The Vegetation of the Station Prior To Settlement

Forest and woodland covered less than two out of sixty thousand acres—forest growing in the ranges of the interior, well worthy of its name from the immense size of many of its individual trees, woods flourishing on the lower-lying seaward edge of the run. Although restricted in area, this forest of the hinterland—the last shred and relic of the primeval vegetation which had at one time covered the district—was representative of both the mixed and unmixed "bush" of New Zealand. Looking downwards on to it from a higher altitude, the eye was primarily arrested by the number of very ancient grey-headed moribund totara (*Podocarpus totara*), the very grandsires of the bush—their boles measuring 12, 14, and 16 feet in diameter. These magnificent trees live for the most part in single grandeur. They are dotted irregularly about the bush—dying, so to speak, on their feet, their short stubbed heads conspicuous in the surrounding greenery on account of the lichens glued to the dying boughs. Their great vitality has been sapped by age; their centres are hollow or choked with rotted wood, sometimes with mere dry powder. Adown their boles bark hangs loose in enormous strips and sheets. About their mighty roots lie foot-deep accumulations of mouldered wood, piles of bark already shed—for trees in the warm wet New Zealand bush thus cleanse themselves, ridding their skins of parasitic growth as birds by washing and dust-baths check lice. Considering not only the tardy growth of the totara, but its still slower senescence, I can never reckon the life of the greatest of these trees at less than one or two thousand years. Perhaps it is more—perhaps much more—for I have watched during half a century certain dying branches: there has been in them no appreciable change, although that period of time is half of the tenth of the span suggested as the minimum duration of life. Perhaps some of these totara on Maungaharuru were saplings when, twenty hundred years ago, Christ walked in Galilee; at any rate they must be of an enormous age. Flourishing on the spots that especially suit them are to be found also specimens of four other great New Zealand pines: white pine, kahikatea (*Podocarpus dacrydioides*); matai (*Podocarpus spicatus*); black pine, miro (*Podocarpus ferrugineus*); and red pine, rimu (*Dacrydium cupressinum*). Other large species in the mixed bush are hinau (*Elaeocarpus dentatus*), tawa (*Beilschmiedia tawa*), and maire (*Olea lanceolata*).

In the vicinity of these huge trees lie, coiled or sprawling on the ground like snakes, lianes, lawyer-vines, and clematis stems. Partly dragged up by the growth to which in youth their shoots have clung, partly drawn voluntarily towards air and light, their bare rope-like stems strike and chafe, hang and swing, against the boles like loose rigging against a mast. Seen from above, these individual trees, or little companies of trees, can easily be detected by their varying shades of green. About the middle or lower slopes stand venerable brotherhoods of tawa, grey with long pendant lichens, "old man's beard"; there are patches also of deep-green broadleaf (*Griselinia littoralis*), a species, by-the-bye, never met with on Tutira except far inland.

Another striking characteristic of this intermixed forest is the evenness, as seen from above, of the rolling contour of its ceiling of green. No tree-tops project above the general level; in this effect, however, there is nothing of blighting or blasting. The individual members of the forest community seem to have been born docile, to have acquired ante-natal knowledge of the effects of gales, never to have attempted usurpation of more than their fair share of the open commonwealth of sky. No tops are to be seen "caught and cuffed by the gale," no solitary shoots eroded and blown bare; the upper surface of the forest is as smooth in its inequalities as downlands in wheat. Conditions are somewhat dissimilar where masses of one species of tree hold undisputed sway, where narrow spurs are maned with one kind of tree as the neck of a hogged pony is stiff with hair. Such groupings of particular trees conform more or less to the shape of the locality on which they grow. They rise cone-shaped on a cone, narrow and elongated on a razor ridge. Beech of two sorts (*Nothofagus fusca* and *Nothofagus solandri*) are on Tutira the most prominent species growing thus strictly grouped; each possesses inviolate on its own territory whole spurs. Other areas are densely covered with tawhero (*Weinmannia racemosa*), others again with tall kanuka (*Leptospermum ericoides*). Honeysuckle (*Knightia excelsa*) is anther species which, like the beech, the tawhero and the kanuka, seems to revel in dry land, its long-drawn cone rising from the most arid of ridges.

So far we have viewed the forest from above; now we can take our stand beneath the trees. In forests of this sort no imprint holds its shape for long on the loose leaves; all is in process of decay, soft and yielding. The surface is cumbered with huge clumps of astelia, of species of Asplenium flabellifolium, flaccidum, and adiantoides, fallen from above. Rotted branchlets and boughs, still encased in their husks or jackets of darker

bark, lie strewn on the ground. Many of the boles rot standing upright or only fall portion by portion; others prostrate are mere shells crusted with epiphytes and ferns, or clad in mosses aping in hues of softest green and yellow the forms of ferns, or stiff and erect like thickets of fairy pine. From dead trunks and boughs of harsher fibre fungus projects in ledges like lip ornaments of negro belles. Whole families of toadstools, supporting flimsy fleshy stems, their dainty parasols still rolled close, peep from beneath sheltered ledges. There can sometimes be traced in mixed forests of this sort three fairly distinct tiers of greenery: the lowest, lichen, mosses, liverwort, and ferns; the second, the massed tops of the coprosma tribe, species of which, naked below, bear their leaves on top in thin planes of foliage, thus creating a diaphanous mist, a twilight greenery, which in a shadowy way bisects the mass of trunks. Lastly, there are the tree-tops high above. In other portions of the forest there is nothing of this sort noticeable, a mere jostle of smaller and more ephemeral species competing with one another beneath the great pines, clustering about their knees and waists—fuchsia, tree-ferns, species of pittosporum, of olearia, of nothopanax, clumps of short-lived wine-berry—makomako (*Aristotelia racemosa*)—and others.

Ferns grow everywhere, clinging like ivy to the rough stems, festooning them with elegant fronds, webbing them with veils of delicate rhizome, over-running fallen boughs, drooping long languorous growths from matted clumps high overhead. Rooted in massy forks grow epiphytes such as Griselinia lucida, and huge rookeries of pineapple-like astelia. Mats of sweet-scented orchids—Earina mucronata and Earina autumnalis—cling with a plexus of roots to suitable sites; often a black mossy lichen exhales in sunshine a delightful violet odour. Except where massed groups of a single species prevail, and the ground beneath is bare and dark, there is a luxuriance of growth due to the great rainfall and the large number of hours of sunshine, almost unknown elsewhere. The edges of the forest exhibit a still more voluptuous profusion of tangled growth, an even thicker profusion than its shaded heart—clematis, rubus, vine, parsonsia, and native passion-flower competing in the ampler light. Such a forest as this, typical of the North Island, is in truth tropical in all except degree, in all except latitude and longitude. The great rainfall and the full sunshine of the Dominion have created abnormal conditions. Except where massed species prevail, growing in solitary selfish gloom, an exuberance of life prevails, a luxuriance unknown elsewhere save in the true tropical zone.