

of terraces; but Mr. Davis probably meant to indicate the terraces of the lower valley between Collingwood and Appo's Flat and Creek, and which are also well marked on the north-western side of the valley between the lower course of the Kaituna and the Aorere River. The great features of the Aorere Valley are: (1) Its straightness from the Clark River and Brown River junctions to the sea; (2) the abrupt slopes of the mountains on the north-west side; and (3) the gentle and regular slopes of the southern side of the valley up to the 1,500ft. or 2,000ft. level. All this is as seen from the lower end of the valley in the neighbourhood of Collingwood; the lesser streams draining to the Aorere River from the southern mountains, however, cut through the sloping table-land; and on closer examination the valleys of these streams below the general level are found to be exceedingly broken and rugged, and this closer inspection completely dispels for the time being the first impression—the idea of uniformity and general smoothness.

North-east of Appo's and Lightband's Creeks the broad *pakihis* on the south-east side of the valley are, indeed, nearly level, and all too uniform in their apparent barrenness and seeming irreclaimability. The better lands of the lower valley lie along the river, and constitute the lower flats to the first terrace. On the northern side of the river, below the Kaituna Junction, the low lands on the banks of the river stretch to the foot of the mountains, and on that side of the valley there are no high-level terraces along the lower valley. Above the Kaituna Junction, on the same side, a succession of terraces are well marked, resting on the lower slopes of the Tertiary hills that, for a distance of two miles, fill this part of the valley. These Tertiary hills lie opposite the junction of the Slate River, above which terrace-flats again occur on the north-west side; and, again, there are hills formed of Tertiary or Cretaceous-tertiary rocks opposite the junctions of Big Boulder River and Salisbury Creek, and the bridge across the river on the road to the Quartz Ranges. Shingle flats and gravel terraces of moderate breadth and elevation above the channel of the river extend along the north-west side of the valley to the junction of Brown River.

Mr. James Park, between the months of March and May, 1889, explored the greater part of the Aorere Valley and surrounding district, and subsequently supplied a valuable report on the geology of the district. Of the mountains bounding the Aorere watershed, he says,—

"The Haupiri Mountains extend, as an unbroken chain of high peaks, from the northern extremity of the Douglas Mountains, at the source of the Boulder and Anatoki Rivers, east to the sources of the Waikoromumu. Their southern slopes are exceedingly steep, but towards the north they throw off at different points along their course high secondary ranges, generally running at right-angles to the trend of the main range itself. The most westerly of these subsidiary ranges is Lead Hill, which is almost a direct northerly continuation of the Haupiri Range, to which it is connected by the low grassy ridge dividing the head of Boulder River from Clark's. Lead Hill is about 5,400ft. high. It is composed of grey granite, and possesses all the characteristics of a mountain. Its slopes are steep and rocky, and above 4,000ft. almost quite destitute of vegetation of any kind. Similar in composition and outline is Mount Olympus, standing adjacent, and separated from Lead Hill by Clark's River. It attains a height of about 5,500ft., and belongs to the Douglas Mountains, to which it is connected by the low-wooded ridge running between Clark's and Granity River.

"Next to Lead Hill, we have Rocky River Peak dividing the Boulder from Snow's River; and farther east Slate River Range, dividing Snow's from the Slate. East of the Slate, and running parallel with the coast, we have Parapara Range, whose higher peaks are drained by the Parapara River, and the large streams which enter the sea [Golden Bay], between Waitapu and Parapara Inlet. The north-west side of the Aorere Valley is bounded by the Whakamarama Range, which extends from the Pakawhau Inlet to the Goulard Downs, whence it trends southward, and joins Mount Domett Range, situated between the sources of the Spey and Heaphy Rivers.

"Collingwood County is drained by two large river systems [of which] the Aorere drains all that portion enclosed by the Whakamarama Range on the one side, and the Douglas and Haupiri Ranges on the other. . . . On its northern side, the Aorere flows close under the foot of the Whakamaramas, and consequently receives no tributary of any size from that side, except the Kaituna, which has cut a deep gorge through the range, and thus drains a large basin lying on the West Wanganui side.

"At the upper end of the Quartz Ranges, at the point where the valley trends to the southward, the Aorere receives Brown's River, a short rapid stream rising close to the Goulard Downs, and whose valley is the straight continuation of the Aorere Valley. A few miles higher up, also on the same side, comes in the Spey River, which, with its numerous large branches, drains the wide basin enclosed by Brown Patch Range and Mount Domett. Its course is short, but the volume of its stream is, under ordinary conditions, not much less than that of the Aorere itself at the point of junction.

"The Aorere rises on the slopes of Mount Domett Range, one branch coming from the head of the south sources of the Spey, another from a saddle at the head of the Heaphy. From the south and east it receives a number of large tributaries. Commencing at the head of the valley, we have first Burgoo River and Granity, both considerable streams, rising on the slopes of the Douglas Range, the latter at the point where the ridge connecting Mount Olympus joins the main range. These rivers are simply mountain torrents, each discharging about half the quantity of water carried by the Parapara.

"Passing down the valley to the upper end of the Quartz Ranges, we next come to Clark's River, which joins the Aorere somewhat less than half a mile above the junction of Brown's. . . . It rises in a small rock-basin lying on the western flanks of the Douglas Mountains at a low grassy saddle opposite the sources of the Anatoki and Douglas Rivers. . . . The upper course of the Clark is through a wide wooded basin, but between Mount Olympus and Lead Hill it passes through a deep rock-girt gorge of great height, from which it emerges at the south-west corner of the Quartz Ranges, whence it bends westward along the foot of Mount Olympus, and