

mands part of the Hunter Valley. The country is all slate—Mount Torlesse formation—the bush being principally silver-birch (*Fagus solandri*). The only means of access to the flats would be by a road over the lower gorge, which would be an extremely expensive undertaking, owing to the hills on each side. Rock specimens, showing dip and strike, were sent up in September last.

MACFARLANE RIVER.

In accordance with your instructions of August last I made a compass traverse of Macfarlane River, of which I enclose plan. The hilltops are fixed by bearings and sketches from the various trigonometrical stations surrounding. The river is very gorgy, and rockbound throughout, being principally a succession of immense cataracts. The hillsides are very rocky and broken, and slope very steeply into the river, being thickly clad with silver-birch (*Fagus solandri*). There are three small grass-flats on the river, formed by *débris* from old slips. Owing to the difficulty of making a road into them they would not be available for depasturing stock. About a mile and a half from the head of the river the bush ends, and the hillsides are covered with slips. There is only one creek of any size draining the slopes of Mount Macfarlane; the others, though numerous, have very little water in them, but large beds formed by slips. Rock specimens, showing dip and strike, were mailed to you in September last.

WILLIAM WILSON, Assistant Surveyor.

REPORT BY MR. DOUGLAS OF EXPLORATIONS MADE ALONG THE COPLAND RIVER.

Karangarua, 8th June, 1892.

I HAVE the honour to write out now full particulars of my trip up the Copland River. If I have failed in the main object—namely, to discover a pass available for a road across the main range to the Hermitage—yet the department will now have the country mapped for good, and any adventurous tourists who may choose to come over the divide will at least know what they have to contend with before they reach the coast.

The traverse of the Copland has taken far more time than I anticipated, but the country was of such a nature that the cutting of tracks, to get the camp through the gorges, was absolutely necessary. The Copland is the only river in Westland up which I have been obliged to cut my way; other valleys are bad in places, but a way through could always be made somehow. The traverse is necessarily very rough, and may, in places, be out far more than is usual in reconnaissance work, but, fortunately, on the watershed of the Copland there are a number of peaks fixed by the triangulation, to which, in most cases, I got good angles to check my position. The bearings to peaks, &c., were always taken twice, and marked if they varied.

The aneroid observations were taken every day, and at every station, camp, &c. I enclose the whole of them, with the time of day, by watch, when the readings were made. With a few exceptions the glass was remarkably steady during the whole trip, and there was little difference noted at the various points, going and coming.

The sketches take in nearly the whole country on both sides of the river, and are drawn more for topographical purposes than scenic effect. I also give all information about timber, fords, tracks, land, geology, possible passes, and all I can think may be of interest to some and of practical value to others.

The party consisted of Harry Cuttance, of Okura, and myself, not forgetting Betsy, the dog. Our equipment consisted of two tents, &c. (one for staging purposes), about six weeks' stores, ice-axe, pea-rifle, 50ft. of rope, axe, billhook, &c., all making up a good double swag for the pair of us. Owing to bad weather, it was about the middle of March before we got fairly started from the mouth of the Karangarua River, which was high at the time, but the fords were good, as they generally are on the lower reaches, and Scott's Station was reached without difficulty.

From Scott's Station to the Copland, a distance of six miles, the travelling is along wide open river-beds, with occasional stretches of bush-tracks to avoid fording. At the Lower Forks the wide open beaches cease, and the usual mountain-stream commences. For the first three miles up the Copland the travelling is tolerable, the river rising in that distance some 300ft., with high flat terraces on either side most of the way up. About 20 chains above Architect Creek the gorge commences, and the river rises nearly 600ft. in about three miles. This is not a true gorge, as in no case do the cliffs approach nearer than 10 chains to the river. Perhaps the best description of it is a natural sluice-box, very badly paved. On the north side there is a well-defined terrace rising some 300ft. above the river-bed, and running up to the Welcome Flats. This terrace is formed of rolled wash, with morainic drift in places dumped on the top of it, and is the same formation which shows on the bluffs along the sea-coast. On the south side, from the cliffs to the river, the hillsides are strewn with immense boulders, tumbled and tossed about in chaotic confusion. The occasional glimpses a traveller gets of the river while peeping through, between or under rocks like small hills, are, in my opinion, the best scenes on the Copland for beauty. The river-cataracts come rushing down out of the most unlikely places, and over gigantic rocks worn into fantastic shapes by the action of the water; 30ft. and 40ft. up, snags and fragments of trees are perched on rocks or caught fast in trees, thus showing the height of the river in floods. Some idea of the size of the boulders can be formed by one I measured in the lower gorge. It is a mass of rock fallen from above, and stands on a ledge 500ft. up, and some 8 chains away from the river. It is 300ft. by 200ft. by 110ft., with large rata-trees growing on its flat top. These trees, like most which grow on such boulders, in the course of time find the want of soil and water, so nature has ingeniously supplied that want by causing the trees to send down roots to the ground below. These limbs are neither roots nor branches, but appear to have the characteristics of both, and, no doubt, act as a pump to supply the necessary moisture. A little above this boulder, but in the river-bed, is another curiosity—"The Chair." This is a large rock, hollowed and shaped like an arm-chair, and would just fit the statue of Memnon, only he would have to tuck his legs up.