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CHAPTER XXXVI
THE HANGER—I
by H. Guthrie-Smith

If the following pages—if in fact, this whole volume—has a value it is because of insistence on the cumulative effects of trivialities. This chapter will attempt to impress upon the reader's mind details, each one of them insignificant in itself, but far from futile when in totality conjoined and harmonised. That an appreciation of tardy natural processes and apathy as to distant results should be general, is however, hardly to be wondered at. Only to a small number opportunity is offered of marking and tracing them ; only a trifling minority continue in long enough occupation of any one area, fully to be cognisant of their marshalled immensity. This dearth of long views is part of the price paid by humanity for the brief existence of its individual units. It is this too quick succession of ephemeral generations that stultifies the concerns of man. Did *homo sapiens* enjoy even the elephant's lease of life a more sagaciously ordered world would be forthcoming, whilst conversely an abbreviation of man's scanty threescore years and ten would barely project his thoughts beyond the morrow. Be this as it may, and forbearing to consider how individuals living to be seven times seventy would each evolve his besetting sin or sanctitude on an extended lease of life, we can proceed to the less debatable story of the Tutira hangover.

Its narrative will show how rapidly primordial conditions reassert themselves if given a chance. It will indicate the period of time needed locally to transform sombre bracken and manuka into green-leafed, bright-leafed bush. To the philosopher it will afford matter of speculation as to the future of our present New Zealand, were men, matches, and stock to be eliminated. Nothing is more sure than that the recent vegetative garniture of the Dominion, its imported grasses, shrubs, and trees, is as skin-deep a superposition as is on man's corporeal frame his veneer of culture and ethics. We shall discover, too, that the salient features making such a transformation possible are twofold : that the change from one crop to another is a matter of sun and shade ; that, in fact, whether in an infinitesimal measure, as on our hanger, or on a vast scale as over the whole of New Zealand, germination and rejuvenescence in the vegetable kingdom resolves itself primarily into a matter of darkness and light.

The Tutira hanging wood has been under observation for more than half a century. Its phases of change have been closely followed. It is a steep eastern slope situate immediately behind the present homestead. Besides rillets and seeps within its area, well forth the perennial springs that provide the station water supply. In its soil values it follows the rule of this whole countryside, that steep declivities spell good ground whilst easy contours continue barren and infertile. From the former, in past ages deposits of wind-carried and water-laid pumiceous grits and sands have been washed by rain, or blown by gales, or slid away in slips until the better stratum beneath has been exposed. Above and below the hanger are barren shelves which have been in very remote times portions of the ancient peneplain already described. These in their turn during the earth-movements of a younger world have lapsed from terrace to down and fold formation. Between these areas of

poor ground immediately above and immediately below impends the hanger. Upon it in my day have successive crops of vegetation, so to speak, come into being of their own accord.

In the spring of September 1882 its surface extended black and desolate after an autumnal April fire. Had it escaped the flames on this occasion and twice afterwards, there would have to this day been nothing to record. Bracken would have continued to clothe it as heretofore. This combination of many factors was required to determine the then far-distant results of 1939.

During the 'eighties fire was to the sheep-farmer the accepted method of clearing the ground. Recurrent conflagrations over the whole station were a matter of course. It may therefore have been ten or twelve years before the writer began to take an especial interest in the hanger as a problem, and to realise its possibilities as a biological experiment. The station was in those times during the months of growth perennially under-stocked. Its spring fern crop, its normal November bracken up-thrust, was practically unaffected by stock. Sunlight was immediately excluded from the surface by the rank omnipresence of Pteridium aquilinum, var. esculenta. By 1887, therefore—that is, five years after the original burn—the hanger had again become a sombre slope of brown green, and thus we can leave it whilst other station developments during these five intervening seasons are explained. These changes and alterations were ; first, the subdivision of ground near the new station headquarters; secondly, the substitution of the Lincoln for the merino sheep; and lastly, the multiplication of a shrub or small tree—manuka (*Leptospermum scoparium*). This plant is variable in habit and size, but in light lands rapidly develops into a somewhat rigid much-branched shrub. Prior to the stocking of the station it was mainly confined to edges of cliffs. It is a fire weed ; the seed pods, immediately after flames have passed through the branchery of the plant, bursting in countless multitudes. Heretofore, however, the sunlight necessary to its germination had been withheld by the shading of land owing to dense fern growth. New conditions were now to show new effects. The flat lands—the shelves—immediately above and below the hanger had, as mentioned, been enclosed. They had also been heavily stocked. Upon them bracken had been crippled and stunted. English grasses had been sown and failed. In these new paddocks, therefore, the surface of the ground lay exposed almost in a state of nakedness—in just such a condition as best suited the requirements of manuka. On them already, in fact, the plant had attained the height of a few inches. By 1887, as stated, the hanger had again become a tangle of undiluted bracken. It was again fit to burn. In the autumn of the year mentioned, fire for the second time ran over the whole of it.

Its metamorphosis was now about to begin in earnest. Not as in former years was the bracken crop allowed to uncurl its brown stems ; not as formerly did it remain unnipped, unnibbled. It was now closely browsed by placid Lincoln and Lincoln-cross sheep. On its surface English grasses were sown and the usual routine of the fern-crushing followed out. That has been explained elsewhere of other paddocks. Suffice it now to say that on the hanger the weakened bracken after a couple of years began at last to unfold almost flat on the ground, and that when sheep would no longer touch this short unpalatable growth they were withdrawn, to be used more economically on another part of the run. Bracken then throughout the succeeding years gradually reasserted itself. Here and there amongst it grew a manuka plant, seed doubtless having been carried in on sheep's feet from the neighbouring

enclosures. After the lapse of a few seasons fern might indeed have seemed once more to be about to assume its pristine domination—only seemed, however—for by 1893 just topping its somewhat shorter fronds, manuka had in an erratic fashion—a few plants per acre—sparsely established itself. In the autumn of that year the hanger lay for the third time a blackened waste.

This third and last fire, unlike those preceding it, had been, I recollect, but a dull conflagration. It had not been, as on former occasions, a clean burn. The sky had been grey, raindrops had fallen. On portions of the surface of the hanger, circles and tongues of bracken had escaped the flames and remained intact. As pure patches of fern do they indeed maintain themselves to this day. Elsewhere all was black. Amongst the ropy, parboiled, prone fern-stems, strewn sprawling on the ground, also stood up a scatter of manuka shrubs berried and charred. They were the remains of the few plants already established.

After the fire of 1893, with rain and warmth, up as per usual, pushed the pubescent fronds ; once more as per usual, sheep fed them off, but upon this occasion the surface of the hanger was seen to be bearing a double crop. Manuka seedlings that had not shown themselves at all after the burn of 1882, and had appeared only in twos and threes and in little companies after the burn of 1887, appeared now after the fire of 1893 in hundreds of thousands—in millions. Doubtless the capsules, opening after fire, of the scorched shrubs already within the hanger, contributed their quota. Doubtless, also, seed in greater quantity than before was carried in by stock from the neighbouring enclosures, but the chief source of infestation was the terrace or shelf above the hanger. During nor'-west gales millions and millions of the infinitesimal brown rhododendron-like seeds were swept downwards in hurricane gusts, together with surface dust, charcoal particles, and pumice grit. Only in this way could the terrible braird of leptospermum be accounted for. By 1896 it was knee high ; by 1898 it was level, or more than level, with the depauperated crippled bracken which had, nevertheless with cessation of nibbling by stock, begun in some degree to recover vigour and tentatively reassert itself.

During the early years of the present century manuka and bracken continued thus to grow together, the one waxing, the other waning in vigour. There came a time when at length manuka topped the fern; the battle had been lost and won. From then onwards its ultimate possession of the hanger was assured. Everywhere, except in the circles and tongues of bracken left unburnt in the fire of 1893, a dense thicket of manuka elbowed out and shoved aside its rival. About this period of the hanger's history, for many seasons little other extraneous change was noticeable, except in the height of the triumphant shrub. In its development for nigh a score of years it might, in fact, have been thought that with the exception of skyward growth no alterations were occurring. Nature, nevertheless, with unremitting unostentatious stealth was preparing her surprises of the future.

The original very dense germination of the invading manuka host has been stressed. From the beginning an enormous mortality of seedlings had occurred. Amongst the packed survivors, contact of shrub with shrub had resulted moreover in an immediate destruction of all side-shoots. In spite, therefore, of the plant's juvenile pendent rather indeterminate habit of growth, under these circumstances it stiffened and became upright. By annual readjustments the wavy flaccid tops were forced into something approaching rigidity. Each

rugged angular stem stood branchless, cloaked in tattered bark, this curling tree peel in its turn nourishing grey flakes of pustulated lichen. Changes, in fact were in progress of so subtle a nature as only to be properly indicated by graph or chart. In summer a damp woodland breath lingered in the depths of the hanger. From unascertained sources—lichens and mosses, I believe—odours unknown before, arose. Of equal importance a more even temperature began to prevail within its pale.

Not incorrectly we can picture it about this date as a breathless thicket ten or twelve feet in height, each light-drawn pike bearing aloft a shallow cap of leafage, a mere thin poll-cap of greenery. The one-time black darkness below was thus in some degree also becoming attenuated. Especially when wind cuffed and ruffled the ceiling of leaves, did softened arrows of light ivory the stems, and penetrate in thin shifting gleams to the soil. This light albeit constricted was, nevertheless, sufficient to call into life millions of scores of small cryptograms. Shade-resistant ferns now also first began to show themselves. Otherwise, for a period of about twenty years, betwixt 1893 and 1913, the general appearance of the hanger was, as I have attempted to depict, a grove of sombre green during eleven months of the year, a sheet of hawthorn white during the twelfth.

Two additional novel factors were now about to show themselves in its further evolution. They were ingress of insect life and effects of wind ; neither was an instantaneously transformative agent. As in every other feature of the hanger's development, both were gradual, both at first were in result almost insensible. Unsuddenly they stole upon the observer, as unsuddenly did they effect the hanger. For long I had been aware of the appearance in every part of the run of a species of borer on manuka boles. Stems even of quite insignificant girth were gouged and perforated. The work of the insect now became increasingly obvious within the precincts of our hanger. Everywhere wood-dust from the channelled boles streaked the bark and lay fresh and yellow on the ground. Now, too, wind began to play its part in the drama. After gales, they eye was arrested by the sight of sere patches of branchery lying atop of the erstwhile verdant ceiling—the poll-cap of the prevailing scrub. These browning withering tatters were the uppermost portions of tall tunnelled stems snapped. They had been broken off by force of wind, but owing to density of twigs had not at once fallen through. There they lay, ten or twelve feet from the ground, the little leaves first dropping, the tips of the shoots then rotting, until finally the whole breakage worked downwards. Through these rents and fissures light filtered on to the debris below. At length it came about that though this modified actinity was quite inadequate to start a fresh crop of manuka, or a new generation of Pteridium aquilinum, it yet called into being an insurrection of green-leaved tree species. Directly, or almost directly, beneath each of these wells of half-light, arose an incipient forest of tree seedlings, creepers, tree ferns, and ground ferns.

Another and an almost final phase in the evolution of the hanger was reached when at length individual green-leafed trees—mahoe (*Melicytus ramiflorus*), five-finger (*Nothopanax arboretum*), cabbage-tree (*Cordyline australis*), tree-ferns (*Cyathea medullaris*, *C. dealbata, Dicksonia squarrosa*), and others—rising clear, penetrated and pierced the manuka jungle. From this time onward did these plants intermittently overhang and dominate the failing moribund manuka.

With no recruits accruing to its ranks, with the borer annually increasing, its hold shadowed furthermore from above, the total disappearance of manuka is but a matter of time. As full sun on naked land brought it into being, as its own impenetrable shade annihilated the pre-existent bracken, so darkness from taller umbrageous species is now about to destroy the destroyer.

Such has been the past of the hanger. An additional five years will show the present phase of transformation complete. Sixty seasons will have sufficed to metamorphose a solid block of bracken into a solid block of leptospermum, which has in its turn given place to a mixed woodland of green-leafed trees, tall shrubs, tree ferns innumerable, creepers, ground ferns, and small terrestrial orchids.

Especially is such a chronicle expedient in New Zealand where, in addition to the normal calls of change in a faster shifting world, subdivision of land and rising taxation are tending to eliminate the few large proprietors who continue to desire to dwell in the homes of their fathers and grandfathers.

As to the smaller holders, there is scarcely an individual who would not without care or compunction sell out for some fanciful gain, absurdly inadequate when weighed against deprivation of local experience, acquisition of strange stock, and delay in repurchase. Almost unavailingly, in fact, could New Zealand be searched for instances of the French peasant's feeling for his little holding. When a block of land passes, as it may do through the hands of ten holders in half a century, how can long views be taken of its rights? Who under these conditions can give his acres their due?

Aue, taukari e, ano te kuware o te pakeha kahore nei i whakaaro ki te mauri o te whenua. Alas ! Alas ! that the pakeha should so neglect the rights of the land, so forget the traditions of the Maori race, a people who recognised in it something more than the ability to grow meat and wool.

from H. Guthrie-Smith, *Tutira: the story of a New Zealand sheep station*. Wellington: A. H. & A. W. Reed, 1969 (4th edition), pp. 320–329

CHAPTER XXXVII
THE HANGER – II

If we may call that period in time before New Zealand was discovered, the Dark Age of the hanger, and the last half-century as described, its Renaissance, so a third phase might possibly be termed one of Revolution, and a fourth, of Dictatorship.

Attempting then again to take the long view that has been recommended in the observation of natural phenomena, what, we may ask, can be predicted as to the ultimate destiny of this long-watched piece of ground ? Destruction by fire of its original vegetative covering, deliberately and of set purpose, has happened. Accidentally, it may happen again. The hanger's main danger to further evolution on the lines at present in progress, lies in this possibility. Although decay into powder of rotting manuka boles and spread of verdure beneath, modify the risk of a conflagration, yet the chance of a fire subsisting on shed bark and fallen twiglets can never be quite ruled out. There occur days each season when green ferns flag and faint, and shed leaves grow brittle dry. The chance of sun rays focussed on broken glass or, at least as likely, the careless dropping of an unextinguished cigarette butt, are possibilities that have to be taken into account. We are forced, therefore, into consideration of the hanger once again a blackened waste as in 1882. As then, there would be a recurrence of bracken and manuka, of the former a noticeable recrudescence, of the latter a germination and almost instant extinction. There would be an enormous rush of green-leaf tree seedlings, such as mahoe, whau, of tree ferns, of species of pittosporum, of wineberry, of tutu, of fuchsia, of rangiora, veronica, cabbage-tree, and on the drier tops one or two olearias. As creepers and climbers there would also appear species of clematis and multitudinous seedlings of bush vine. Every one of the plants named would luxuriate in the dampness and semi-shade cast by the charred standing shrubbery. The process, in fact, of afforestation from such a blackness of burnt fern as that of 1882 would be accomplished in a quarter of the time or less.

Such would be the result of fire on the hanger as it stands to-day had the balance of ancient nature not been upset by the importation of aliens, by the baneful luxuriance of certain garden-escapes. Nothing is more certain than that if now the present vegetation of the hanger was destroyed, thousands and tens of thousands of seedlings of honeysuckle, blackberry, climbing roses, and Convolvulus sepium would spring to life, would subdue and outgrow bracken, manuka, and green-leafed trees alike. The hanger in its second phase would become an impenetrable thicket of stranger climbing plants so rampant that even native twiners such as clematis, bush vine, and parsonsia species would be "downed"—exactly the right word—and smothered. The seed of each and all of the foreigners named lies but awaiting light to rush into possession.

Taking these plague-plants in order of mischief, the evergreen honey-suckle (*Lonicera persica*) comes first and foremost. As a hedge plant it was many years ago brought to the station by my innocent self. Its seeds are palatable to birds, and by their means carried far afield. In half-shade, when established, its habit is rapidly to run flat over the surface, rooting in shallow fashion at intervals and making yards of growth per annum. In the open all

upright growth encountered, dead or alive, is at once festooned and draped with its soft foliage. Ground thickly overrun by honeysuckle resembles a tossing of multitudinous curled tendrils, permitting of no other upright growth. The blackberries' role in an enclosure such as we are imagining, is rather to pull down. Its great shoots, rising layer on layer, lean on and bend to earth everything within reach. Climbing rises such as Hiawatha, Dorothy Perkins, and their wild but still beautiful seedling descendants, seem also to be endowed with limitless vitality. Unlike sweet briar, which has died out locally, they seem immune from disease.[1]

Lastly, we have to consider Convolvulus sepium, a species showing every trait of the typical greedy alien.

In the event therefore of a fire, only for a few days or weeks would the ground remain black and void. There would immediately occur a contemporaneous uprush of natives and aliens—thousands of the former, tens of the latter. During the very early days of the struggle, natives would, in fact, appear to be altogether in the ascendant. Almost immediately spores of bracken would in billions germinate on every shady bank. Such ground ferns as had survived the passing flames would at once uncoil their crowns, baby tree ferns would appear in thousands. Within months there would be in possession a foot or so high forest of green-leaved indigenous treelings, chiefly whau, mahoe, pittosporum, and rangiora. At this stage the floor of the hanger would appear a Lilliputian Eden ; the small natives thriving unobstructedly and veiling the ground with green luxuriance of shining sappy leafage. Likewise, however, as in the first garden of old, the Serpent, too, would be present twining and writhing in the form of honeysuckle and convolvulus.

During the first year the natives would, as I have said, appear to be in possession. During the second, the battle would be joined, the issue still undecided. Blackberry would be running a yard or two and rooting at every tip. Honeysuckle, still little more than miniature bushlets, would be twining incipiently on itself. Rose and convolvulus growth would, as yet, not be conspicuous. During the third season the native treelings—such as had not already perished—would be from three to five feet in height, but their growth, however vigorous, would be vastly exceeded, especially by that of honeysuckle and blackberry. Already multitudes of the indigenes would have been "downed," and many more, yet dubiously erect, would stand as unsubstantiated pinnacles swathed in greenery, swaying with the weight of it and fated to sink into the convoluted mass. Blackberries would have risen like young elephants in hog-back hummocks pressing down with their prickly outrunners all neighbouring vegetation and in early autumn rooting at every tip. Roses would have sprayed from their centres over-leafing all within reach. Convolvulus, though failing in winter, would be in spring and summertime as deadly to the natives, with its particularly rapid growth, as its alien companions. The fourth season would show patches and lines—thin red lines of heroic resistance—of tree growth that had so far remained unconquered and escaped submersion ; here and there too, doubtless there would survive little companies of natives. The greater part of the hanger however, would have become a tangle of suffocating honeysuckle coils, long bramble shoots, sprays of rose, and twining ropes of convolvulus. The dead trees

[1] It has been necessary again and again to cut such garden rose growth out of well-established flax areas. By their immense sprays are the tall sword-like leaves of Phormium tenax pressed down, its majestic upright blades flattened and deflected.

ruined in the fire, festooned waist deep and neck deep in greenery and rotting at the base, would one by one collapse. Swallowed in a sea of tendrils, their falls would be temporarily shown as dimples in the matted mass. As in other wars too, we can now well imagine strife among the conquerors, honeysuckle ultimately perhaps taking full and entire possession, over-running, choking, and blanketing blackberry, rose, and convolvulus alike. Such would be the appearance of the hanger ten or twelve years after a fire of the sort we have imagined, and readers will comprehend that these processes of change, tho' fanciful of the hanger itself, have actually been watched and recorded on smaller adjacent areas.

We have now to consider how this abomination of desolation could still be won back to decency and order. Again, as before, shall we have to call up the Powers of Darkness. In this case they would take shape as some tall exotic, such as Cupressus macrocarpa. It would be a purge quite uneconomic to the owner. There could be no expectation of a monetary return. For the first six or seven seasons every single planted tree would require to be freed of tangle five or six times, and for another five seasons at least twice annually. Planted at a distance of nine feet apart from one another, and thus tended, they would in twenty years have shaded out and annihilated every other green thing. From a bare brown carpet of imbricated tips would rise skyward the boles of a completely alien forest.

To fulfil the cycle of life, for undoubtedly the whole of Tutira has been in native bush not very many centuries ago, we shall now proceed to transform the hanger once again into its aboriginal state of green-leafed shady loveliness. As always and always, this would be accomplished by a judicious manipulation of actinity, by a delicate adjudication of light. To obtain our object it would be necessary not to cut down, not immediately to destroy, but to ringbark the whole dark cyprus grove. Consentaneously, with its arboreal circumcision would light begin to filter through the thinning foliage, at first just sufficiently to wake to life seeds of native trees, spores of tree ferns and ground ferns, but not sufficient for the requirements of seedling bracken, manuka, blackberry, rose, convolvulus, honeysuckle, cocksfoot, prairie-grass, thistles, and the host of lawless resolutes always on the prowl for new territory. Contemporaneously in fact with death of boughs above, would life renew itself beneath. Again, the effects of gradualness would be apparent, the perishing exotic plantation first dropping its leaves, then shedding its flat twig tips, then becoming attenuated to skeleton bareness, and finally showing up mere bare naked poles. Concurrently with these processes would the bush reassert itself. A huge germination of native seedlings would take place ; as the twigs of the perishing foster-plants would crumble and fall the leaves of millions of little native trees would find sustenance and encouragement in the faintly increasing light. By the time the trunks of the ruined foreign woodland would have been bleached to greyness, a dense new purely indigenous generation would have penetrated through them and shrouded them in green. A darkness dense enough to suppress all growth of every sort would infinitesimally give place to dusk, to twilight, to half shade, each degree of augmenting actinity sufficient, and only sufficient, for the requirements of native woodland species accustomed in early life to deep shade, shelter from full sun and, quite as vital, from unmitigated frost.

Again, to repeat myself—Herbert Spencer declares that only by reiteration can alien concepts be forced upon reluctant minds—we have seen the hanger a pure unmixed ocean of bracken, we have marked the displacement of its fern growth by an equally solid stand of manuka. We have viewed that crop topped and dominated by green-leaf bush. After a fire imaginative, which 'tis to be hoped may never occur, we have watched our hanger overwhelmed by an altogether new type of vegetation, by a serpentine population of creepers and hummock plants. We have noted it dark in exotic forest. Last stage of all in its eventful history, we have restored it to pristine conditions existent ere Tasman, Cook, Banks, and Solander were born or thought of.