

ran off on to the floor. "Such," said he, "is the action of rain on an uncovered hillside." He then laid a blotter on the table, and poured the rest of the water upon it. The blotter absorbed it, but in a few minutes it began to drip slowly from the lower end. "That is what a forest-covering does for a hill," he said. By the time he had done speaking in this plain, practical way he had quite won over the audience.

Some sixty years ago in China the huge river Hoang-Ho shifted its course about three hundred miles, and did incalculable damage to life and property. Of recent years the railway from Kaifeng to the Peking-Hankow Railway had no sooner been constructed than it was completely destroyed by unexpected floods. Engineers are experiencing the utmost difficulty in railway-making in China, owing to the liability to floods of the low country, which liability has been caused by the reckless destruction of the forests at the sources of the rivers.

In Hawke's Bay and the Manawatu Districts we find even now that the raising of the river-beds by detritus brought from the deforested mountains by floods is causing very serious trouble. The observant traveller may see in most districts in New Zealand steep hillsides (which have been deforested), after having lost their surface soil through landslips, fast becoming covered with tea-tree and fern, and often noxious weeds, which in such situations are almost impossible to eradicate. In other localities where there were rills flowing all the year from steep hillsides there are now in wet weather rapid torrents and in dry weather waterless ditches. Our pioneers (who now, of course, are doing the most damage by destroying forests) are difficult to convert; in fact, often they do not wish to be converted, as many have not taken up the land with the idea of making a permanent home on it, but for the purpose of selling out at a profit after doing the improvements required by the Act. It can be understood that such ones would not trouble about the evils resulting from wholesale denudation.

The present Land Act encourages a settler to clear all his holding. It would be well if it were amended so that every future selector of second- and third-class rural lands be compelled to leave in forest 10 per cent. of his holding. He should not be charged any rental for the percentage left, but should be called upon to fence it with a cattleproof fence. He could get his firewood and some fencing-material from the preserved part.

The best channel for disseminating a knowledge and appreciation of the value of the preservation of forests is the public school. The children are already given nature lessons, and are encouraged to interest themselves in gardening, and I think there might also be added a few simple lessons explaining the value of bush as a reservoir for the supply of water for streams, its action in preventing or lessening floods, its climatic influence, &c., all most important questions, but not beyond the mental capacity of a child of twelve.

E. PHILLIPS TURNER,
Inspector of Reserves.

APPENDIX C.

AN ACCOUNT OF THE HISTORIC RESERVES IN THE TARANAKI DISTRICT.

Amongst authorities in Maori matters, the coastal districts of Taranaki are recognised as being pre-eminently the centre or home of the ancient New Zealand pa or fortified-village builder.

The remains of scores, we might almost say hundreds, of these ancient strongholds are still to be seen scattered throughout the Taranaki District. The great majority of these have been more or less damaged, in some places destroyed, by the ravages of stock and the advance of settlement. Usually—in fact, almost invariably—these hill pas were at the time of the advent of the European upon the scene clothed with a luxurious and beautiful growth of verdure. This, alas, has disappeared, except in a few favoured localities, where the steepness of the great protecting banks and ditches has prevented cattle from breaking through, or where the pa has been transformed into the uru-pa or burial-place of the tribe, when the Native, ever jealous of the resting-place of his dead, has carefully fenced off such cemetery to keep out trespassing stock.

Since the passing into law of the Scenery Preservation Act a small number of the more important pas in north and middle Taranaki have been taken over by the Crown and proclaimed as historic reserves. There still remain several splendid specimens of the ancient pa, showing by the extent of their outworks and the clever adaptation of the surrounding topographical features what strenuous workers and high-class engineers along this particular line the old-time Maoris were.

Of the many historic reservations proclaimed in the Taranaki District, the Kawau Pa, the chief stronghold and advance-post of the fighting Ngatitama Tribe, and famous for its many sieges, and having for generations been the bulwarks that held in check the northern tribes from pouring in upon the rich country of Ngatiawa and middle Taranaki, stands out prominently in Maori history. Its fame went forth in song and story over the length and breadth of Maoridom.

The Kawau Pa occupied the summit of a small island situated on the sea-coast about four miles south of the Mokau River. This island was partially surrounded by the sea at high water, and separated from the main land by a chasm from 80 ft. to 100 ft. deep and 60 ft. wide. Along the bottom of this chasm the Kuwhatahi Stream flows into the sea, and at high tide the waves sweep through it with great force. On all sides of the Kawau Island the cliffs average 80 ft. in height, excepting at its northern angle, where the cliff is only sheer for 20 ft. of its height, terminating in a ledge, on which stood the lower gateway or entrance to the pa, and thence by a steep and tortuous way the main entrance to the fort was gained at summit of island. The lower approach up face of cliff was made by notched saplings or ladders, and by this means the inhabitants entered and left the pa, and at night and in times of danger these ladders were drawn up and safely stowed.

The seaward face of the island was crescent-shaped, the south-west horn of which projected some distance into the sea, terminating in a narrow but high rocky ledge. On this point, in times of danger,