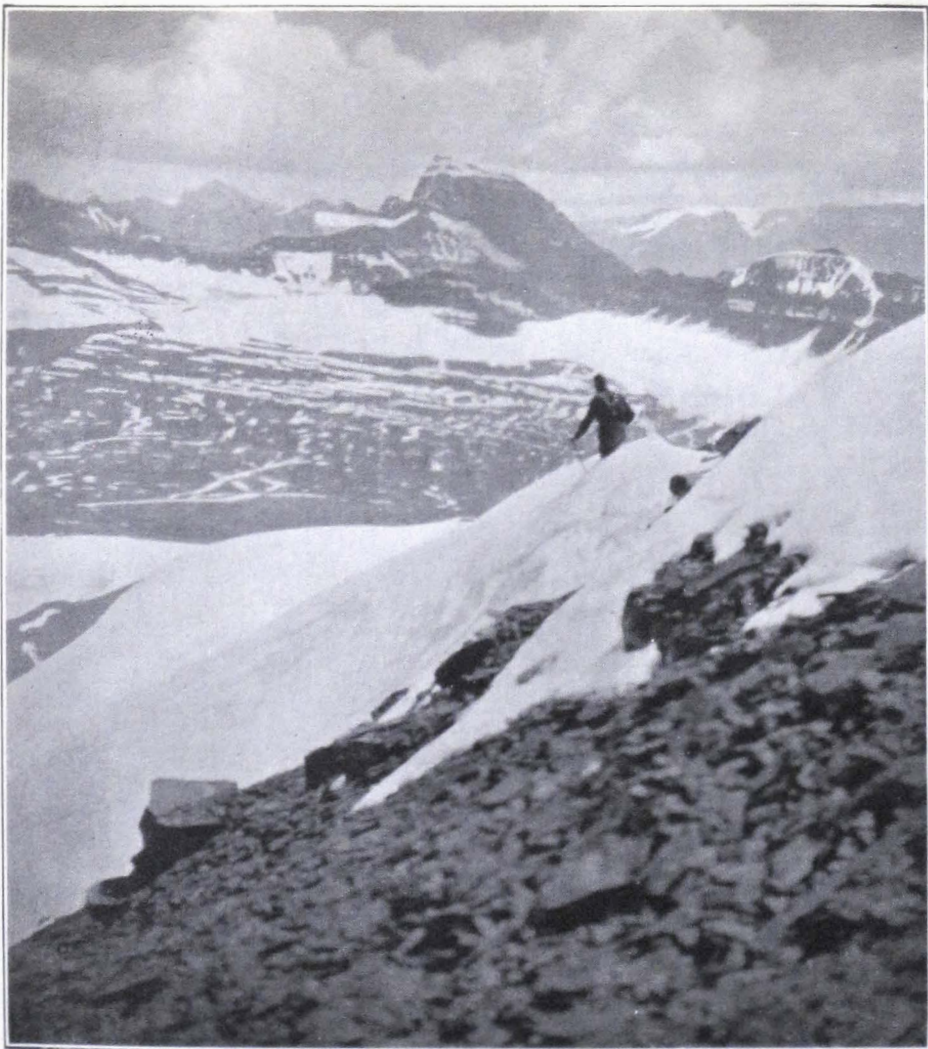


Photo J. Monroe Thorington (Group B. No. 3).

MT. SASKATCHEWAN.
From summit of Mt. Castleguard.

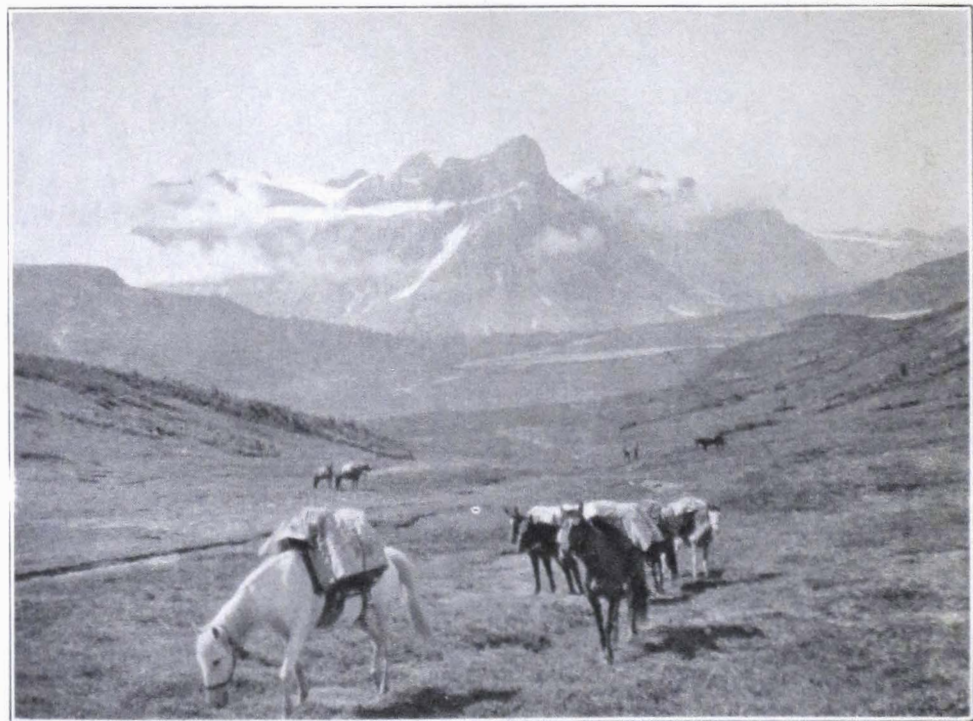


Photo J. Monroe Thorington (Group A. No. 15).

HEAD OF CASTLEGUARD VALLEY, LOOKING S. TO THE
GROUPS BEYOND THOMPSON PASS.



Photo J. Monroe Thorington (Group A. No. 10).

THE TWINS AND THE GORGE OF THE ATHABASKA
From the Columbia Icefield.

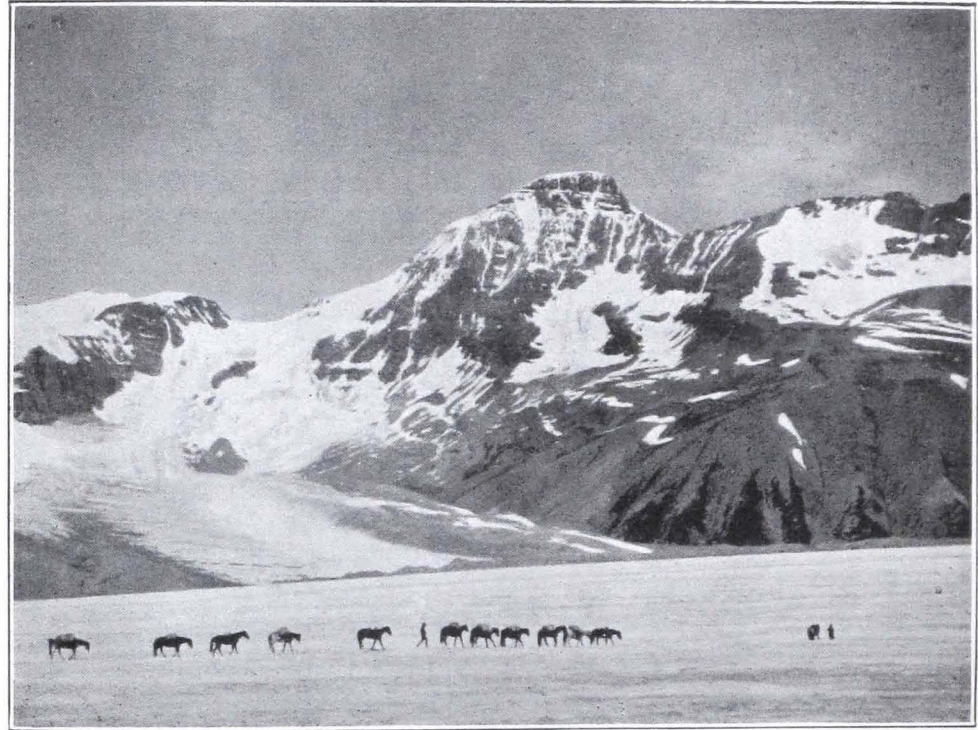


Photo J. Monroe Thorington (Group A. No. 16).

SASKATCHEWAN GLACIER.
Mt. Athabaska in background.

NORTH TWIN: FIRST ASCENT.

On July 10, the climbing party left camp (3.20 A.M.) for the great prospective prize of the journey, the first ascent of North Twin, 12,085 ft., the third of the triangulated peaks of the Canadian Rockies, and the loftiest summit entirely in Alberta. We reached Castleguard ridge in two hours (5.30), rearranged baggage, and started again (6.00). New snow had fallen during the preceding days, and this is the story of how we came to know the Columbia icefield. It is a simple story: we saw our peak, walked toward it, up it, and back again. There was only the distance. The peak is approximately twelve miles from the Castleguard shoulder and appears amazingly near. It deceived us all, including Conrad, who had had much experience with New Zealand and other fields. One descends 400 ft. into the depression at the head of the Saskatchewan glacier. Thence a long and gradual rise toward The Snow Dome, hiding our objective summit behind its southwestern slopes, brings one past the head of the Athabaska glacier, down which one catches sight of Nigel Peak. But it is not done in a moment, and, after hours taken to round slopes of The Snow Dome, one is only half-way to North Twin. This is not easily realised; the peaks loom close at hand and level snow hides many depressions. It is necessary to circle widely in avoiding crevasses at the head of Columbia glacier, sloping into the Athabaska basin. The Twins are an isolated pair, ringed about by icefall and cliffs dropping precipitously to the Athabaska, North Twin alone being connected with the icefield by a snow col between the head of Habel creek and the southern glacier descending from North Twin toward Mt. Columbia. And then, after heart-breaking hours, when one has crossed the last deceptive slope, one must lose several hundred feet of altitude. Before crossing the col, we made the first stop, for lunch (2.00-2.15). Across the head cirque of the Columbia glacier rise Mt. Columbia and Mt. King Edward above cliff benches and ice terraces, the pinnacled walls of South Twin towering to a sharp peak, snowy and inaccessible from the icefield save by the connecting col to North Twin. Framed by North Twin and the snow humps of Mt. Stutfield, the valley of Habel creek affords views of cliff-ringed and unclimbed Mt. Alberta.

The climb from the col leads up 1500 ft. of steep snow, which at times will be icy. We reached the summit (4.20) thirteen hours after leaving camp; fog was blowing over from

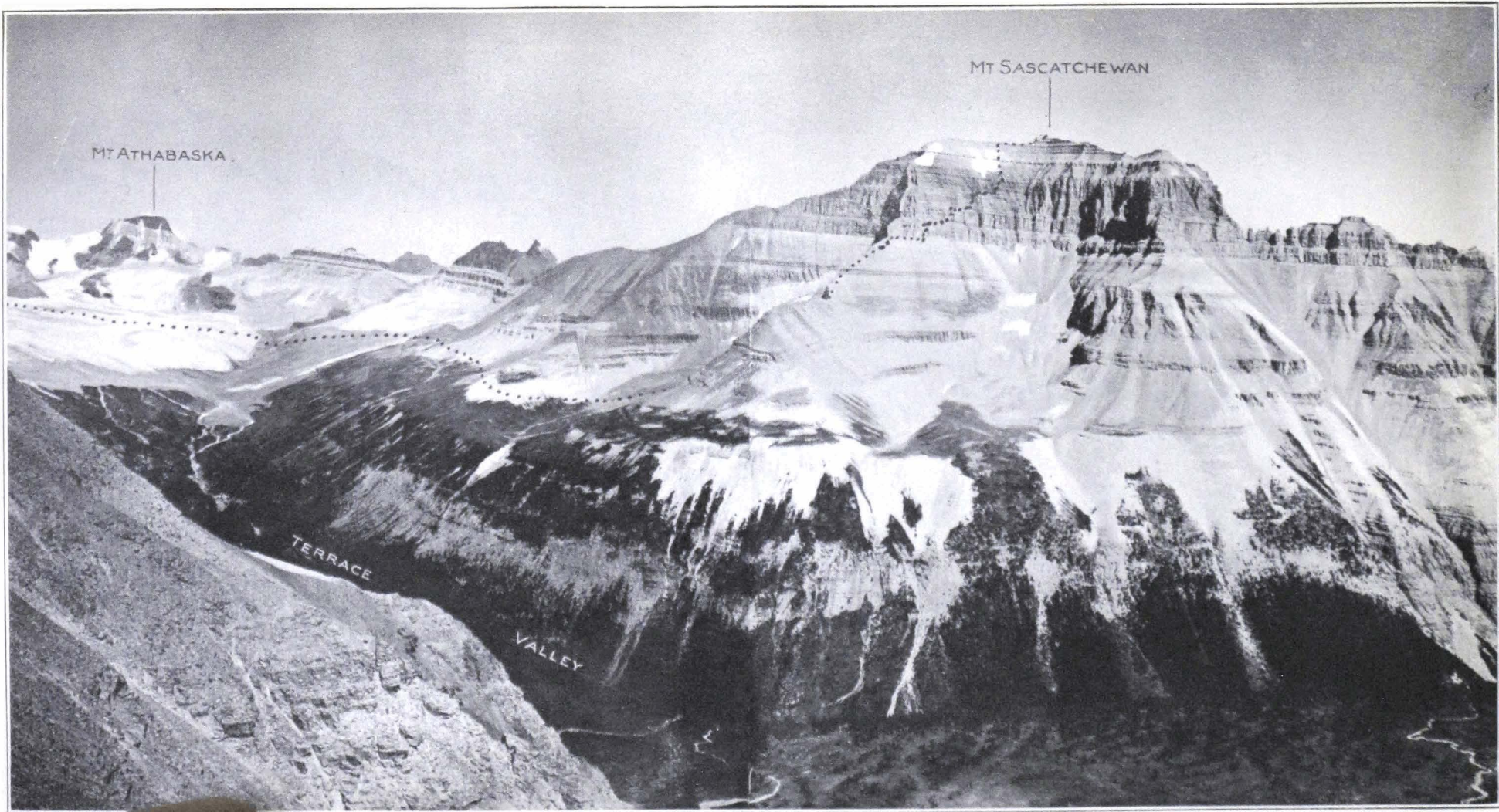
the west and enveloped us just as Mt. King Edward came into sight above South Twin. On top, we had fleeting glimpses of the river valleys westward, peaks to the north-east were visible for a few moments, and then the mists closed down. We remained twenty minutes on the summit; it was warm, and we hoped for a better view which never came. We descended to the col without incident (4.40-5.40); we had made the first traverse of the Columbia icefield, from Castle-guard Valley to the head of Habel creek, and we had bagged the last of the untrodden 12,000-ft. peaks of the Canadian Rocky Mountains.

No one who does not follow in our track will quite understand that journey back across the endless icefield. The exhausting first half-hour in a little blizzard, obscuring the trail twenty feet ahead; clearing, with a crimson, gold, and orange sunset banded against lead-blue storm-clouds behind The Twins; the unearthly light in the snow banners and mist about Columbia; the soft rosy haze filtering into the distant Selkirks, lifting them up and making them unreal. We were too tired to appreciate it, plodding on and on, in deep, insufficiently crusted snow, over plateau and ridge and dip, until darkness came. The field is so huge. In one corner the stars were out; in another, beyond Mt. Athabaska, dark clouds hung and lightning flashed. We lit our lantern and went on through the night, pulling into camp at last, with morning light upon the hills as it had been twenty-three hours before when we departed.

MT. SASKATCHEWAN : FIRST ASCENT.

We recovered quickly after a day in camp, and, on July 12, successfully accomplished the first ascent of Mt. Saskatchewan, 10,964 ft., that formidable appearing and long-sought guardian of the West Branch.

We knew the mountain well before starting, having seen its eastern face from the slopes of Mt. Coleman, its south-western face and bounding ridges from Mt. Castleguard and from Terrace Mt. It is a huge sky-cleaving wedge, in contour triangular, the plunging, jagged, N.E. ridge supporting the Lighthouse and other pinnacles; the eastern and northern faces snowy and unbroken. The south-eastern ridge offers a possible though difficult route from Alexandra river, with much timber to be overcome, and a deep break in the rock below the summit arête. The N.W. ridge, with many gendarmes, is not attractive, thus leaving only the south-western face, rising



Photographed by the Geological Survey.

TERRACE VALLEY AND SOUTH-WEST FACE OF MT. SASKATCHEWAN.
Showing route of ascent

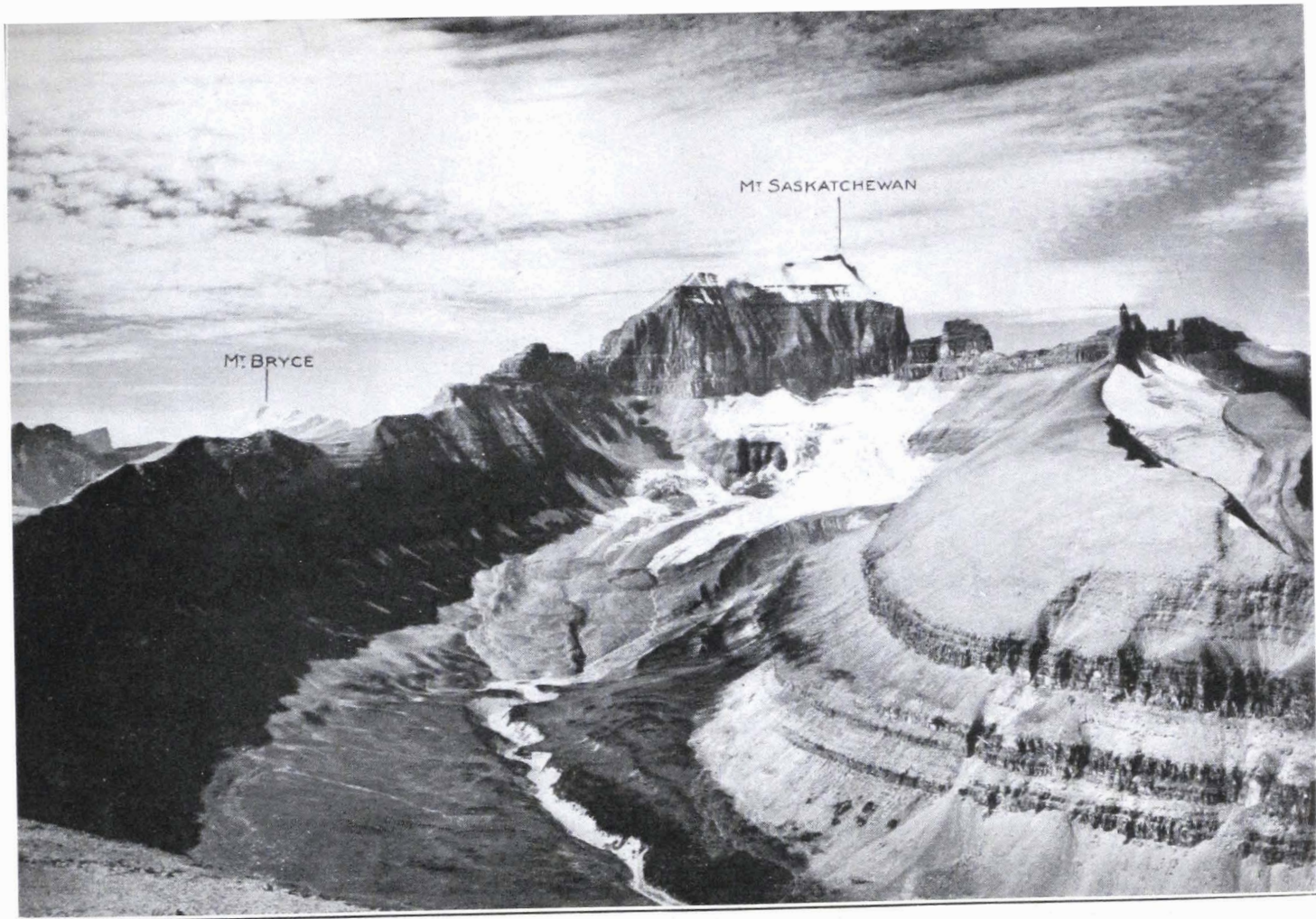


Photo Interprovincial Boundary Survey.

EAST FACE OF MT. SASKATCHEWAN, 10,964 FEET.

above Terrace creek. A slanting, subsidiary ridge descending, north of the summit, into the valley, breaks this face into an eastern and a western cirque, the eastern being the larger and least precipitous. From Castleguard camp we reached the snow pass below Athabaska S. station (5.00-7.00), and crossed meadows of Terrace creek to the south-western face. Entering the western cirque of this face, over scree and winter snow, we came close to a herd of five goat and several kids, who scurried off across the subsidiary ridge. A conspicuous, snow-filled couloir breaks into the cirque from the ridge and leads one, with some three hundred feet of scrambling, to the crest between the eastern and western cirques; the goat did it much more gracefully and rapidly than we. One follows the scree to the first cliff belt, under which it is easy to traverse eastward into the larger cirque in which the remainder of the ascent was made. The first cliff belt, about forty feet, was surmounted by two slabby chimneys, the uppermost containing a goodly stream of water; these chimneys are about 250 feet east of the subsidiary ridge, and we crossed some bits of steep snow to reach them. Under the second cliff belt, we traversed several hundred feet east in the cirque, again finding a chimney which led upward.³⁹ Traversing short distances further east, we reached 10,000 feet in the cirque, at a point below and north of the summit. Nearly three hundred feet of steep, wet scree, in down-tilting strata, was next ascended and the remaining distance to the summit arête made in snow. The snow was soft and pitched steeply, but the cliffs were well covered. It was hard work, and, once or twice, small superficial avalanches went down behind us. Once on the arête (2.40), it became apparent that the point we had aimed for was not the highest, but that the true summit lay several hundred yards further east. To reach it required attention to the cornices which overhang the northern face, and there was a bit of good rock-scrambling at the very finish (3.00).

The North Fork and Alexandra river form a huge sparkling angle below; with care, we looked down the northern wall to the Lighthouse tower almost under us; a sea of peaks was everywhere. We built small cairns, leaving a record of our

³⁹ A direction cairn was built on a small buttress at this point, and may be of service to future parties. Examination of photos by the Interprovincial Survey leads one to believe that the snow of the cirque is not permanent, and that later in the season the amount of rock work is greater than we encountered.

North Twin ascent as well—there had been no visible rock outcrop on its summit—and started down (3.30). We had barely gotten off the snow pitches when a thunder-shower swept over and accelerated the descent. Going with all speed, we were soon on the meadows (6.00), whence, after a bite to eat, we rounded the valley head, crossed the snow pass (7.40), and returned to camp (9.00), just sixteen hours after our start.

On the following morning, none the worse, we rode over to Thompson Pass, enjoying the reflections of Watchman Pk. and Mt. Spring Rice in the summit lakes. One is close under the southern cliffs of Mt. Bryce, which descend into the depths of Bush Valley.

MT. COLUMBIA : SECOND ASCENT.

On July 14, we carried out the second ascent of Mt. Columbia, 12,294 ft., the second in altitude of the Canadian Rockies. The climbing party derived added pleasure in including Simpson, who had been with Outram, but had not climbed, at the time of the first ascent twenty-one years before. Reaching the Castleguard shoulder (3.50–5.30), we found the snow in fine condition and rapidly traversed the tracks made some days previously. Weather was perfect, although the wind blew forcefully. Air currents, from the British Columbia side, are quite constant, and carry thousands of insects up on the ice ; at 10,000 feet and above, we found many varieties of moth, bugs and beetle, most of them alive but torpid from cold. These insects serve as the principal food supply of a large number of snow-finches which are seen darting about on the icefield.

Far out on the icefield, a deep crevassed snow saddle, between the heads of Columbia glacier and Bryce creek, was crossed, and we had lunch (10.15) on flat snow above, looking across at our friendly deceivers The Twins. Then up to the bergschrund, easily crossed, and the steeper snow beyond. At 11,000 feet we roped, stopping by a trickle of water—there had been none on the North Twin ascent—on a small rock outcrop. We were in the centre of and more than half-way up the great eastern snow face, practically treading the Continental Divide. The pitch steepened, step-cutting was occasionally required, and wind tore up the snow crust until the air seemed full of flying white shingles. Traversing slightly northward to avoid the cornice, we were soon shaking hands on the summit (1.30).

Time is insufficient on such occasions to comprehend the complex topography of all that we overlooked, and words fail. We were above the sources of four mighty rivers, Saskatchewan.



Photo J. Monroe Thorington (Group B. No. 4).

MT. COLUMBIA AND COLUMBIA GLACIER BASIN FROM SLOPES OF N. TWIN.



Photo J. Monroe Thorington (Group B. No. 1).

THE N. SASKATCHEWAN VALLEY, LOOKING FROM SLOPES OF MT. COLEMAN
TOWARDS BOW PASS.

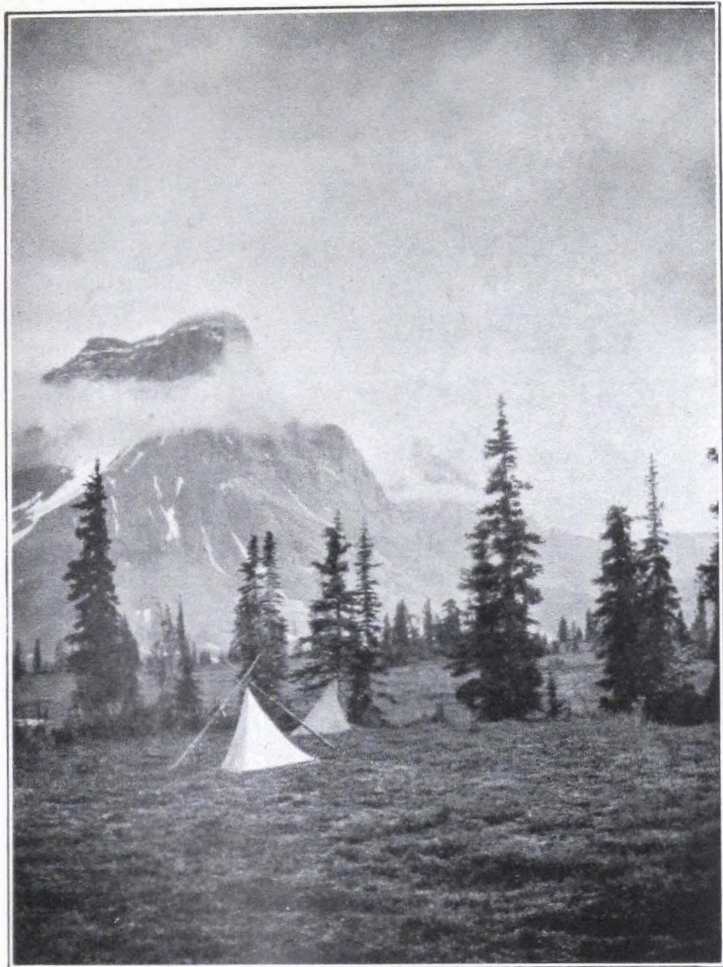


Photo J. Monroe Thorington (Group A. No. 2).

**CASTLEGUARD CAMP WITH WATCHMAN PEAK AND
THOMPSON PASS.**

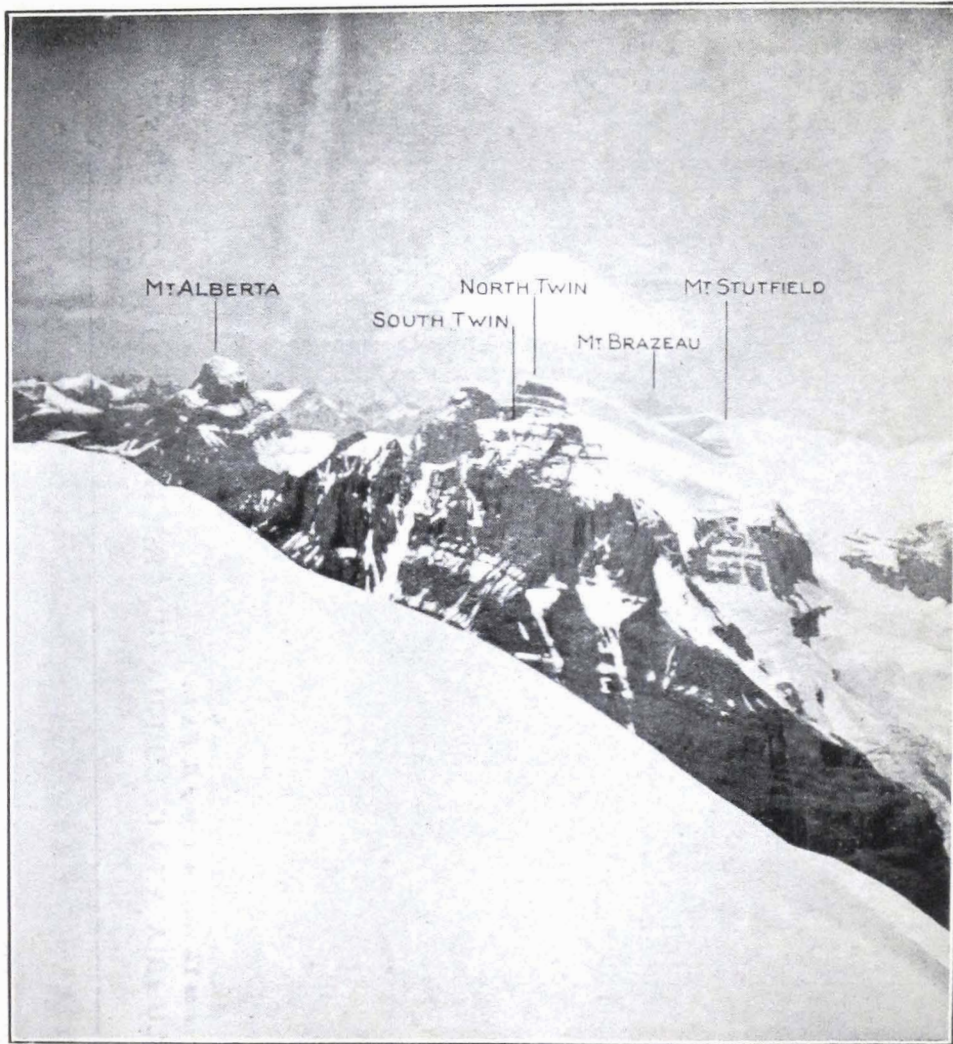


Photo J. Monroe Thorington (Group B. No. 5).

**VIEW NORTHWARD.
From the summit of Mt. Columbia.**

Athabaska, Columbia, and, not far away, the Fraser; surely one of the world's greatest watersheds. How shall one describe a panorama extending from peaks north of Mt. Robson to summits south of Bow Pass; from ranges west of Wood and Canoe rivers to unnamed groups eastward on the Brazeau and Cataract? Range upon range appeared before us: the Selkirks; the Bush-Wood river watershed, with Mt. Clemenceau looming; peaks between Wood and Canoe rivers; northward, peaks of Jasper Park, Geikie and Edith Cavell, and afar, Robson; north-east and east, jagged peaks near Maligne lake, shining in new snow; rock towers down the Cataract river; southward, Mt. Forbes, Mt. Lyell and a host of others. The foreground is the widespread icefield, Mt. King Edward and The Twins seemingly far below. But one retains chiefly the impression of rivers, sparkling in the sunlight, flowing to three oceans. The eye follows the wild gorge of Bush river, dominated by Mt. Bryce, tracing it nearly to the Columbia. Eastward, across the icefields, are Saskatchewan sources, finding exit between Mts. Wilson and Murchison. One gazes into the abyss of the Columbia glacier and down the Athabaska Valley, past The Twins and Mt. Alberta, into the distant north. Forty minutes were spent on the summit, and fifteen more, out of the wind, on a level spot below the cornice. The top of Gamma!

Let no one think that Columbia is a mere snow hump rising from a *névé*. It is a distinct peak; it looks its height and is quite worthy of its place. Simpson intends to climb it every twenty-one years from now on!

Return to Castleguard shoulder (2.30-7.00) was made in good time, softened snow permitting a rapid though cautious descent of the face. Sunset illuminated the icefield in a radiant golden sheen, the last lights, as always, filtering down through the Selkirks and intensifying their altitude. In a little while (8.30) we were back at the camp-fire.

CASTLEGUARD AND SASKATCHEWAN PASSES.

Two days later, July 16, Simpson carried out a long-cherished plan of taking horses in direct passage, by way of Saskatchewan glacier, from the Thompson Pass area to Wilcox Pass. Castleguard river heads in a low divide,⁴⁰ 7,600 ft.,

⁴⁰ To identify the route, and because of the dominating peak, the name 'Castleguard Pass' is suggested for the pass between the head of Castleguard Valley and the Saskatchewan glacier.

which was crossed to the middle course of the Saskatchewan glacier. The horses were taken on to the flat ice, close to a tiny marginal lake nearly opposite Mt. Athabaska. In descending the glacier with horses, it is advisable to remain on or near the south lateral moraine, taking to the ice only to avoid, some distance down, a side glacier entering from the south. About four miles of the glacier was descended and camp made below the tongue, on the southern side, near a pleasant waterfall. There is also a suitable camping-place on the north side, just opposite, with a small lake on a timbered bench above the gravel flat.

The glacial stream flows down a deep little canyon, with a natural bridge, making direct entrance with horses almost impossible. There was no evidence that any other party had ever stopped with horses at our Saskatchewan Glacier Camp.

On the next morning, without difficulty and no cutting, we took the horses northward, in four hours, over a meadowed saddle,⁴¹ *circa* 7500 ft., on the eastern shoulder of Mt. Athabaska, and made a direct descent to Sun Wapta Pass, the true Saskatchewan-Athabaska divide, whence trail was followed to Wilcox Pass.

Camp was made by a stream not far from the Athabaska glacier, the tongue spreading, with only a small terminal moraine, close to the trail. It descends from the Columbia icefield in three icefalls, through the gap between Mt. Athabaska and The Snow Dome. The ice ends in a flat fan, its stream to the Sun Wapta augmented from the fall of Dome glacier, plunging between the ice-crowned cliffs of The Snow Dome and Mt. Kitchener, and ending in close proximity. Three lakelets are found near the trail, reflecting the snows of Mt. Athabaska. The shores are alkaline, covered with recrossing game tracks, and, on our first walk, four sheep bounded away and up the slopes of Wilcox Mountain. Several days later the cook served bear-meat which could not be distinguished from mutton.

MT. ATHABASKA : THIRD ASCENT.

On July 19, the third ascent of Mt. Athabaska, 11,452 ft., was made by the north glacier and north-west arête. Under

⁴¹ The name 'Saskatchewan Pass' is suggested, as indicating the only feasible route for horses from the Saskatchewan tongue to the North Fork.

favourable conditions there is not the slightest difficulty, and even on a wretched day the climb was rapid (8.00-1.30). On the summit it was snowing hard, giving us only an occasional glimpse of Saskatchewan glacier; if Collie had had our weather, the Columbia icefield might not have been so readily discovered.

Descent was made by the north-west glacier to the Athabaska glacier, a variant of former routes, but repaying, as the north-west glacier possesses a magnificent icefall which may be closely approached.⁴²

Our programme in the north was now complete as far as weather had permitted. North Twin, Saskatchewan, Columbia, Athabaska, and lesser peaks were ours.⁴³ We had made a complete crossing of the Columbia icefield and had taken horses by a direct route from the West Branch to the North Fork. North Twin, 12,085 ft., in distance had been a climb of thirty-three miles; Saskatchewan, 10,964 ft., seventeen miles; Columbia, 12,294 ft., twenty-six miles. These three ascents, made within five days, perhaps constitute, if there be any honour in it, a new long-distance and altitude record in Canadian mountaineering.

On July 20, camp was broken, and in seven hours descent made of the 'Big Hill,' past Panther fall, with a fleeting glimpse of the north face of Mt. Saskatchewan, to Graveyard Camp. Next day we travelled to the Forks, making the ford without difficulty and enjoying an afternoon bath in the warm, shallow lake below Mt. Murchison. The old route was followed to Wildfowl lakes and Bow Pass. A repaying hour from the pass leads to a rocky bluff above the ultramarine waters of Peyto lake, with a view of the glacier and its ice arch; one follows

⁴² A fine trilobite fossil was found in this basin, the only one we saw in the North, although shell and other fossils occur near by, notably below the summit of Nigel Peak.

⁴³ Of any of the icefield climbs, it can only be said that difficulties will vary greatly with the snow conditions. At times, skis or snowshoes would be useful. The finest unclimbed peak of the icefield is now South Twin; it will be very long if climbed directly from Castleguard Valley, the only approach from the icefield coinciding with our route to North Twin. The lower slopes of North Twin must be crossed if South Twin is to be climbed from the icefield; it will perhaps be necessary to camp on the icefield itself or descend into the valley of Habel creek. As for other unclimbed peaks, Kitchener and Stutfield, from the icefield side, are merely long snow-walks.

the course of Mistaya river to the Saskatchewan Forks, beyond which Mt. Wilson's snows are plainly visible.

At Bow lake we left the horses, on July 24 ascending beside the Bow icefall to the Waputik *névé* and by Vulture Col to Mt. Gordon, 10,336 ft. (5.00–12.45). There was cloudless weather and we again saw our old friends in the north, from Freshfield to Columbia. Across the Balfour glaciers the view sweeps over Hector lake to the Lake Louise peaks and down to the Yoho Valley, into which we descended.

But Jupiter Pluvius would not let us go free. Yoho glacier has retreated, so that it is no longer possible to cross the stream on the ice tongue. A violent cloudburst assailed us; water rose and bridges went out. After an hour spent on the rope in a vain attempt to ford Yoho river we were obliged to cross the canyon lower down, on a log which seriously damaged water-soaked clothing. We built a rickety bridge of logs across the Twin Falls stream and arrived at Takkakaw Camp as daylight was failing.

Journey's end! But what memories of peaks and ice-fields, sunset and smoke of camp-fire, laughter and song! Youth on horseback, in the midst of a little sparkling ford, playing a mouth-organ; mountain spires dim blue in the noon haze.

Our return eastward by rail, made through the valley of North Thompson river, leads, past many a forgotten cabin, to Robson, Yellowhead Pass, and beyond. There, with but little imagination, one may dream until the puffing locomotive is forgotten, and in every wooded cove one half expects to see the Headless Indian⁴⁴; or, just around a bend, the tragi-comic starving party of Milton and Cheadle, the Assiniboine, and mysterious Mr. O'B. mounted on Bucephalus, straggling down to Fort Kamloops.

The frame of mind is perhaps akin to that of childhood; when a belief in fairies was implicit. But in such wise is it best to visit these far-away peaks of the Canadian North: it is not without reward.

NOTE.—It is hoped by the kindness of Dr. E. Deville, Surveyor-General for the Dominion of Canada, to publish in the next JOURNAL the Boundary Commission's maps Nos. 21, 22 and 23.

⁴⁴ Cf. *The North-west Passage by Land*, Viscount Milton and Dr. W. B. Cheadle. Cassell, Petter, and Galpin, London. 1865. This entertaining volume contains apparently the first reference in literature to Mt. Robson.