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Two Seasons on the West Coast of New Zealand. The La Perouse Glacier.

By H. E. NEWTON.

THERE have been several lectures and papers recently dealing with the New Zealand Alps, but all, with the exception of Dr. Teichelmann's exhibition of slides, have dealt almost entirely with the East or Canterbury side, and the Editor has asked me to write a paper on the comparatively little-known West Coast side. And the reason for this neglect is obvious. From Christchurch, the Hermitage, a comfortable hotel and a central starting-place, could be reached in two days, while for the last eight years a motor service has gone through in the day; while to reach the Franz Josef Glacier it took five days from Christchurch or Nelson, and if the weather was bad and the numerous rivers, that had to be forded, were 'up,' it might be twice as long.

The mountain chain of the South Island, from a mountaineer's point of view, may be considered as being contained roughly between the Otira on the north, over which went the old coach road from Christchurch to 'The Coast,' and through which the new tunnel goes; and extends south to Lake Manipori, a distance of 250 miles as the crow flies, roughly the distance between Mt. Blanc and the Ortler, though, except at the southern end, the chain is narrower in New Zealand.

But between the two sides of this mountain chain there is an extraordinary difference. The East Coast side is open sheep country, with but little timber, the West is dense forest; on the East the Hermitage gives access to the Tasman, the Hooker, the Mueller and the Murchison Glaciers, all more or less parallel to

the main divide, while on the West, at all events among the giants of the chain, the valleys run at right angles to the divide. Again, from the strata the rock on the West is good and firm after the schistous formation of the lower hills is left behind; on the East the rock is apt to be rotten.

To start climbing from the West it is necessary to get to Hokitika, either overland from Christchurch, or by sea from Wellington or Nelson; there is now a train as far as Ross, a mining township of some six hundred people, where I had my headquarters during the six years I was Vicar of the Ross Parochial District, which extended some two hundred miles down the coast between the Southern Alps and the Pacific Ocean.

From Ross a mail coach used to run once a week as far as the Franz Josef Glacier, about seventy-four miles. From Ross a good but rough road led through the forest, amid great red or white pines and Rata trees which in February are a blaze of scarlet flowers. Generally one was driving through an avenue of timber, with no view except the road rising and falling as it wound round the spurs from the hills; at times there would be a glimpse of the sea, or the road would run for a mile or two beside one of the lakes, which are one of the great beauties of Westland; then the road would come out on to a flat of some ten miles wide where several settlers had taken up land and were raising sheep and cattle; somewhere on this would be a river, three of them carrying a good deal more water than the Rhone at its entrance to the Lake of Geneva, and in those days all unbridged; in winter the rivers were clear except in a flood, but in summer milky-white, often with a very rough bottom, icy cold, and with a very fierce current, the fall on the flats being roughly 100 ft. to the mile. I shall never forget my first view of the Franz Josef Glacier. I had been told I should see the glacier, but did not pay much attention. I was riding through an avenue of trees and suddenly turned a corner, and there was the glacier, about two miles off, without a trace of moraine on it, apparently descending right on to a farmstead, while on either side rose the hills, covered with untouched semi-tropical forest, in which appeared brilliant red splashes of some Rata trees in full bloom.

In 1902, with Dr. Teichelmann, I had crossed to the Hermitage and returned by a new pass. In 1903 and 1904 we had been up the Fox Glacier, which is some twenty miles below the Franz Josef, and, like it, descends to within 700 ft. of sea-level, the first year with Peter Graham, who is now chief guide at the Hermitage and a splendid man on both ice and rock, and the second year

with his younger brother Alec, with whom I was to have four years' capital climbing. These years had taught me that in a new country too much time was taken up in the necessary swagging, and that three weeks in the hills meant three days' climbing and the rest getting camp in and out again, and that in a district where six inches of rain a day is fairly common. The Nor'-Wester, a warm wind like the Föhn, gathers moisture from the Pacific and then, on contact with the snow mountains, discharges it with tropical intensity; these storms generally last three days. In climbing from the West the approach of a storm is more easily noticed, and also the clearing often gave a day's advantage in starting.

My first three years we had to take a new man each year, so that it was impossible to send a man in advance to make a base camp, as the men whom we were able to get were diggers or settlers who were simply splendid in the bush, but had no experience of glacier work. However, in 1905 we were able to send Alec Graham on ahead with another man. Cook's River, one of the largest of the Westland rivers, receives the drainage of three glaciers, the Fox, the Balfour, and La Perouse; we had decided to get on to the La Perouse Glacier and cross to the Hermitage by a pass at the head of the Hooker which Mr. Harper had reached from the Hermitage in 1890. Cook's River, so called because from the Coast it seems to receive the drainage of Mt. Cook, though as a matter of fact Mt. Cook is entirely in Canterbury, runs for its last ten miles through open flats with a wide river-bed, in places a mile wide, with the river in several branches, though after Nor'-West rain it would be bank to bank, with uprooted trees swirling down it. The main branch of the river above this open flat runs for eight miles through a narrow gorge which might be compared to the Arolla valley, only there was no track and no bridges over the tributary streams and the whole mountain-side covered with forest. In the early days of the coast some diggers had been up 'fossicking' for gold; Mr. C. Douglas and Mr. Harper had been up later for the Survey Department, but had only reached the snout of the glacier, so it was indeed a virgin field.

On Monday, January 16, 1905, I left Scott's house after a week of services among the scattered settlers, and rode up Cook's River to some ruined diggers' huts in a steady drizzle. Alec Graham and Arthur Woodham, a digger, had been at work for a week cutting the track through the bush and carrying in swags. I had hoped to meet Dr. Teichelmann at the hut, but he had not arrived, so after waiting some time Graham and I set off

with a swag apiece. At first we were able to follow the river-bed with only occasional deviations into the bush, which is always very matted and tangled in such places. In about an hour we were opposite the Balfour; after this the going got worse, and it took us 1¾ hours to cover the next mile; it was then 6 P.M., so we decided to camp under Castle Rock at a tent they had pitched while clearing the track. We soon had a fire and our clothes up to dry. I found in a cleft of a big rock some newspapers Harper had left there in '94, but they were too sodden to read. In the evening it came on to rain steadily, and all the mosquitoes in the neighbourhood came into the tent to get out of the wet. Next morning it was still raining, so we decided that Graham should wait till Teichelmann arrived while I went on to the next camp. I started at 8.30 with a heavy swag and almost at once had to climb up 700 ft. to get above a steep bluff, where the river runs through an impassable gorge. I had but little difficulty in following the fresh blaze line except where a trial line had been made and abandoned. It took me 4½ hours to get to the camp at Tony's Rock, though it is only three miles as the crow flies. Tony's Rock is an enormous erratic boulder, about 100 ft. above ground and 700 ft. round three sides of the base. The rock overhangs well on one side and the camp was made under it, but, like all overhanging rocks, it was a regular fraud in wet weather, as the rain followed the rock down and then dropped, and soon there was a regular forest of saplings against it to carry off the worst drips. Woodham arrived later on with another swag, I had missed him in the bush. The next two days were occupied in cutting the track ahead, one man with an axe to fell the larger boughs and the other with a 'slasher' to clear the track sufficiently to allow the passage of the swags. It rained most of the time and the bush was horribly wet and greasy, the deep moss making the footing precarious. A good deal of the cutting had to be done holding on with one hand and cutting with the other; I managed to cut my elbow and my boot, and Graham had cut his boot before; however, we managed to mend the boots with copper wire and strap ends. Each night we changed into dry things and put our wet things on again in the morning—horribly unpleasant until one got warm. By this time we had got beyond the big timber and were among the scrub, a low-growing tangled mass of branches all growing downhill, with branches often 6 inches in diameter and very tough to cut. By this time the axe and slasher, with only a file to sharpen them, had lost their edge to a large

BASE CAMP, LA PEROUSE VALLEY.

No. 2.

H. E. Newton, photo.

COOK'S RIVER.

"Swagging in."

No. 3.

Swan Electric Engraving Co., Ltd.

COOK'S RIVER,

Near Tony's Rock.

X below man shows size of boulders.

H. E. Newton, photo. *Swan Electric Engraving Co., Ltd.*

LA PEROUSE GLACIER,
FROM BELOW HARPER'S SADDLE

extent. On the sixth day after I had reached Tony's Rock we had the base camp pitched, consisting of a 10×12 tent and fly and a smoke fly to protect the fire. That afternoon Teichelmann and Woodham arrived, wet through with the usual rain; Teichelmann had been unable to start as soon as he had expected, and then had been delayed by floods. It had taken two men, working continuously for a fortnight, to get the base camp in, a matter of nine miles, a distance equal to that of Evolena from the Rhone Valley, though not so great a rise. The next three days it rained, and beyond bringing in the last (eleventh) swag and cutting a track here and there along the river-bed, which was now good going, there was nothing further to do till the weather cleared. However, we had plenty of firewood that burnt well quite green, and I at all events was glad of a less strenuous time. Unfortunately, almost on the last piece of scrub, Graham cut his knee with the slasher.

The next day it cleared up a little, and three of us, leaving Graham behind to bake scones and rest his leg, went up to the snout of the glacier and then up it for a couple of miles and found a spot for a high camp. We found an excellent spot at the end of the N. spur from La Perouse, where an overhanging rock made a shelter for two, and outside we pitched an oiled fly and thatched the end for the other two. This was only to be a sleeping-place before starting on an expedition, but there was plenty of 'ribbon wood' round it, among which there is always a great deal of dead wood which burns fiercely and enabled us to save spirit.

We were now able to see our surroundings well; we could see Mt. Tasman towering up on our left at the head of the Balfour; from the Silberhorn, the S. shoulder of Tasman, came down the ridge separating the Balfour from La Perouse. From the Silberhorn the main divide continued over Clark's Saddle to Mt. Dampier (Hector), off which, and entirely in Canterbury, Mt. Cook appeared as a rock triangle with only the final snowcap showing; then the divide, though it was hidden from our sight, bends W. to Mt. Hicks (David's Dome), then over Harper's Saddle to La Perouse (Stokes); from La Perouse the main divide bears away S., while our valley was contained by the W. arête from La Perouse, which rose in two fine rocky peaks. The mountains at the head of this valley had received different names from the Canterbury and Westland Surveyors. I have followed the surveyors, who wisely named this group of peaks after the early navigators; the alternative names are given in brackets to provide a means of identification.

The next day we went up to the high camp again with some more food &c., the only excitement being that, as the glacier, unlike the Fox and the Franz Josef, was covered with stones, we followed the old moraine débris at its side, and in crossing a creek that drained a small glacier on our right one of the party in jumping was overbalanced by his heavy swag and fell in. Fortunately one of the party was able to give him a hand before he was knocked about by the force of the water among the stones, or carried under the glacier. Then, being wet through, he volunteered to carry the last man over at a better ford, I knew what would probably happen and got a photo of the upset, but alas! I had forgotten to change my film! We got to the camp about midday. Woodham went back to the base camp in the afternoon, and we went out to cut a track through the knee-deep snow-grass to make sure of a dry start next morning. It was a steady drizzle all night, so all hope of a start was abandoned; in the afternoon it cleared and we went out on to the glacier to get a closer view of the way up to the pass. I have never seen such enormous erratic boulders on a glacier as we came across just above the camp.

We got up at 1 A.M. next morning and had a good fire to breakfast by, but it was 2.50 before we got started, as we had to leave the camp secure in case we returned that way. We soon got on to the glacier and went along it for two hours by lantern light; we had intended to start up a snow-slope, but we could see that an avalanche had come down it since the previous evening, so we decided to have breakfast and wait for daylight. At 5.10 we started off up a rib of rock to our right, leading up to the left containing-wall of the glacier descending from Harper's Saddle, at the head of the Hooker Glacier. At first it was easy climbing, but it gradually got more difficult, and we put on the rope at a gendarme at the junction with the main ridge. We had to carry sleeping-bags, as we were sure of being out one night, and my swag, without food, rope, or camera, used to weigh 19lb. This was quite enough of itself to have warned me not to try difficult rock, but in addition I was carrying an ensign camera ($\frac{1}{4}$ plate) in a tin case outside, as a swag takes a good deal of undoing simply to get a photo. However, the climb looked interesting and was only short, so I set off. I had only got up about 8 ft. when I got on to a smooth slab, and in the middle my camera, which I had over one shoulder—a most foolish way of carrying it on rocks—slipped round in front, and instead of getting any body friction, the metal case was as slippery as a piece of ice, in addition to forcing me off the rock.

I had time to warn the others, and then slipped back on to the shelf I had started from. The rope checked any further fall, and my swag took the weight of the fall, so I got off with a slight cut on the head and a bruise on my thigh. We then turned over to our right and cut up the hard snow to turn the obstacle. It was now 11.10, so we stopped for some food and to take a series of photos. At 12.30 we started again and soon were wading through soft snow. Unfortunately, the mist which rises from the wet Westland forest on a sunny day after rain, and hangs on the hills from about 6000 to 8000 ft., made it difficult to be sure of our position, as we had no map that could be relied on for any detail. We wasted a good deal of time arguing, and then, at 3 P.M., the fog lifted for a moment and we saw that we were close to the saddle; in fifteen minutes we were on it, and after a halt to take photos we started down. The first 300 ft. were very steep, and Graham and I cut steps down in alternate traverses as quickly as we could, but it was slow work, as there was a couple of inches of soft avalanchy snow on top of very hard snow, and we were unable to make long traverses for fear of falling stones from the rocks on either side of the pass. Nearer the schrund the snow got better and we were able to stamp steps; we crossed over under Mt. Hicks, where the schrund was narrow, and decided to shoot it in line, as there was an enormous snow basin below it quite free from crevasses and time was getting precious. However, before I got out the others started and we all shot over it rather too close to each other to be pleasant. After a brief halt to get the snow out of our pockets, we set off at 5.45 to go as far down the glacier as possible. We kept at first rather close to La Perouse, intending to camp at a place where we had slept in 1902 when making the first crossing of Baker's Saddle into the Copland valley. But the glacier was very broken, much more so than when we had been there before; this is typical of a New Zealand glacier, as they vary from year to year to an extraordinary extent. We then crossed the glacier to some rocks at the foot of Mt. Cook. It was 9 P.M. before we reached them and found an old camp site where the New Zealand party had camped in 1894 before the first ascent of Mt. Cook. After a cup of tea and some food we turned in. It was a beautiful night and we all slept soundly. Next morning, after putting our socks and boots into our sleeping-bags to thaw, we had breakfast. Unfortunately we were unable to get down the rocks on our left and so turn the icefall, so we had to go out on to the glacier and ascend a little and then cross to the other

side and get through the icefall on the W.; it took us one-and-a-half hours from the sleeping-place before we were clear of the fall. We were able then to take off the rope and travel down the level glacier towards the snout, the last part being along a very loose and toilsome moraine. There is a fair track down the left bank of the glacier, but the bridge over the Hooker had been carried away by a flood that spring and had not been repaired. It was only six miles down the glacier, but it took us three hours from the foot of the icefall. At 2 P.M. we stopped for an hour for food and a photo or two and then started off to the Hermitage, passing a camping party, who were very sarcastic with us for carrying axes over open country, but we tried to explain that we had been unable to leave them behind. We reached the Hermitage at 5. Soon after Peter Graham, who had been with us in 1903, arrived, then Jack Clark, the chief guide at the Hermitage, and a Mr. Low, who is now a member of this Club. After a bath—and I had not had a voluntary bath for a fortnight—we had an excellent dinner that was a delightful change after the eternal bully-beef stew and scone of camp, and we felt quite civilised again. Both Teichelmann and I had been feeling our eyes, the wood smoke of camp and then the fog on the pass, which had compelled us to take off our glasses, had irritated them considerably. We found some cocaine in the hotel, and by injecting that and using a tea-leaf compress we were able to get to sleep.

The next morning Alec Graham took a telegram down to Pukaki, and on his return was to rest at the Hermitage for a couple of days, and then follow us. In the afternoon Teichelmann, Low, and I, with P. Graham, set off to walk up to the Ball Hut, a distance of 12 miles, the last six being beside the Tasman Glacier, Clark following with the swags on a horse. Next morning Professor Spencer, of Melbourne, arrived from the Malte Brun Hut, 6 miles further up the glacier. Curiously enough—for climbers were then very rare in New Zealand—the previous year he had been going up the Tasman while Teichelmann, with Clark and Graham, had been at the Hochstetter Bivouac just before making the first crossing of Pioneer Pass to the Fox, and they had at the same time seen Alec Graham and me appear on the col between Tasman and Lendenfeldt, which we had reached from our camp up the Fox. Mr. Fitzgerald, in his 'Climbs in the New Zealand Alps,' reckoned that the ascent of Tasman from that col would present no difficulty, and certainly we could see none, but it was my fate to reach that col three times in an attempt to climb Tasman,

and to be turned back each time. That route has not been made yet, but I am afraid I shall have no chance now to be the first to make it.

The Ball Hut lies in a hollow behind the right moraine of the Tasman Glacier, on the site of Mr. Green's fifth camp. Leaving it in the afternoon, we walked up the Tasman till we were past the great Hochstetter icefall, one of the finest icefalls I have ever seen. Then, turning up the ridge that descends from Mt. Haast, and is the left boundary wall of the Hochstetter icefall, we climbed up it to the bivouac at a height of about 6700 ft. This was the scene of Green's bivouac, and the starting-point for the gallant attempts of the New Zealanders to climb Mt. Cook. It is just a big boulder, below which a flat place has been raked and filled with fine gravel; there was also an old nail-can, which served to economise the wood we had been able to carry up. It is a wonderful position: 3000 ft. below lay the Tasman Glacier, at that point 1¼ miles wide, opposite the great rocky Malte Brun range, culminating in Malte Brun itself, 10,421 ft., a magnificent rock cone. Ten miles up the glacier was Élie de Beaumont, 10,200 ft., towering above the saddle leading to the West Coast, while the main divide continued back to the head of our ridge in a series of peaks and tributary glaciers. Mt. Cook itself is invisible, but to the south lay the last 8 miles of the Tasman, and beyond an extensive view over the Mackenzie country. We set off at 6 next morning and reached Glacier Dome in about an hour. Glacier Dome is simply a snow dome on the Haast ridge, far above the head of the Hochstetter icefall, where it is possible to turn over on to the huge névé at the head. Straight up at the head of the ridge we were on rose Mt. Haast, though the summit lies over in Westland out of sight; then Lendenfeldt, 10,551 ft.; then Tasman, 11,475 ft., completely sheathed in broken glacier; behind it the divide running to Dampier, 11,323 ft.; then the mass of Mt. Cook, 12,349 ft.; while the rest of the view took in all that had been seen before from the bivouac.

Our intention had been to try to make a pass back to the La Perouse valley by a col south of the Silberhorn, the south shoulder of Tasman, but the guides said that it would take very long and that they could not be spared from the Hermitage, for in those days the guiding staff was small, as visitors were infrequent.

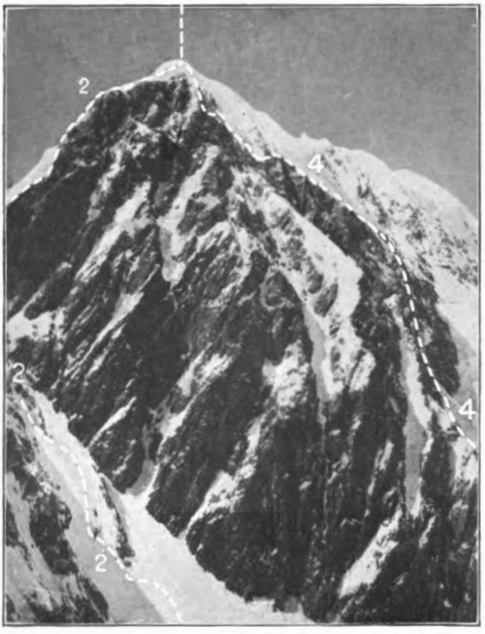
We then sat there and decided to try Mt. Cook next day; I am still convinced that Teichelmann and the others had put this up behind my back, and I am still very doubtful about the great

difficulties in connexion with the pass. Mt. Cook had been mooted at the Hermitage, but I felt I could not spare the time and ought to get back to the parish by the pass as soon as possible. Now I could not possibly get back for the Sunday, so the obvious thing was to submit to their scheme. We returned to the bivouac fairly early, bringing with us the remains of the ski Mannering and Dixon had used for crossing the big plateau in the early attempts on Cook. We got off at 1.20 next morning, February 3, mounting by lantern light to Glacier Dome, climbing on our way some rocks on which a climber whose reputation extends over four continents has a photo of himself leading his party up the buttress of Mt. Cook. We set off after a descent of some 400 ft. across the plateau, which must be nearly three miles across; it was in good condition, except where an avalanche had fallen from Tasman. At 4.10 we were at the foot of Mt. Cook; close to the first schrund we had some food and put on the rope, and at 5.10 had sufficient daylight to start again. We crossed the lower schrund after a little difficulty; we then bore to our right towards the N.E. arête; the second schrund gave rather more difficulty, Clark, who was leading, needing several axes and a bit of help; then, after cutting up the slope for some way, we bore to our right and took to the rocks. Here we were slow, as we were a party of five and had to be careful of loose stones. We got on to the crest at 10.10 a little below the first snow saddle; we went on for an hour and then halted on some rocks a little above the snow saddle. Here we had food, and, leaving the rucksacks, went on with only a few raisins and biscuits in our pockets. Starting at 12, we kept to the ridge, which was alternate rock and snow. At 3.15 we were on the final rocks, and here we had a council of war. If we returned at once we could get back to the bivouac and blankets by lantern light; if we went on we might not even get back to the food we had left at our luncheon spot; however, we decided to go on, as there seemed to be every prospect of fine weather. The final cap was very hard and needed steps almost the whole way, Clark leading at first and then Graham, but it was not till 4.55 that we stepped out on to the top. It was a glorious afternoon. For some time we had been looking over into Westland and were able to trace the coast for miles. I had often gazed up at Mt. Cook from various places on the Coast, from Hokitika, 100 miles to the north, to Jackson's Bay, 100 miles to the south, but owing to its being entirely in Canterbury I always thought that I should never be able to spare the time to climb it. Over the Canterbury plains it was rather hazy, and we were unable to pick

H. E. Newton, photo. *Swan Electric Engraving Co., Ltd.*

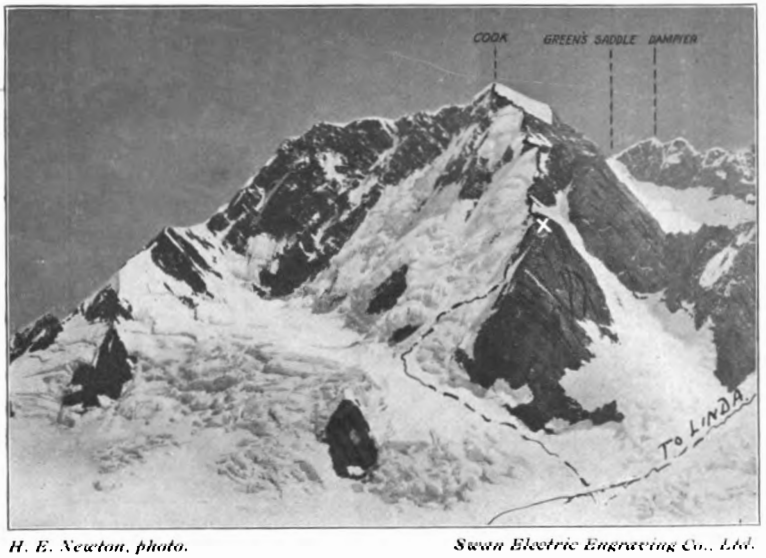
MAIN ICEFALL OF LA PEROUSE, FROM BELOW HARPER'S SADDLE.

No. 6. 12,319 ft.



MT. COOK, FROM TOP OF MT. HICKS.

No. 7.



H. E. Newton, photo. *Swan Electric Engraving Co., Ltd.*

MT. COOK, FROM GLACIER DOME.
(N.E. face.)

up the sea on that side of the island. The thing that surprised me most was the vast extent of the Alpine country to the north and the width of the main chain. We only stopped for fifteen minutes and then set off again, Graham leading. When we got to the highest rocks Clark called out to Graham 'Zurbriggen told me he left a jam tin on the highest rocks; see if you can't find it.' The first stone Graham lifted, there lay the tin. We got down to about ten minutes above our sacks at 8 P.M. and then it was dark, and that last bit took us an hour, climbing very carefully and only one man moving at a time. We boiled some snow, but had no tea left, so we got a flavour by scraping out a marmalade tin. Teichelmann had a sweater, I had a couple of silk scarves, and Low had a waistcoat; none of us, unfortunately, had a dry pair of socks. We were unable to sit down and had to stand during the night, though three of us were able to lean against each other. I suppose we must have had moments of sleep, especially the three together, who were warmer and safer. About midnight we got a fine display of the Aurora Australis. About 3 A.M. Low and I started melting snow over a candle, and when we had enough we boiled the small 'billy' and had a mouthful of hot water and some food. At last the dawn came, and we looked a haggard crew indeed. The night had not been bad; the worst part was the wind, which, though fortunately not strong, was cold. The first thing we saw was Alec Graham appear on Glacier Dome. We all 'cooeed' and he stopped at once, and we thought he must have heard. I had left a note at the bivouac saying we had started up the arête of Cook and should not be back till late. He told me afterwards that he had spent a very anxious night, but had tried to soothe himself with the thought that several parties on Cook had had a night out, but that when he got on to Glacier Dome and could see nothing he was really alarmed.

The sun got to us very soon and we thawed out quickly, and at 7.20 started straight down the snow, at first having to cut steps, but soon being able to stamp them. As soon as we came out on to the snow Alec could count five little dots and was happy again. We got down to the schrund in two hours and soon were across and out on to the plateau. Graham came along and met us below Tasman. He, provident man, had brought a spare rope and some bandages and plaster in case there had been an accident, and a tin of pineapple in case there had not. We sat down at once and dealt with that tin and some bread and butter. The snow was still good, and we got back to the bivouac at 12.30. We had lunch there, and gave Alec instruc

tions to boil the billy and to go on boiling it till we told him to stop. We then set off, and, getting some good glissades, reached the Ball Hut at 6.10. Teichelmann and Clark rode down to the Hermitage that night, promising to send some horses up next day. Next morning we started to walk down and met the horses at the Blue Lake; we then double-banked on the three horses and reached the Hermitage by mid-day. I had meant to start alone that evening to get over the Copland in a last desperate attempt to get back for the Sunday, but the glass was falling and obviously Nor'-West weather was coming up, so I gave up all idea of it.

It might be convenient here to give a summary of the various routes up Mt. Cook.

1. South Peak, 11,844.

A. *From the Ball Pass between the Tasman and the Hooker.* The Rev. W. S. Green made in 1882 his first attempt by the Southern Arête, Mr. Mannering trying it also in 1889; both came to the conclusion it was impossible. I do not think it has been tried since.

B. *From the Hooker.* The late Mr. H. Sillem, with Jack Clark, in 1906 camped high up on the ridge between the Noeline and Empress Glaciers and ascended next morning to this summit. I have no details of the route. This was the first ascent of the South Peak.

In 1913 Miss Du Faur, with P. Graham and the late D. Thomson, ascended by this route, and then traversed the three peaks of Mt. Cook and descended by the Linda Glacier. This was a magnificent performance, needing perfect conditions and an unusual absence of cornice on the ridge between the peaks.

In March 1914 Mr. S. Turner, with P. Graham and F. Milne, climbed this peak and a ridge farther to the North.

2. The Middle Peak, 12,178.

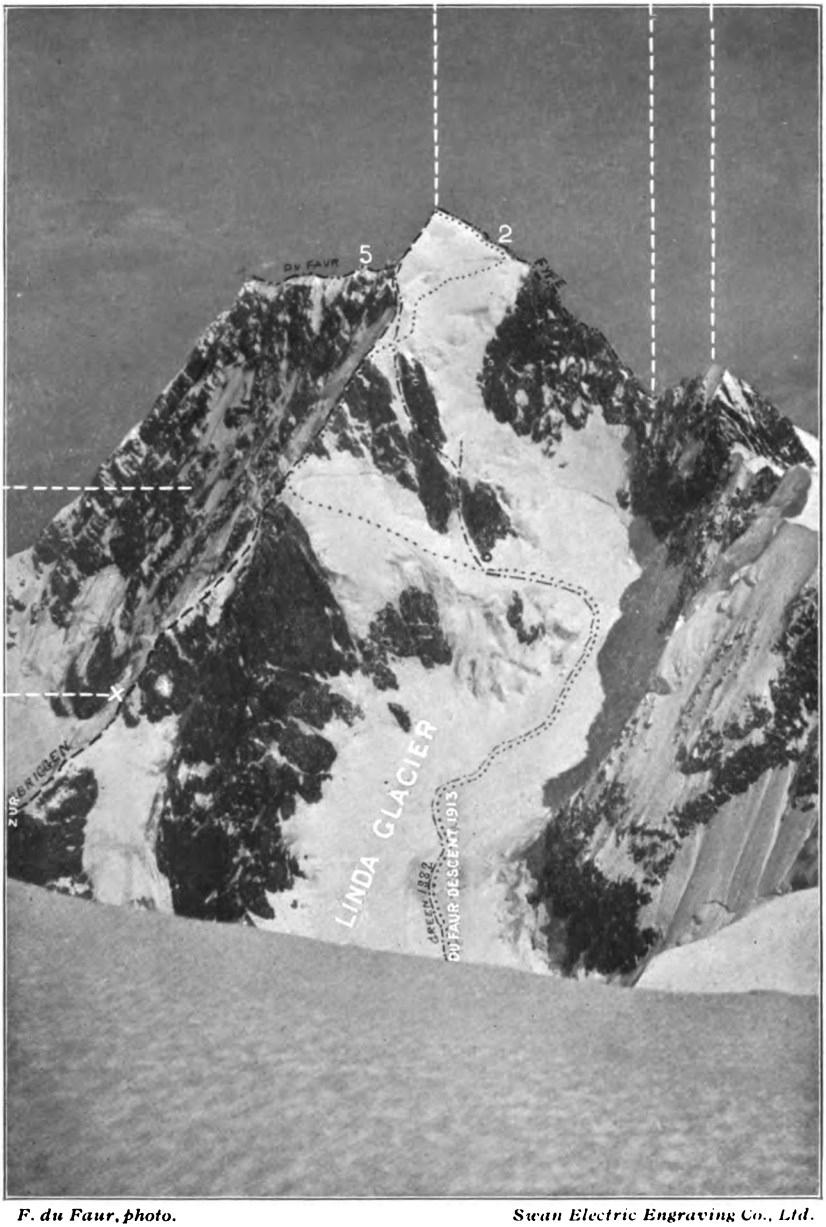
First ascended by Fyfe, G. Graham and J. Clark December 20, 1894. From a camp high above the Hooker they climbed by the Empress névé and the W. ridge of the South Peak, then traversed to their left and reached the saddle between the S. and Middle Peaks and followed the corniced ridge to the top; 10¼ hrs, including halts. See 'New Zealand Alpine Journal,' May 1895 (out of print). This was an attempt to reach the highest peak.

3. The Highest Peak, 12,349.

A. *From the Hooker.*

(1) *By Green's Saddle and the N. Arête.*—On Christmas Day

No. 9



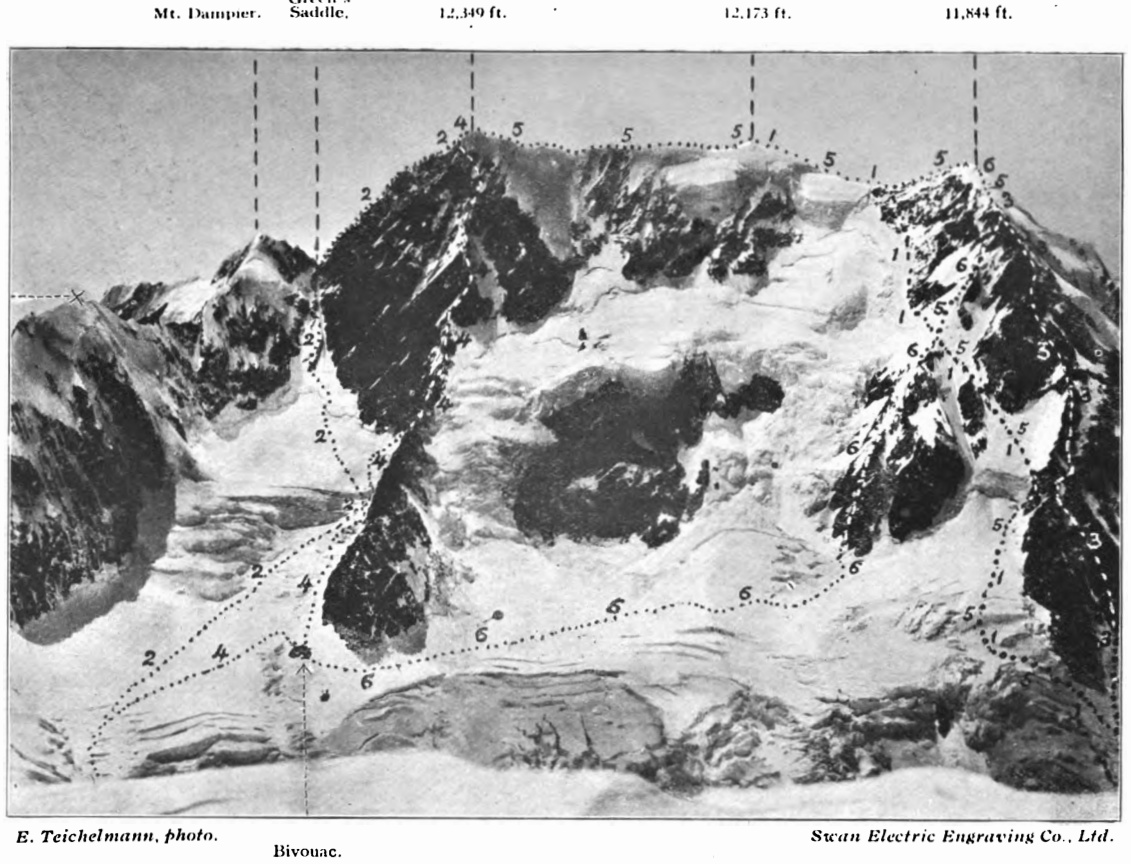
This cross is also shown in No. 7.

This N.F. face is shown in full in No. 7.

F. du Faur, photo. *Swan Electric Engraving Co., Ltd.*

MT. COOK AND MT. DAMPIER,
FROM THE SUMMIT OF MT. TASMAN.
Showing Zurbriggen's and the Linda routes.
(Mr. Green's route was finally completed only in 1912, as mentioned in the present article.)

No. 8.



E. Teichelmann, photo. *Swan Electric Engraving Co., Ltd.*

THE W. SIDE OF MT. COOK, FROM SUMMIT OF LA PEROUSE, OTHERWISE MT. STOKES.

ROUTES FROM THE HOOKER SIDE.

1. Fyfe, G. Graham, and Clark. 20 Dec., 1894.
2. Fyfe, Graham, and Clark. 28 Dec., 1894.
3. Mr. H. Sillem and P. Graham. Feb., 1906.
4. Mr. Earle with P. and A. Graham and J. Clark. 1909.
5. Miss Du Faur with P. Graham and D. Thomson. 1913.
6. Mr. S. Turner with P. Graham and F. Milne. 1914.

1894 Fyfe, G. Graham and Clark, from a camp high up the Hooker, climbed up the steep snow couloir between Dampier and Cook, and followed the N. ridge to the top. See 'New Zealand Alpine Journal' as above. This was the first complete ascent of Cook. This is the route down which Ross came, as described in his lecture on February 3, 1914. All accounts speak of falling stones in the afternoon.

(2) *By the W. Arête.*—In 1909 Mr. Earle, with P. and A. Graham and J. Clark, ascended by this arête direct from the Hooker névé. The rock was good. This is the quickest and the safest route up Mt. Cook.

B. *From the Hochstetter Bivouac above the Tasman.*

(1) *The Linda route.*—This was the route by which Mr. Green all but reached the top with Boss and Kaufmann in 1882, the first serious attempt to climb Cook. The route from the Big Plateau bears round to the right, and to the left up the Linda Glacier, between the divide and the N.E. spur, and then ascends the N. face of Cook. This was the route followed by the gallant New Zealand parties of 1886–1894, who without any professional aid set to work to read climbing books, and then to climb Mt. Cook and eventually succeeded from the Hooker. This route was first completely ascended by Messrs. F. Wright and H. Chambers, with J. Murphy and J. Clark, in February 1912, thirty years after Mr. Green's attempt, and they were followed about a month later by Mrs. Lindon with Peter Graham and D. Thomson.

For accounts of this route see Green's 'High Alps of New Zealand' and his letter and marked route in 'A.J.' xxviii. 228; Mannering, 'With Axe and Rope in the New Zealand Alps'; and the 'New Zealand Alpine Journal.'

I believe no attempt has been made to ascend the Linda to Green's Saddle and then follow Fyfe's route, though Mr. C. Macdonald crossed Green's Saddle. ('A.J.' xxiv. 603.)

The sad accident reported in the May number shows the danger of this route. That accident seems to me to have been the fall of a hanging glacier rather than what is usually understood by an avalanche, a danger in my opinion, considering the activity of the New Zealand glaciers, equally great on the Big Plateau below Tasman.

(2) *By the N.E. Ridge.*—This was first climbed by Fitzgerald's guide, M. Zurbriggen, in March 1895, the same season as the first ascent. He took practically the route that we followed in the next ascent of Cook, ten years later, except that he kept closer to the rocks at the start. For accounts

see Fitzgerald, 'Climbs in the N.Z. Alps,' and the 'N.Z.A.J.' as above. This is a good route, but I think in some years the snow-slope would be very broken and icy.

It has been questioned whether Zurbriggen reached the actual summit owing to time. We were a party of five; none of us had ever been on Mt. Cook except Clark, who had climbed it in the first ascent from the other side. We had to cut up the final cap; he had to 'cut a few steps.' A guide of Zurbriggen's powers would go very fast. We took 15½ hrs. up, he took 14 hrs. 20 min. In the descent, where a guide's superiority is more marked, we took 9¼ hrs., omitting the night out; he took 7 hrs., omitting 1½ hrs. while he was waiting for the moon to rise.

I admit that there are several discrepancies between the times in the two accounts, and he certainly did not follow Green's route up the ridge. Mt. Cook has been climbed very much more quickly of late; but first ascents—and ours was a first ascent for all the party—are notoriously slow.

There seems to have been no attempt made to climb the Southern Peak by the ridge on the S. side of the Big Plateau and the Hochstetter icefall.

I must now, after this long digression, return to our own story. After we returned to the Hermitage we had two days' rain, but on the third afternoon started off up the Hooker again, Clark coming with us on a horse to put us over the river, so that we had the advantage of the track up the glacier. Crossing the glacier to the W. side, in three hours we were at a rock camp at the foot of the pass to the Copland. We got away at 5 next morning, reached the saddle at 8 without any difficulty, and after a short halt went straight down and at the end of the snow stopped ½ hr. for breakfast. Instead of keeping fairly high to avoid some bad scrub, we went straight down to the river and soon were in the worst scrub it has ever been my fate to tackle. Two miles took us 3½ hrs. About half-way we came upon an old camp site which must have been Fitzgerald's, as no one else had been foolish enough to try the river. At 12 o'clock we were just below Douglas Rock, a shelter rock named after Mr. C. Douglas, who had explored many of the West Coast valleys. We left at 1 P.M. and followed an old blaze line to Welcome Flat, which we reached at 6.20. Here we had to ford the river, and bitterly

cold the water was, and two chains wide, though only knee-deep. We then walked down the flat and decided to camp for the night. We slept out on the river-bed to avoid the mosquitoes, and, getting plenty of moss off some stones, had a good sleep. Next morning we got off at 8 and turned into the bush to see some hot springs. In nearly all the West Coast valleys there are hot springs; at the Waiho, the river from the Franz Josef, a bath-house has been built, and if the water is too hot it can be cooled with lumps of ice from the river. All these springs are hotter when the river is up. A horse-track has now been made up from Scott's, but then there was only a blaze line through the bush and we had a good deal of 'bush-whacking.' At Architect Creek we turned off to look at our old camp site of 1902, where, almost foodless, we had lain in pools of water under a leaking tent and fought mosquitoes all night. After that the river-bed was less confined and we got a good deal of open walking. It was dark when we got out on to the open country, and we got one rather deep ford; fortunately I knew pretty well where the Main South Road, a track about 5 ft. wide, left the river-bed, and at 9 P.M. we were at Scott's comfortable house and soon were enjoying a good meal. The next day I got my horse and started to ride up to Ross, meeting Low and P. Graham at the Waiho, they having come over by Graham's Saddle and down by the Franz Josef.

I heard afterwards that Woodham, whom we had left at our camp up La Perouse Glacier, had been very anxious when we did not return to time, and at last had come out to Scott's to see if there was any news of us.

This was my fourth year in the Southern Alps, and it was the first year I had been able to climb a peak; when it is impossible to get porters, and tents and food have to be carried in, so much time is lost in the necessary work beforehand, that often there is nothing left for real climbing. However, I shall never regret the experience; we managed to solve one or two small problems for the Survey Department and to get a very fair collection of photographs, the majority of which were new.

In 1906 the obvious thing seemed to be to go up Cook's River again and try to climb some of the peaks at the head of the valley, as we had done nothing in the valley, and there was the track open and a certain amount of tinned meat which would do in a case of emergency. I left Ross on Monday, January 15, and had a week of services at various places in the southern part of the parish, and then met Teichelmann and Low,

who was to join us that year. When I had been at the Waiho I heard that my ice-axe, which I had lost down a crevasse on the Franz Josef Glacier four years ago, had been found on the surface of the glacier and about a quarter of a mile below where it had been lost. On Wednesday, January 24, after a wretched night in an old digger's hut, we started up the well-known track; we were all very much out of condition, and were carrying heavy swags. Soon it came on to rain, and we were wet through, and found the wet, slippery bush more fatiguing than ever. However, at last we reached Tony's Rock, where we found Alec Graham, who, with the help of a digger named Anderson, had got all the swags except one up to the rock. Next day Graham and I, with a swag apiece, set off in the usual rain to the base camp; they had not been able to pitch it, owing to the bad weather, but had carried up several swags and had planted them under some rocks. The site of the camp this year was a little higher up the valley, with a magnificent view of the hills at the head of the valley. In the afternoon the weather cleared a little, and we pitched the fly to let the ground dry a little and then returned to the others. Next morning we all got off at 6 with heavy swags, and reached the camp just as it began to rain, and we had a miserable time fixing the tent in the wet, bringing the other swags from where they had been left, collecting firewood, and setting stones for the fireplace and floor. We even tried to dry some scrub by the fire for bedding. One of the troubles of a camp up a new valley is the inquisitiveness of the kea, a mountain parrot which has earned an unenviable notoriety on the Canterbury side by picking the kidney out of live sheep. Our first year in the hills we had heard a kea on the ridge pole, and we lay in our blankets and said 'How delightful to be where birds are not afraid of man!' But the next thing we knew was the sound of tearing calico, and a kea looking through the hole to see how we were getting on. This year I got up at once and shot him before he had time to do any damage, and a few hours later he was in the 'billy,' eking out the tinned beef. Curiously enough, there have been no complaints of their attacking sheep on that part of the coast. My own idea is that though the sheep are sent up on to the hills in summer there is sufficient scrub to enable them to brush off any kea that might light on their backs, and certainly it is a habit acquired in the last 50 years by a bird not otherwise carnivorous, and I believe in Canterbury it is still local, but once a kea has tasted kidney he becomes a moral wreck.

On the following afternoon it cleared, and we got our first view of the hills. The next day Teichelmann, Low, and I started up to the high camp of last year. We found some food we had left the year before quite eatable, and Woodham's bed under the rock quite dry. We pitched a small oiled fly and wattled the end to do for two, while the other two could sleep under the rock. It came on to rain again just as we finished and we returned to camp fairly wet, stopping to bathe on the way. The next day we took up final swags to the top camp; the following morning was glorious, and Low and I set off up the hillside above us to pick a place to bivouac before attempting La Perouse. We found a capital spot where the snow had melted away in front of a big rock, and prepared a place to sleep on. There must have been snow for 300 yds. below the rock, and yet we found a Maori Hen's nest just deserted under the rock and the tracks in all directions. The Maori Hen or Weka, a flightless rail, about the size of a Leghorn, has suffered much from the weasels which were imported into New Zealand to kill the (imported) rabbits, and I believe that this couple had nested for safety so high up, for when they built that nest the snow would have extended much further. We returned to camp for lunch, and in the afternoon we all set off to the bivouac with our blankets. We arrived in a thick fog, which cleared off after tea, and Graham went down for some water for the morning, while I stamped steps up in the snow above us. We got off next morning at 3.50 with the intention of making an attempt on La Perouse. It was a glorious morning, though heavy fog was lying in the valley below. We went straight up to reach the crest of the spur between the Gulch Glacier and La Perouse Glacier. In 1¼ hours we were on the crest and then followed it along for 3¼ hours; twice we lost a good deal of time in getting to the top of a gendarme and finding we could not get down, and being compelled to descend and turn it on the north. After ½ hour halt for breakfast, we set off up the final peak, leaving everything behind, as white clouds were beginning to pile up behind the big peaks, and we were afraid of bad weather. In 40 min. we reached the ridge between the rock shoulder so conspicuous from the valley and the final peak; we had to chip steps all the way in the hard snow. On the arête we halted for a moment, as we had come up very fast. We had been afraid of a cornice on the Canterbury side, but fortunately it was quite free. The slope eased off a little, we were able to get on with very little cutting, and in an hour we stood on the summit at 10.50.

Before we started in we had heard of the crossing of Mt. Cook which Mr. M. Ross described in a recent paper, and we had also heard that they had designs on La Perouse, so we had been looking anxiously for tracks, but we were unable to see any, and felt pretty certain that ours was the first ascent after all. I was very glad to have such a good view of the upper W. face of Cook and the upper glaciation, which was almost unknown. Teichelmann took a few photos, but it was so hazy that they were chiefly valuable for topography. We then went to the lower peak on the arête leading to Harper's Saddle, about 45 ft. lower, and tried to get some prismatic readings, but we found the wind too strong. We then returned to our sacks, had a cup of tea and some food, and set off down at 2.10. On our way up we had noticed a fairly broad snow gully without any rocks or break in it, so we unroped and glissaded down. Soon we ran into the fog, and though we knew that there was no danger ahead we went slowly and reached our bivouac in 1 hr. 27min. actual going from the top. After a cup of tea we returned to our high camp in a thick fog. It had been a pleasant climb, and the first virgin peak any of us had ascended. The next day Graham went down to the base camp to bake some more scones, as there was very little wood at the high camp, while we washed and dried clothes, our chief difficulty being the Maori Hens, as they managed to steal nearly all the soap. I had knocked my camera rather badly on one of the rocks, lowering it in my sack before descending, and had found that it was out of order, so I set to work to try to repair it. One of the vulcanite sectors of the shutter was broken, and at first it seemed a hopeless job with no tools or material, but at last I got a little thin tin off the top of a milk tin, and with the aid of a pair of nail scissors with a file on the back I got a shutter cut out of it that would work, and it did so well that I did not get another till I had the camera overhauled in England two years later. The next two days the weather was too uncertain to do anything of interest. On February 5 we got away on a doubtful morning, which soon improved. However, we had started too late and too low to attempt any big climb. For 1½ hours we went up the fairly level glacier till opposite Harper's Saddle, and then made our way up the main icefall, which comes down in a big semicircle, part of it coming into the lower glacier at right angles to its course. It was up this part, facing Harper's Saddle, that we got a route; at the head of the fall we went straight up to a low saddle looking into the Balfour, and climbed up a small rock knob on our right, 2¼ hours from the foot of the icefall. It was

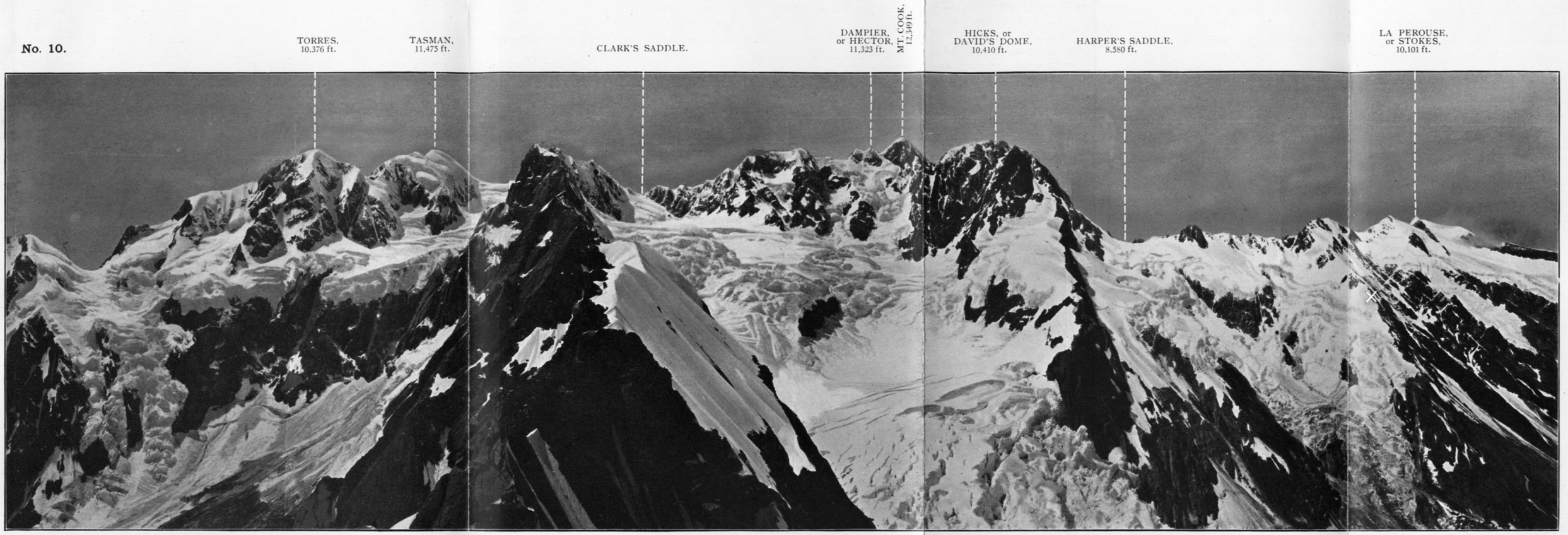
then a beautiful day, and we took a round of photographs. The most interesting thing was the huge precipice which cuts the Balfour in two, and over which the upper glacier falls in avalanches to re-form below into the lower glacier.* While we were there an avalanche fell at almost regular intervals of five minutes. I was fortunate enough to secure a photograph of one. After lunch we returned to our high camp. On the next afternoon we went up to a bivouac we had noticed about an hour up the glacier. The next morning we got off at 3.15 and went up the glacier for an hour by lantern light, and, following our previous route through the icefall, bore to our right up the main glacier, our intention being to get to the saddle at the head of the valley between Mt. Tasman and Mt. Dampier. We had seen two days previously the obvious way round under the foot of Mt. Hicks, which was only a matter of tramping and avoiding one or two clearly marked crevasses, but the certainty of the one route, though it meant reaching an untrodden col, did not seem so attractive as an attempt to force the upper icefall, which had also seemed feasible. We got through the icefall after a little cutting, but were stopped by the wide crevasse on the top, through which we thought we had seen a route. We retraced our steps and tried again on the north side, only to be stopped again. We then tried again under Mt. Hicks, and were getting along rapidly when it began first to rain and then to snow, so we decided to give it up and return. It was a reminder of the lesson one is so apt to forget—that in new country one must be content at first with the easiest routes. If anyone makes the first crossing of this saddle from the Canterbury side, I would advise him strongly to make at first to the foot of Mt. Hicks and then cross to the right bank of the glacier and descend the part of the fall that faces Harper's Saddle. There would be an alternative for anyone who did not wish to descend the glacier to the coast: to mount the steep snow on the spur from Hicks which bounds the glacier below Harper's Saddle on the E., and then near to the final peak of Hicks drop down the snow to Harper's Saddle and descend to the Hooker and the Hermitage. At present this would probably mean a night out on the upper Hooker, near where we had slept the previous year.

We got back to our bivouac in one hour and 40 min.,

* In *A.J.* xxi. 183, there is a photo of Mr. Harper's showing the whole length of the Balfour. An illustration of La Perouse glacier is on p. 181.

and, being now in the sunshine again, boiled the billy and had lunch, and amused ourselves by photographing avalanches off the great rock face of La Perouse opposite. We then returned to the top camp, and Graham went on down to the base camp to cook some scones. While the others were away next morning I found a Maori Hen with his bill stuck in the butter, which he evidently thought much better than soap; so, feeling that there was a limit to his amusing tricks, I smote him with a stick and added him to the contents of the stewpot. After tea Low, Graham, and I set off to the bivouac up the glacier to try Mt. Hicks next day, Teichelmann deciding not to go, as he had a sore heel. At 2.30 we got off by moonlight on an ominously warm morning, and followed our previous route through the icefall, finding the snow soft. At the head of the fall we crossed the glacier to the long rock spur from Mt. Hicks, which we reached at 5.10. The snow had now improved and we were able to advance rapidly up the snow on the top of the ridge. At 6.30 we were below the final rise, and after a halt of half an hour for food we set off, cutting steps up the steep snow gully which ran up on the face of Hicks. We took to the rocks where the gully forks, and found them excellent climbing, though steep. Bearing to our left slightly, we reached the crest of the ridge running to Harper's Saddle. Here we found a very strong wind blowing, so strong that we had to sit down and straddle along the narrow snow ridge, which was broken by one short pitch of rock. At 10.45 we were on the summit; below us the Hooker was buried in fog, out of which La Perouse and Sefton rose majestically. Mt. Cook towered 2000 ft. above us, giving us a splendid view of the couloir leading to Green's Saddle, while the great N.W. rock face was a strange aspect of Cook, which is generally seen as an entirely snow mountain. Due E. the divide ran up to Dampier, the third highest mountain in New Zealand, and then, turning sharp N., ran across Clark's Saddle at the head of our valley and then over the Silberhorn to Tasman, in my opinion the finest of the New Zealand peaks and presenting a curiously similar aspect from every side. Further N. we could see the peaks at the head of the Franz Josef, and then the forest-covered hills running down to the Pacific. We were able to pick out the bluffs on the beach as far as the Wanganui River, eighty miles to the north—not to be confused with the North Island river of that name—while we could see Jackson's Bay nearly 100 miles to the S., inland from which we could see Mt. Aspiring rising above the surrounding peaks. We were

No. 10.



H. E. Newton, photo. *Swan Electric Engraving Co., Ltd.*

Balfour Glacier. La Perouse Glacier.

N. E. S.

The cross above this marks the position from which Photos. 4 and 5 were taken.

PANORAMA FROM SMALL PEAK (MARKED WITH X ON PHOTO No. 5) ON RANGE DIVIDING THE BALFOUR AND LA PEROUSE GLACIERS

afraid to wait, in case the wind got worse, so after a round of photos, which I had to take lying on the snow to avoid unsteadiness, we set off down. As usual, for drink we relied entirely upon an aluminium stove to make tea from melted snow, and the tragedy of the trip occurred when the methylated spirit bottle slipped out of my pocket and broke to pieces on the rock below. We went some way down the long spur and halted for a dry lunch under some rocks to get out of the wind; then we floundered down the snow, which was now very soft, and reached the bivouac, and, picking up our sleeping-bags, got back to the top camp at 7.40, to be welcomed by Teichelmann and a large billy full of tea. We all slept well, except that I was awakened twice by a Maori hen dabbing at my ear; I suppose he thought it a new kind of soap! After dinner we packed everything into four large swags and went down to the base camp. The next morning we started early with four large swags. At Tony's Rock Low and I turned back to fetch the rest out, while the doctor and Graham went straight out to the diggers' hut. Our last swag from the base camp was colossal; what would not go in was tied on outside, and we walked to a clattering accompaniment of frying-pans, billies, an axe, and a slasher. Next morning we went out to the diggers' hut, meeting Graham and Anderson going in for the last swags. Rain was coming on, and the hut, of which one end had fallen out, was alive with mosquitoes and sandflies. We had left a horse on that side of the river which Teichelmann had taken to go to Scott's, promising to send up our horses for us. After an uneasy night, while we were at breakfast Graham and Anderson returned, having raced the rain, which came on just as they arrived. By three o'clock the river was unfordable, and we had only brought out enough food for one meal, expecting the horses on our arrival, while across the river we could see Anderson's camp, which was well stocked with food. Anderson was used to the bush and put on the most terrific 'smudge' I have ever seen; he smoked contentedly in the thick smoke; we coughed and bore it, as preferable to the mosquitoes. Next day Scott arrived about 12, and, after driving a horse across to see what the ford was like, brought the others over, and we soon had the packs on and were across at Anderson's tent, where we had a much-needed meal and then went through to the main S. road, at that point a rather vague bridle track. I rode through to the Waiho, reaching it after dark, and the next day I rode 65 miles and got home early the following morning in time for my Sunday's work. Thus ended our second trip up

the La Perouse Glacier. I have not heard of another party going up there since. There is a good deal of new work to be done there, as there is all along the coast, but it is rough work, and by this time our track will be completely overgrown again.

I appreciate the guides, the hotels, the huts, the footpaths, and, perhaps most of all, the bridges of Switzerland, as only the man can who for six years had to do without such luxuries. I must even confess to being often relieved to find well-defined nail-marks on rocks, or tracks over the snow, or, basest of all, a fixed rope, but I would like to have another season on the West Coast of New Zealand before I grow too old to rough it.

Notes on the Illustrations.

1. The base camp of 1906, position about 'O' in 'Moraines.' The valley is here fairly wide, but covered with dense and stunted vegetation, 6 to 12 feet high; all burns well quite green.

2. Cook's River, just below the junction with the Balfour; from this point the river runs through a gorge till above Tony's Rock; the sides are clad with big timber, chiefly of the pine family.

3. The head of the gorge; the size of the boulders can be seen from the figure above the X. The water is difficult to distinguish in the photo, but there is a considerable volume.

4. The curious dirt bands are probably old avalanches; the highest band is not visible in a photo of Mr. Harper's taken from Ryan's Peak in 1896. (See 'A.J.' xxi. 181.) Cook's River is seen at the end of the glacier, and reappears after collecting the drainage of the Balfour and the Fox. Beyond, the Pacific Ocean was clearly visible some twenty miles away.

5. Taken from almost the same position as No. 4. (See No. 10.) The main icefall is mostly behind the near rocks on the right, but it swings round in a huge semicircle, at right angles to the course of the glacier as well. The route described on p. 18 is up part of the icefall in shadow to the left of the centre. This leads to the snow col on the range (in the middle ground) separating the Perouse and the Balfour glaciers. The higher range (in the background) divides the Balfour from the Fox. No. 10 is taken from the small rock peak marked by an X to the right of the col.

6. This great rocky N.W. face of Mt. Cook is hidden in all distant views by Mt. Hicks. The first ascent of Mt. Cook (by Fyfe's party in 1894*) was made up the snow couloir in the foreground and then up the rock ridge on the left. Mr. Earle's route (see Photo No. 8) was by the rocks on the right. Fyfe's route is marked No. 2, Earle's No. 4.

* Cf. *New Zealand A.J.* ii. 29 *seq.*

7. The N.E. face of Mt. Cook (see also No. 9). The route described in the present article, and which is in the main a repetition of Zurbriggen's ascent, is marked. The first (unmarked) part mounts the crest of the ridge at the right-hand bottom corner of the picture for 1000 feet, then descends on to the Big Plateau, passes under the foot of Tasman, and rounds the foot of Zurbriggen's arête as marked. (See also No. 9.)

8. The Hooker face of Mt. Cook, with the various routes. The author is indebted to Peter Graham, the chief guide at the Hermitage, for the route marks, and to Dr. Teichelmann for the photograph. Reference should also be made to the splendid picture (by Miss Du Faur) of this face in 'A. J.' xxvii. 100 ; but, as already pointed out in 'A.J.' xxviii. 227, the summit is on the *left*-hand end of the ridge and the 'lower peak' on the *right*-hand end, and not *as marked in error on the photograph.*

9. The Tasman or Linda face of Mt. Cook from Mt. Tasman, showing Zurbriggen's arête route and the Linda variations.

Zurbriggen kept closer to the arête ; the actual route will vary with the season. We passed the night on the descent as marked by an X on this and No. 9. The best illustration of this side of Mt. Cook is on p. 142 of Fitzgerald's 'New Zealand Alps.'

The rock arête on the extreme right-hand skyline does not lead to Green's Saddle, as might be imagined, but is a subsidiary buttress of the N. arête.

10. On the extreme left of this panorama is a col leading to the Fox Glacier ; Torres we climbed from the Fox in 1907. Fitzgerald, with Clark and Zurbriggen, climbed Tasman in 1895. From the Hochstetter Bivouac they climbed to the S. shoulder of Mt. Tasman, and then followed the snow arête to the summit. From Tasman to Dampier the Divide falls on to the Big Plateau and feeds the Hochstetter Icefall. At Mt. Dampier, first climbed by Miss Du Faur with P. Graham and C. Milne in 1912,* the main Divide bends W. and falls into the Hooker. Mt. Cook, which stands off the Divide, only shows as a rock triangle. Our route up Hicks in 1906 was above the main icefall of La Perouse Glacier, up the long snow slope, and up the rocks at the head of it. We reached Harper's Saddle in 1905 by a rock ridge which runs out of the picture about 1 inch from the bottom on the right side, and then we crossed the large snowfield to the col. Our route up La Perouse is not visible.

The compass points are only approximate ; to get the effect of the panorama, the ridge between the Balfour and La Perouse should be taken as the centre of the picture, and the Balfour side bent sharply back and the Perouse side in a wider sweep.

The position of the site of this photo is shown by a cross on Photo No. 5.

Special Note.—The accompanying map was originally published

* *A.J.* xxvii. 98 *seq.*

MAP
showing the
CENTRAL PART
of the
SOUTHERN ALPS

SCALE OF MILES
0 1 2 3 4 5
Natural Scale, 1:126,720.
Heights in Feet.

Routes referred to in Article
Camps and Bivouacs marked thus ×

Variation of names of Mountains:

La Perouse	or	Stokes
Hicks	or	David Dome
Dampier	or	Hector

The variation in names originated in the different Provincial Surveys.

London: Macmillan & Co., Ltd.

Stanford's Geog.l Estab.t, London.

with Dr. J. M. Bell's 'The Wilds of Maoriland' (reviewed 'A.J.' xxviii. 412), who expressed his indebtedness for the use made of the map accompanying Mr. Arthur P. Harper's 'Pioneer Work in the Alps of New Zealand.' The author desires to express his own indebtedness to the authors of the above-mentioned books and to the respective publishers, Messrs. Macmillan and Mr. Fisher Unwin.

Arctic Norway: two Ascents of Strandaatind.

By WM. CECIL SLINGSBY.

Round the shore where loud Lofoden
Whirls to death the roaring whale,
Round the hall where Runic Odin
Howls his war-song to the gale.
CAMPBELL.—*Ode to Winter.*

MANY of us were introduced at an early age by Harriet Martineau, in her charming little book 'Feats on the Fjord,' to that mystic Norse Northland within the Arctic Circle, and have been by fancy led to picture the glistening snows of the monarch Sulitelma, the shadows of its rugged rocks projected upon its glaciers and the pine forests and mountain pastures which insensibly lead the eye down to the romantic Salten fjord below. Others have had their imaginations stirred by the modest story of 'Peter and the Bear,' which treats of much the same region. Edgar Allan Poe has also invested Nordland with a halo of romance which will ever abide, and all have heard of the Mælström. Collie is right in saying 'Personally, I consider that by far the most beautiful part of the journey to the Norwegian Northland is after one passes the Arctic Circle.'* His description of the scenery in this paper in the ALPINE JOURNAL is the truest and the best that I have read.

Years ago I became the happy possessor of the best book which has yet been written on Norway by any foreigner, the mountain classic, 'Norway and its Glaciers, visited in 1851,' by Prof. Jas. D. Forbes, F.R.S. During the last thirty-five years I have very often turned over its pages and have almost invariably been attracted by a somewhat flamboyant but

* *A.J.* xxi. 91.