

The total revenue collected at the Hermitage for year 1901–2 was £597 10s. 4d., as against £358 16s. 6d. for the previous year, which gives the satisfactory increase of £238 13s. 10d.

A track has been formed by the Roads and Bridges Department between the suspension bridge across the Hooker River and the track leading to the Tasman Glacier. There remains some light bracket bridging to be made to complete this track, and this will be done next spring. It will then be available for pedestrians going from the Hermitage Hotel to the Tasman Glacier, and will avoid fording or crossing the Hooker River in a chair, and will enable this trip to be made even when the Hooker River is in flood.

The Ball Hut, 3,500 ft., and the Malte Brun Hut, 5,700 ft., are in good order, clean and comfortable, and well supplied with blankets and food. The number of visitors to the Malte Brun Hut is as follows: 1899, 13; 1900, 16; 1901, 14; 1902, 28.

There is a great difficulty in providing fire for cooking at the Malte Brun Hut, and a meagre supply of small veronica brushwood has to be relied on, which has perforce to be used most sparingly. There is no means of reaching this hut with a horse, and all supplies have to be carried by men across the Great Tasman Glacier for a distance of eight miles. To endeavour to overcome this dearth of wood it is proposed to plant a species of tree which would be likely to thrive under the conditions which exist there.

A new locality map showing the routes over that portion of the Southern Alps in the vicinity of Mount Cook is in course of preparation.

DR. HEIM'S IMPRESSIONS.

SIR,—

I have much pleasure in giving you some of my impressions of the Mount Cook region. The first thing that strikes the European mountaineer is the ease with which he can approach and mount the glaciers on their inferior parts. The cyclist can ride to within a few hundred feet of the glacier-foot.

Once having reached the ice the European mountaineer will find the phenomena that he has been familiar with in Switzerland, Norway, and the Caucasus. The snow and ice in their general shape and in their structure are the same. The chief difference he will find is the great extent of moraine-matter that covers the lower reaches of the great glaciers. In the glacier regions of Europe there is much more variety in the slopes, terraces, and rapids, whilst in the Mount Cook region the slopes are nearly of the same steepness from the summits down to the flat ground of the valleys in which the ends of the glaciers lie. A peculiarity of the New Zealand mountains is their advanced state of weather-wornness. The supraglacial parts have quite the same character as the higher Swiss mountains.

Mount Cook has a close resemblance to the Weisshorn, near Zermatt, and the elevated scenery as a whole suggests comparison with the most beautiful in Switzerland. Out of the glaciated region the European Alps show far more variety and beauty in slope and terrace, in summits and rapids, than do the New Zealand mountains. In geological features the mountains of New Zealand are much more monotonous than the Swiss Alps.

The student of glaciation is much disappointed as he travels in New Zealand from the sea to the peaks above the ice. He finds only moraines and sometimes glacier-scratched blocks, but the rocks *moutonnées* are not to be seen. The rocks of the mountains do not bear, or if they bear they do not preserve, the polishing that glaciation produces nearly everywhere in the European Alps and in Norway. Only occasionally the rocks are somewhat rounded. The blocks of the moraines I never found polished. The glacier-action in the Mount Cook region is not erosive, but consists in the export of shingle and the accumulation of moraines.

In the scenery of New Zealand the native bush is of extraordinary beauty. On the other hand, the European mountains form a contrast by reason of the beautiful and immensely varied colours of the flowers in the meadows, that make the slopes and the valleys so delightful. Here in New Zealand the meadows and downs are yellow with tussock-grass till we reach the level almost of the glaciers, and there the flowers that meet the eye are nearly all white.

In general, the non-glaciated mountain-ranges of New Zealand are not at all so beautiful as the non-glaciated ranges in the European Alps, but the glaciated ranges are of the very same beauty here and there. The native bush in the Sounds, and the Sounds themselves, are quite another thing; and Milford Sound seems to us to exceed in beauty all the Norwegian fiords.

When once the mountaineer reaches the Hermitage at Mount Cook he has plenty to see and to do, and there is every facility to help him in his pursuits—an excellent, well-supplied hostelry, a guide as familiar with the work of mountaineering as the best Swiss guides, and huts for shelter at some of the most available points.

I have, &c.,

DR. ALB. HEIM, Professor of Geology, Zurich.

The Superintendent of Tourist and Health Resorts.

Department of Tourist and Health Resorts, Wellington, 14th May, 1902.

SIR,—

Alpine Guiding at Mount Cook.

I have the honour to hand you the report of my work for the season 1901–2.

In accordance with your instructions I proceeded from Hanmer to the Hermitage, arriving there on the 9th November. The winter had been a particularly severe one, heavy gales doing considerable damage to the house, carrying away a portion of the stables and wrecking the Hooker suspension bridge.

My first work was a visit of inspection to the Tasman Glacier huts. Walking fourteen miles the first day, I made the track passable for a pack-horse in places where winter snow and rock avalanches had blocked it in the early spring, reaching Ball Hut at dark. Leaving early next morning with a swag of provisions, I arrived at Malte Brun Hut, 5,700 ft., in four hours. I had never seen the Tasman in better order for travelling. The glacier was beautifully levelled for miles, scarcely a hummock or piece of broken ice to be found on the main stream above the Hochstetter Ice-fall. It is a pity that there are so few visitors to take advantage of such favourable conditions at this early season, as the ordinary walker could then make the trip through to the upper ice-fields with comparative ease.

I found both huts safe, and no evidence in either building of the severe strain they must have been subjected to during the winter months. Everything was dry inside. The sleeping-bags, blankets, provisions, &c., had been carefully packed away in separate damp-proof lockers. After erecting the water-tank and doing a few necessities, I returned to Ball Hut the same night, and to the Hermitage the following day. I then proceeded with the work of provisioning, taking in all three pack-horse loads to Ball Hut, a quantity of which was carried on to the Malte Brun as opportunity offered.

On Sunday morning, 29th December, I left the Hermitage with two climbers, taking sleeping-bags and provisions, with the intention of crossing the Main Range to the head of the Copland River, *via* Fitzgerald's Pass. The climb up the shattered rock-spur to the snow-fields is fatiguing when carrying a swag, but is neither very difficult nor dangerous in good weather if travelling light. We made the crossing at noon, and had to descend the first 2,000 ft. in a dense fog and snow. The upper basin of the pass on the west side is comparatively safe, but is usually covered with fog, and we made good time down to a comfortable camp in the bush, high above the river, where we had a panorama of some of the grandest and wildest bush and glacier country in New Zealand. The following day we made the return journey to the Hermitage in ten hours.