

variously affected by mineralising agents, so as to produce physical features that resemble or differ from each other, but which for the most part are not represented in the western range. In Table Mountain and the range to the north the whole upper part is formed of prismatic columns of grey andesite that in the mountain itself forms vertical walls 300 ft. to 600 ft. in height, while the top of the range for a breadth of some two miles is perfectly flat. Hence the name. To the north these intrusive rocks die out before reaching the Waiwawa. To the south the line of intrusive rocks trends with a diminished width of exposure across various tributaries of the Kauaeranga, and, acquiring a more easterly direction, forms Mount Kaitarakihi, on the main range, at the source of the fourth branch of the Tairua River. This mountain is not table-topped; the thickness of the dyke of columnar rock being less than farther to the north; a rounded outline is the result. The Rhyolite formation forms the higher part of the range east and south-east of Table Mountain, and on this and on part of the adjoining and underlying andesitic rocks of the Kapanga group, intense and long-continued thermal action has so saturated the rocks with silica, and built up mounds and terraces of siliceous sinter, that, supplemented by denudation carrying away the less resisting, less coherent rocks, extremely gorge and rugged country, full of precipices and crowned by conical and fantastic peaks, is the result.

In the Neavesville part of the district, between the sources of the Puriri and the streams flowing into the fourth branch of the Tairua, the rocks are mostly volcanic ash and moderately fine-grained breccias belonging to the Kapanga group, and where not saturated with silica from thermal springs they weather and are denuded much after the fashion of the same rocks in the typical locality. On Pakirarahi, the mountain on the main water-divide west of the Neavesville mines, former thermal action is strongly manifested. The higher part of the mountain—2,000 ft. to 2,400 ft.—is formed of sinter, and the eastern slope is strewn with sinter fragments down nearly to the first crossing of the fourth branch of the Tairua. The London Rock, on the western fall of the range, forms one of a series that extend along the whole length of this range, and form small areas of indurated or more mineralised country, which denudation has been unable to remove as rapidly as the other parts, and thus, singly or in pairs, as in the case of the Marototo, four in a line, they rise as gigantic crags to heights from 400 ft. to 1,000 ft. above the general surface upon which they stand.

On the south side of the left branch of the Puriri Stream rhyolite again forms the higher part of the main range. Now, however, it takes on the outlines of tent-shaped mountains, with here and there a peak or dome-shaped projection above the general level. The western slope of the southern part of the range is very abrupt. On the eastern side the descent to the Tairua Valley is not so steep. In the Puriri Valley there is a small area of Thames-Tokatea rocks, the oldest group of the volcanic series; but the great bulk of this range is formed of rocks belonging to the Kapanga group and the Rhyolite formation. The range ends abruptly on the north side of the Hikutaia Valley. On the south side of that valley, between the Marototo Creek and the west border of the mountain region, there is in the line of the range of mountains just described an irregular cluster of hills and mountains that may be said to continue this range south to the Ohinemuri Gorge, yet, as their arrangement is not as members of a mountain range, and the rocks composing them are different, and the main water-parting lies considerably to the east of these, they have to be regarded as distinct, and as forming a group of mountains not directly connected with the range terminating on the north side of the Hikutaia Valley.

It has been said that the main water-divide leaves the first, or western, range eleven miles before that terminates on the north side of the Lower Kauaeranga. In like manner the water-divide leaves the second range before that is terminated on the north side of the Hikutaia Valley. The displacement to the eastward in the first case amounts to about six miles; in the second instance it is scarcely more than half that amount, and also the set-off is nearer the termination of the second range by more than half the distance between the Lower Kauaeranga and the source of the Puru. Yet, for all that, there is great similarity in the two cases as to the manner in which the western range terminates, and the recession of the water-parting to the east and the commencement of a distinct range forming the water-parting more to the east or south-east. The third, or Hikutaia Range, commences at the source of the right-hand branch of that stream, and trends more to the south-east than either the first or second range to its termination on the north side of the Upper Ohinemuri Plain, near Waihi. This range, in its northern part, is composed of rhyolitic tuff, and in some parts, of sedimentary beds composed of rhyolitic material. At the source of the left or main branch of the Hikutaia, intrusive rhyolites or quartz porphyries form the mountain mass of Ngapuketuru, between 2,000 ft. and 3,000 ft. in height. This mass of rhyolitic rock, forming a very bold and rocky mountain, extends westward across the valley of the left branch of the Hikutaia, and forms the most easterly of the Marototo peaks. The belt of acidic rocks is of no great width, and the section laid bare along the banks of the Hikutaia shows clearly the intrusive character of the rock. The southern end of the range is wholly composed of andesite, as solid flöes, or as ash and breccia beds, and constitutes the mining country of Waitekauri and the neighbourhood of Waihi. The features presented by the mountains of this part are a main ridge from which outrunning spurs proceed in various directions, all of them evidently due to the action of denudation on material of varying grain and hardness, deposited irregularly as *ejectamenta* from volcanic vents.

The northern source of the Ohinemuri lies on the east side of this range and some distance to the north of its southern end; so that here we have again repeated the same feature that marked the recession of the water-divide to the eastward before the second and third ranges began. In this case the water-parting lies between the Wharekeraupunga and the sources of the Ohinemuri, and goes east till the coast range is reached. The coast range, composed wholly of rhyolite to within a short distance of the mouth of the Waihi River, has had its eastern slopes carried away by the action of the sea, and a consequence of this is that the drainage flows east from within half a mile of the sea-cliffs of this part.