ART. XV.—Maori Forest Lore: being some Account of Native Forest Lore and Woodcraft, as also of many Myths, Rites, Customs, and Superstitions connected with the Flora and Fauna of the Tuhoe or Ure-wera District.—Part I.

By ELSDON BEST.

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The forest lore of the Maori people of these isles is but little known to those interested in ethnographical studies—or, at least, the latter have placed but little of such lore on record. Hence these notes are presented in order to conserve some very singular old-time customs and beliefs of the ancient Maori. The paper will be by no means a comprehensive one, inasmuch as it merely treats of a tithe of the forest lore of a single tribe of Natives, the unimportant Tuhoe or Ure-wera clan. Moreover, the old men who held full knowledge of the old customs, myths, and quaint beliefs have now passed away, and much interesting lore has died with them. The items herein given are but fragments, lacking many connecting-links and explanatory notes. The ritual pertaining to all work connected with the forest and its fauna was of a most extensive and pervading character. We can give but the skeleton thereof; the bulk of such matter is lost.

Here follows some account of the forests of Tuhoeland, their sylva, flora, and fauna, as given not by the botanist and ethnographer, but by primitive man. He who evolved the peculiar customs, myths, and superstitions herein described shall tell of them.

MYTHICAL ORIGIN OF TREES AND BIRDS.

The most widely used term employed by the Natives of New Zealand to denote a forest is ngahere or ngaherehere. In some parts, as among the Aotea tribes, the word motu takes its place. In others, the latter term is only applied—as motu rakau—to an isolated clump of trees, a grove or small wood. Such a small patch of timber-growth would be called an uru rakau by the Matatua tribes.

There is, however, another term used to denote a forest, but which, as a rule, is only employed as a kind of emblematical expression. This is the word wao, which is usually connected with the name of the tutelary deity or personification of forests, the great Tane, offspring of the Earth Mother and of Rangi, the Heavens. Thus, forests are termed te wao nui a Tane (the
great forest of Tane), or te wao tapu nui a Tane (the great sacred forest of Tane). A single tree or bird is often spoken of as though it itself was Tane. In speaking of one of the prized timber trees, such as totara, a Native would often say, "That is your ancestor, Tane." A canoe made of such trees was often termed te riu tapu nui o Tane. It was doubtless this feeling of Tane being incarnated in the forms of trees and birds that induced the Maori to perform some very peculiar rites prior to felling a tree, as also on the opening of the bird-taking season. When engaged in the task of felling some rimu trees which overhung my camp, passing Natives would call out to me, "Kai te raweke koe i to tipuna, i a Tane" (You are meddling with your ancestor Tane); or, on the fall of a tree, "E! kua hinga a Tane" (O! Tane has fallen).

This singular phase of primitive mentality is noted in all Maori myths—viz., the belief in an anthropomorphic origin and personification of all things, such things being looked upon as the descendants of such mythical being, and also as being imbued with a certain amount of his personality. Thus the origin of the gourd-plant (hue) in Maori myth is one Putehue, a descendant of Rangi and Papa (Sky and Earth). The saying of Putehue was, "Ko nga kakano o roto i a au he i wai mo aku mokopuna. Ko teteki o nga kakano he tane, tena e kore ia e whai uri." (The seeds within me shall become water-vessels for my descendants. But some of them are male seeds which will not have offspring.)

In this ancient myth we note an early proof of Maori recognition of sex in plants.

The following mythical genealogy is of a cosmogonic nature, needing explanation.

MAORI COSMOGONY: THE COSMOGONAL TREE IN MAORI MYTH, AND THE DESCENT OF TANE FROM THE SAME, THROUGH THE SKY AND EARTH PARENTS. (From Ngati-Awa of Whakatane.)

- **Te Pu** (root, origin).
- **Te More** (tap root).
- **Te Wen** (rootlets).
- **Te Aka** (creepers, vine).
- **Te Rea** (growth).
- **Te Wao-nui** (great wood).
- **Te Kune** (conception, form).
- **Te Whe** (sound).
- **Te Kore** (chaos, void).
- **Te Po** (darkness, &c.).

Rangi = Papa

Tane-nui-a-rangi

Tangotango

Wai-nui
The above names are said to represent certain beings who existed before man was, and before the sky and earth were formed. Some Native mythologists assert that there were ten beings named Te Pu (Te Pu the First to Te Pu the Tenth), ten named Te More, and so on down to Rangi and Papa, though it is not clear as to whether the ten were contemporaries or otherwise. Others state that Te Pu and Te More were the primal pair, male and female, who begat Te Weu and Te Aka, male and female, and so on down to Rangi and Papa. Yet another version is that each of these beings was of a bisexual nature, and contained within themselves the powers of reproduction. They are not said to have been anthropomorphic, or possessed of any faculties akin to those of the genus homo. Rangi, the Sky Parent, and Papa, the Earth Mother, are the first beings to whom are allotted powers of speech, thought, and feeling in Maori myth.

It will be seen that many of the names in the above genealogical allegory pertain to trees and their growth, taking the present-day meaning of the words, which takes the mind back to the cosmogonial or universe tree of Oriental and Aryan mythologies. An explanation of these names given to me by a very old Native agrees with the above bracketed words, save in the case of the first name. He said, "Te Pu is the upper part; Te More is the root; Te Weu represents the rootlets; Te Aka means the ake; Te Rea stands for growth, and Te Wao-nui for size attained; Te Kune means form attained; Te Whe stands for wheke, the creaking sound of trees heard when wind blows in the forest; Te Kore implies nothingness, non-existence; Te Po is darkness. From Te Po came Rangi; his sister was Papa: these two produced Tane, Tangotango, and Wai-nui. From these sprang all things in the world—people, and plants, trees, stones, fish, animals, birds, reptiles, rats, insects, moths, spiders, mosquitoes, and all other things. From Tane sprang men, trees, and birds. His descendant was Tangaroa-i-te-rupetu, who begat Maui, who begat Te Papatiti-raumaewa, who begat Tiwakawaka, who came to this land (New Zealand) from Mataora in times long past away."

The word ake, above, is used to denote long, thin roots, and is also a generic term for climbing-plants. Te Po is a name applied to the underworld, the place to which go the spirits of the dead from this world; but it also is applied to the sons of time before this world came into being—that is, before Rangi and Papa were. For, prior to the forcing-apart of Sky and Earth by their son Tane, light was unknown: darkness obtained everywhere. Beings who existed before the separation are said to have belonged to the Po. Those who came after it are said to have been of the ao marama, the world of light.
Other offspring of Rangi and Papa we are not here concerned with, but we will give the position of Tane as preserved by the Tuhoe Tribe, and given by old Tutakangahau:

"The first-born of Rangi and Papa, who came into being before light was, before man was, and before heaven and earth were separated, were Te Kaukau-nunui, Te Kaukau-roaroa, Te Rupe-tu, Te Rupe-pae, Pekepeke, Hauaitu, Te Manu-waero-roa, and Tahiri-matea. The second lot so born of Heaven and Earth were Tane-tuturi, Tane-pepeke, Tane-ueha, Tane-uetika, Tane-mahuta, Tane-mataahi, and Tane-te-po-tiwha. The third lot were Tane-te-wai-ora, Tane-nui-a-rangi, Paia-te-rangi, and Ruanmoko. The human race is descended from Tane-nui-a-rangi and Tane-te-wai-ora. The offspring of Tane-te-po-tiwha were Te Ao-tu, Te Ao-hore, Hine-tuahoanga, and Tangaroa."

Of the many different beings named Tane in the above myth, Tane-te-wai-ora and Tane-te-po-tiwha are often spoken of as being separate and distinct from Tane-nui-a-rangi, but all the others seem to be but different names of Tane-nui-a-rangi. The name of Tane appears to be changed according to the different beings or natural objects which originated with him. As the progenitor of the genus *homo* he is termed Tane-nui-a-rangi, or simply Tane. As the origin of trees and plant-life he is Tane-mahuta. As the origin of birds he is Tane-mataahi. Tane has many other names, as Tane-takoto, Tane-wai-nui, Tane-wai-kokina, Tane-wai-patato, Tane-i-te-kapua, and those given above.

Rangi, the Sky Parent, is known in full as Rangi nui e tu nei (the Great Heavens above), and Papa-tuanuku is the full title of the Earth Mother. This twain were the origin of all things on earth; they were the primal parents; nothing existed before them save darkness and the mythical beings that were the denizens of darkness and chaos.

And Rangi and Papa were as one in the beginning, for the sky lay prone upon the earth, and darkness covered the earth. Light was not. It was Tane who forced the heavens upwards and brought light to the world. For the offspring of Rangi and Papa were living in darkness on the breast of the Earth Mother. They desired light and space. Hence Tane thrust the sky upwards with his feet as he lay on the breast of Papa. So it is said that the branches of a tree are the legs of Tane, and the butt or base of the tree is the head of Tane. For such are the thoughts of the Maori.

The many names assigned to Tane is a circumstance that carries the mind to ancient Asiatic cults, and to others far spread toward the setting sun. For in like manner did Merodach, the chief deity of the Babylonian pantheon, bear many names,
as also Ea, god of the underworld, of reproduction, of cultivation, and of waters. In India we see the same thing, as of Vritra, who is Ahi the strangler, and Vala, and Pani, who entices the cows of Indra to leave their pastures. Westward to the setting sun and eastward to the dawn one notes similar cases in the mythologies of many peoples.

Rangi also appears under many different names in Maori myth, as Rangi-nui, Rangi-roa, Rangi-potango, &c.

The first act performed by Tane was the forcing-apart of heaven and earth, after which he brought light to the world, by setting the sun, moon, and stars in the breast of Rangi. Having performed these tasks, Tane went in search of the female element. He found the female nature in various forms, but these forms were not human. He found Apunga, by whom he produced shrubs and the smaller birds. He found Mumuhanga, who had the totara (a tree). He found Te Pu-whakahara, who became the origin of the trees called maiere and puriri. He found Tu-Kapua, by whom he had the tawoi, kahikawaka, and other trees. He found Ruru-tangi-akau, who bore the ake and kahikatos trees. He found Rere-noa, who produced the rata and all parasitic and climbing plants. He found Hine-wao-riki, who bore the kahika and matai trees. He found Mango-nui, who had the tawo and hinau trees. He found Punga, who became the origin of the kotukutuku and patate trees, as also of all insects. He found Tutoro-whenua, who bore Haumia (roots of the rarauhe fern). He found Hine-tu-maungia, who had Para whenua-mea (origin and personification of flood waters).

Other Natives give Pani-tinaku as being the parent or origin of the sweet potato, Hine-mahanga as the parent of the tutu (shrub), Tawake-toro as parent of the manuka, Hine-raunamoa as parent of the kīkīkī fern, Huna as origin of the harakeke (flax), Tawhara-nui of the kīkīkī, Kakaho of the toetoe, and so on.

The sun, moon, and stars were the offspring of Tangotango, while Wai-nui was the origin of all waters. Hence we see that in Maori myth life seems to be shared in common by men, animals, trees, and plants, the heavenly bodies, and water.

The idea of the cosmogonic or universe tree in New Zealand myths seems to bear two aspects—first, that the universe acquired form and grew as does a tree; and again, that the sky was forced upwards, and supported by a tree in the form of Tane, who was the origin, personification, and tutelary deity of trees and forests.

The cosmogonic tree in Maori mythology is a conception of somewhat rudimentary form when we compare it with similar myths in Japan, China, India, Persia, Chaldea, Egypt, and northern Europe, but a study of this conception, as also of
many rites, customs, beliefs, &c., conserved in Maori ritual, myth, and folk-lore, tends to a belief that the remote ancestors of the Maori must have for a long period dwelt in a forest country.

Possibly the Indian concept of the universe tree approaches more closely the Maori myth than any other we yet know of, wherein Brahma himself is described as the vast overspreading tree of the universe, of which the gods are the branches. In Eastern legend the cosmic tree sometimes appears as the giver of immortality, whereas in Maori legend Tane-te-wai-ora confers that boon by means of the “waters of life.” In Arabia the stars were said to be the fruit of the zodiac tree, while the Maori has it that the stars were the ornaments of the house of Tane-te-wai-ora.

The custom of planting a tree at the birth of a child, with the belief in some mystical relationship between them, has obtained in many lands, and has been noted by the late Mr. John White as having been practised by the Maori in former times. The “world pillar,” allied to the cosmogonic tree, was also a Maori concept. The “family tree” and “community tree” have not, I believe, been noted in Maori myth, but there is some evidence in favour of a belief in phallic trees. Such a tree is Te Iho o Kataka, a hinau tree at O-Haua-te-rangi, Rua-tahuna, a description of which, and the necessary rites in order to cause a woman to conceive, we have already placed on record.

We would hesitate to say that the Maori practised tree-worship, although certain trees were, for various reasons, looked upon as possessing certain supernatural powers, or as being the material representation of wood spirits, or spirits of the land, or as being tapu because a chief died near such tree, or it was used as a burial-place, or because the severed umbilical cord of a new-born infant was deposited on such tree. A tree on or in which such umbilical cords were placed, or under which a dying man had been laid, would often be adorned, in modern times, by means of hanging thereon bright-coloured handkerchiefs, strips of cloth, &c., from time to time; but in pre-European days some prized article, as a piece of greenstone, would be placed on the tree, often thrust into a crevice or fissure in the bark.

Now, a traveller who might happen to see such trees so adorned would very probably be of the opinion that the Natives of the district were tree-worshippers—the trees so adorned, as well as tipua trees and uruuru-whenua trees, being looked upon as gods. But it needs a long residence among a primitive people, a deep interest in primitive cults and kindred studies, and a tireless patience, before we can find out what any primitive
people do, or do not, believe. I certainly would not say that the Maori was a tree-worshipper.

**Tipua.**

The trees termed *tipua* are supposed to be endowed with certain supernatural powers. The term *tipua* is often translated as meaning "demon," and it is applied to anything possessing weird, supernatural power, in Maori belief. There are many trees, stones, &c., in Tuhoeland so gifted, say my Native friends. The small pond called Rongo-te-mauriuri, on the summit of Maunga-pohatu, is a *tipua*. Our term "enchanted," as used in fairy tales, comes near to the meaning of *tipua* in the present case. At the mouth of the Manga-o-hou tributary of the Whakatane River stands a rock known as Te Komata-o-te-rangi, said to have been located there by Tane-atua. Its inherent power is that, should a stranger to the place pass near it, then heavy rain will at once come on, making travelling unpleasant for that stranger.

A rock at Titi-o-kura, known as the Canoe of Taurua-ngare-ngare, is a *tipua*.

A log of *totara* timber, which is known as Tangi-auraki, lying in the Rangi-taiki River at Nga-huinga, is a *tipua*. It has, or had, the power of preventing eels from travelling any further upstream.

Te Toka a Houmea, a rock situated in a paddock on Section 261 at Whakatane, was a *tipua* until the godless pakeha destroyed its magic powers.

When a stranger approaches a *tipua* tree, stone, &c., a heavy fog, or mists, often descend upon the land. A stranger in ascending the enchanted hill Maunga-pohatu is said to be so greeted. The sun is spoken of in old tales as a *tipua*.

Te Kuri-a-Tarawhata is a *tipua* rock in the Whakatane River, near Pu-kareao. Tarawhata was an immigrant from Hawaiki.

Te Puku-o-Kirihiaka is a stone *tipua* at Pu-kareao, and is gifted with powers of locomotion. If any person moves that stone it will, ere long, return to its former resting-place.

Some of the *tipua* rocks at Wai-kare Moana will, if touched or interfered with, cause the wind to change, or a gale to rise.

Te Tapuwaee a Eke-nui (the footprint of Eke-nui), a mark on a rock at Maunga-pohatu, is a *tipua*.

A small *totara* tree growing on a *tawhai* tree on the old trail over Huia-rua Range is a *tipua*. It is at a place called Te Pakura, and was an *urururu whenua*. Marae-roa, a *tawhai* tree at Maunga-pohatu, was another such.

There are said to be two *ruru* birds (owls), named Kahu and Kau, which frequent the forest at Te Purenga, Rua-toki. Both
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of these birds are albinos, and are *tipua*, inasmuch as they give notice of the fruitfulness or otherwise of the approaching season. When a person who has an ancestral right to those lands enters the forest thereof he knows whether or not it will be a plentiful season. If when he commences to set his snares those two white owls appear, that is a sign that it will be a *tau kai*, or fruitful season. If when the first-snared bird is taken and prepared the owls have not appeared, then it is known that a *tau Hiroki*, a lean season, is at hand.

The place from which the Wairau district of Wai-kare Moana derived its name was a pond or small lake. This pond was a *tipua*. Around it were many fine trees, much frequented by birds, and on which quantities were snared. Even the *hiviri* (permanently fixed rods on which the poles with set snares are suspended) on those trees were adorned with carving. Once upon a time a chief engaged in bird-snaring at that place told his wife to be very careful to never pass before him when carrying food. Unfortunately she did so on one occasion, with the result that no one has ever been able to find that lakelet since; both it and the prolific trees adjacent thereto have passed from human ken. The term *tipua* is sometimes applied to fairies and other forest- or mountain-dwelling beings supposed to possess strange powers.

Many of the rocks which stand in the entrance to the Whakatane River, inside the bar, are *tipua*. The names of those rocks are Arai-awa, Toka-mauku, Toka-roa, Himoki, Hoaki, and Ira-kewa.

*Uruuru Whenua.*

The custom known as *uruuru whenua*, or "entering the land," is a peculiar one. Scattered about the tribal lands are certain trees, stones, &c., which are viewed as though they represented the spirits of the land, which must be placated by all persons who pass by such tree or stone for the first time, if not on every occasion. The ceremony is but brief. The wayfarer plucks a branchlet, or frond of fern, or handful of grass, and casts it down at the base of the tree or rock, repeating at the same time a brief charm, such as,—

Tuhitahi o tauhou  
Man e kai te manawa o tauhou  
Whakapiri ki tautohito.

This performance is evidently to placate the spirits of the land, and is performed at many of the *tipua* trees, &c., described above. It was absolutely necessary for a person to do this when passing such a place for the first time, or trouble would be his lot. After the first passage it did not matter so much, but still the offering seems to have generally been made. If travellers were overtaken
by mists or fog, a person of knowledge among them would pluck up a stalk of fern, strip off the fronds thereof, and stick it in the ground, base uppermost. ‘Splitting the upper part of the stalk as it so stood, he would place therein a clod of earth, reciting a brief charm, which would dispel the fog. Te Rapa a Hine-whati, a tawai tree near the Wai-horoi-hika Stream at Wai-kare Moana, is an urururu whenua, as also is Takuahi-tee-ka, a rock in the Whakatane River, at the mouth of the Manga-o-hou Stream. Old Natives tell me that in their youthful days, when this custom was in force, a clear space was always seen round such trees or stones, the vegetation having been plucked by passers-by.

Te Whanautanga o Tuhourangi, a stone near Mount Edgecumbe, is another of these mediums of the land spirits, as also was a stone named Tu-ki-te-wa, situated near the Rua-tahuna Stream.

Another form of the charm repeated is,—

Ururu o tauhou
Mau e kai te manawa o tauhou.

While in "Nga Moteatea" we find the following:—

Ka u ki mata nuku
Ka u ki mata rangi
Ka u ki tenei whenua
Hei whenua
He kai mau te ate o te tauhou.

The author of "Te Ika a Maui" translates the first two lines of this last effusion in this wise:—

Arrived at slippery point,
Arrived at break of day.

The slipperiness of that point must certainly have been excessive—far too much so for a denizen of the Tuhoean wilderness to attempt to pass.

It is said that a person who had performed the urururu whenua rite would be careful not to look behind him as he continued his way.

In vol. iv. of the "Journal of the Polynesian Society," at page 55, may be found some notes on this same custom as performed in Samoa and far-away Corea. In New Zealand it seems to have been performed at most of the tipua objects. Any stranger neglecting this precaution might die or be afflicted by illness, if a storm did not arise, or rain ensue, as a consequence of his neglect. These tipua were possessed of wairua (spirit, soul), according to some of my Native friends.

When the Land Commission was sitting at Wai-mako, near Wai-kare Moana, two Natives visited the tipua rock known as Haumapuhia and pulled off some of the water-weeds growing...
thereon. The demon responded by causing a heavy shower of rain, with high wind. Had the storm not come, then the twain would probably have been attacked by illness—so said the people.

A row of stones known as Hine-porete, situated on a hill near Te Tiringa, was formerly an ururu whenua.

All these objects, it must be remembered, were viewed as representing the spirits of the land, hence they may be termed sacred trees or stones; but the Maori quite recognised the fact that the tree or stone possessed no mana, or supernatural power, *per se*. Such powers emanated from the guardian spirits of the forest or land adjacent thereto. The offerings deposited at such places, or at a tree or rock made *tapu* through the severed umbilical cord of a new-born child having been deposited thereon, or because a dying chief had lain hard by—these offerings we say, whether a simple branchlet or a stone, or a piece of prized greenstone, or a handsome piece of cloth, &c., were intended as propitiatory offerings to placate the gods or demons of those parts. It cannot be said with truth that the Maori worshipped such trees, or anything else, for that matter. The bright-coloured handkerchiefs and pieces of cloth placed on sacred trees by these Natives carries one’s mind to many a far-off land—to the sacred date-palm at Nejran “hung with fine clothes and women’s ornaments”; to the story of Phryxus hanging the Golden Fleece on the boughs of a sacred beech-tree; and to many another tale of days of old. The ancient lore pertaining to the sacred tree has been compiled in a most interesting form by Mrs. I. H. Philpot in her work on “The Sacred Tree.”

It may be observed that none of these sacred or *tipua* trees in the Tuhoe district are *karako* trees, as the *karako* does not grow in this district. Many such sacred trees have been pointed out to me in the Bay of Plenty district, but in no case were they *karako*. This will dispose of the theory put forward in vol. xxxvi. (page 12) of the “Transactions of the New Zealand Institute.”

In this our discourse on Tane and his realm it may be well to state that Tane represents the male element in nature; hence it was that it was he who sought the female element, and so produced trees, plants, birds, insects, &c., and eventually man. The word *tane* is also employed in the Maori tongue to denote “male” and “husband.” The god Tane was essentially a creator.

Trees of a peculiar form of growth, albeit not in any way sacred, are often given names by the Maori. A clump of *totara* trees near Nga-putahi is known as Te Whanau a Mihi (the
offspring of Mihi). Another such situated on the Wai-potiki Block is called Te Whanau a Ta-morehu. Trees on which birds were snared each season were also given names, as also many of those which furnished fruits for the Maori larder, as Nga Pukanohi, a matai tree at O-kahu, and Ure-takohekohe, a grove of tutu at Rua-toki.

MYTHICAL DENIZENS OF THE FOREST.

Like unto all other forest-dwelling, primitive peoples, the Maori peopled the realm of Tane with divers varieties of mythical beings—fairies, water-demons, and certain subterranean monsters. The last-named were known as tuoro and here. These were huge beasts that never appeared above ground, but burrowed through the earth, making great tunnels and caves, and overthrowing huge forest-trees. A cave in the bank of the Whirinaki River at Te Whaiti is said to have been formed by one of these creatures, and is known as Te Ana-tuoro (the Tuoro Cave). Another dwelt in a pond called Otara, situated on the summit of Maunga-pohatu. This monster is said to have formed the valley down which flows the Wai-kare Stream from Maunga-pohatu, the same being a tributary of the Whakatane River.

The mythical monsters termed taniwha seem to have been amphibious creatures of a saurian type. Most of them dwelt in lakes or deep holes in rivers and streams, but pursued their prey, the hapless Maori wight, on land. Others, like Te Kuri-nui-a-Meko, at Wai-kare Moana, lived on land, in caves or chasms.

The fairies, or forest elves, are known as heketoro and turehu. These appear to be synonymous terms, both applied to a mythical people—strange forest people who dwelt on high wooded ranges, as those at Maunga-pohatu, Mapou-riki, Tawhiu-au, &c. They were a very light-coloured people; fair skin they had, as also light, reddish hair. They were wont to be heard singing, talking, and playing on flutes during foggy weather. They were numerous on the forest peak of Turi-o-Haua. These heketoro were an extremely tapu folk, and should their sleeping-places be trespassed on by Natives, these fairies would at once desert that place and seek new homes. The Maoris say that the turehu were in the habit of waylaying and carrying off Native women into the forest in bygone days. A favourite resort of these turehu is the bush hill known as Titi-tangi-ao, situated just east of the Whakatane Butter-factory, at Te Hurepo. Indeed, they are apparently still in camp there, inasmuch as some were seen at that place in this year of Our Lord 1907 by a party of Maoris, who forthwith advertised the fact in the Whakatane
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County Press, together with an invitation to all godless scoffers to go and see for themselves.

Another species of forest-dwelling folk were known as nanakia, or are so termed in folk-tales. "Our ancestors called them nanakia because they were such a mischievous people. They were a very strange people, who lived in trees in the forest. They built no houses, and knew not the use of clothing or fire. They were unable to kindle fire, and ate all their food in a raw state. They lived principally upon birds, the which they transfixed with their long finger-nails. Once upon a time a Maori woman was captured by these nanakia, and lived with them for some time before she escaped to her own people. She taught those strange folk the arts of fire-generation and cooking of food. Friend, I will tell you the story of that woman: In days of old a certain woman dwelt with her husband. One day she went into the forest to procure food. She was seized by a nanakia, who carried her off to his home in the woods. Her husband waited in vain for her return, but she returned not; hence he set off to search for her in the woods. He found her basket lying on the ground, and followed the tracks of his wife and her captor until he came to the home of the nanakia. It so happened that that creature was absent at the time, engaged in catching birds to serve as food for himself and his captive wife. The husband asked his wife when the bushman would return home. She replied, 'Not for some time yet.' Then he inquired, 'How may I conceal myself?' The woman replied, 'I will manage that.' So she dug a hole at the place where the feathers of the birds caught by the wild woodsman were thrown away when the birds were plucked. She then told her husband to lie down in the pit, whereupon she covered him with feathers. Soon after the concealment the nanakia returned home, showing signs of anger and suspicion (e kune haere ana mai), and cried out 'Kunekune he tangata kai te kainga.' The woman remarked, 'No, there is no one here save myself.' Whereupon the nanakia became still more angry, while the woman strove to pacify him. At length his anger calmed down. When night came he slept. Then the woman arose and went to fetch her husband. The twain came to the place where the nanakia lay. The woman took her place at the feet of the creature, her husband stood by his head. Then they attacked him with axes. They cut off his head, but his arms still fought. They cut off his arms, but his legs still fought. They cut off his legs, and then it was that the nanakia perished. Even so that man of old recovered his wife, and the twain returned to their home. Now, while that woman was kept a captive by the nanakia she learned one of the songs of that strange folk, which
song has been preserved by our people even unto the present
day. I think you had better write that song down, that you
may know what the songs of those wild folk are like."

The *patu-parehe*, or *patu-poiarehe*, were another mythical
folk. They were supposed to enter houses at night and to
smite the people sleeping therein nigh unto death. The Maori
was apparently not aware of the evil effects of charcoal fires in
carefully closed earth-covered huts.

The *tutumaiao* were weird-looking creatures seen on sandy
ocean-beaches by travellers. They looked like spirits of human
beings, and disappeared as the observer approached.

In Maori myths dealing with ancient times, prior to the
colonising of New Zealand by the Polynesians, we often en-
counter the names of certain fairies, or forest folk, known as
Te Tini o te Hakuturi and Te Tini o te Mahoihoi. They appeared
to be guardians of the forest, and, in such legends as that of
Rata, they carefully guard and uphold the rights of Tane. In
several of these old legends a person goes into the forest to fell
a canoe, and neglects to perform the necessary rites to take the
tapu of Tane off the tree, or fells a tree that is the emblem of,
or peculiarly sacred to, Tane. Hence, when he returns to his
work in the morning he finds that the above-named forest folk
have caused his tree to stand upright on its stump once more,
and there he finds it growing as sturdily as of yore. The work-
man encounters the forest folk, and explains his dilemma,
whereupon they tell him that he has neglected the necessary
rites to placate Tane and take the tapu off the tree. After
this is done the fairy folk goodnaturedly make the desired canoe
themselves and hand it over to the erring woodsman.

In the story of the making of the Matatua canoe, Toroa
seeks advice from Hine-tua-hoanga, who tells him to bring to her
the first chips of Tane-mahuta—that is, of the tree, for it was
over the first chips cut out by the axe that the *ahi purakau* rite
was performed. Toroa neglects to do so, hence the fairies
re-erect his tree. He returns to Hine for advice, and she sends
him to one Tuhoro-punga, who says, “Take the girdle from my
waist, and, when you fell your tree again, attach it to the trunk
thereof.” Toroa does so, and the Hakuturi folk demur not, but
make his canoe for him.

“Young man,” said an old Native to me, “Let me tell you
something you do not know—the story about a certain tree.
That tree is the *totara*. All the trees of the forest assembled
once upon a time and discussed the matter as to whose legs
(limbs) would reach unto their ancestor, Rangi (the sky). The
*totara* persisted that his legs would reach to the sky. The *rimu*
said No, his were legs that would reach. The *maire* said his;
the rata said his; the tawa and other trees said the same; each claimed that he alone might reach unto the heavens. So they all spoke. Then the totara strove to extend his legs to the sky, but he failed to do so, and was so ashamed that he groaned aloud (ka hemo te tou o te totara). There was great applause. When the wood of the totara is burned by fire it explodes—a popping sound is heard. That is the sound it made when it failed to reach the sky. The other trees, such as the matai, that failed in a like manner, make a similar sound when burned. The totara was so ashamed that it retired to the depths of the forest and abode there, where it may still be found, surrounded by trees of other tribes. If, when the wind is blowing hard, a person listens, he will hear a voice calling in the forest—a cracking sound it is. The person listening will think that voice is saying ‘Whe! Whe! Whe! Whe!’ but it is not so. It is really saying ‘Tou hemo! Tou hemo!’”

The above is a sample of the more absurd folk-tales of the Maori people pertaining to the forest. Such fables as this are much more puerile than the primitive conception of the cosmogonic tree, or that of the descent of animals and trees, &c., from a common source.

Tree burial was practised to a considerable extent by the Maoris in former times. After exhumation the bones were deposited in hollow trees, or among the masses of Astelia growing on the branches.

Having no beasts of burden or draught, the Maori had but two methods of travelling—walking, and travelling by canoe. The primitive tracks which he formed through forest country generally ran along the ridges of hilly country, and sometimes along the beds of streams. Such tracks were very narrow, and were kept open by traffic and by passers-by breaking off any branch which encroached upon the trail. These tracks often bore distinctive names. In hilly country the Natives always had special spots used as resting-places, termed taumata. These were situated on a ridge or knoll, usually in a situation from which a good view was obtainable. In the forests of Tuhoeland one often comes upon these little clear spots—albeit but few foot-men are now seen on the trails. In some cases a track might be closed to all traffic for some time by being made tapu by a chief. For instance, were a chief to become aware that a chief of a neighbouring district had used some insulting expression towards him, he might tapu the track leading to that district, which would cause much inconvenience until it was reopened. That peculiar kind of insult known as a tapatapa might cause such an action.

In crossing wide rivers where no canoe was obtainable, or
on which to cross goods, the mokihī was used. This was a bundle of dry leaves of raupo, or the flower-stalks of flax, lashed tightly together. A Native would bestride this primitive craft, and use a stick for a paddle. These rude floats were constructed in the form of a boy's tipcat, being brought to a point at each end.

THE UNSEEN PRESENCE IN FORESTS: PRIMITIVE MAN IN FELLOWSHIP WITH NATURE.

It is a well-known fact that the more primitive races of man are closer in touch with nature than are highly cultured peoples. In like manner they retain more primitive modes of thought and expression. The figurative and metaphorical language, the quaint old-time allegories, of such works as the Bible appeal to the Maori mind more than to ours, and they grasp and understand such language far better than do we. The tree of the forbidden fruit is no real tree to the Maori mind, and he understands full well what Eve's friend, the genial serpent, stands for. For such was the human mind among all peoples in the days when man was young upon the earth. This state of mind is a survival of a still closer fellowship with nature which must have obtained in times long past away: It is a heritage of thought from early man. Such language as we meet with only in old-time works and poetry is the common tongue of the Maori. The Maori is closely in touch with nature, a fact due to their primitive mentality; their leaning toward anthropomorphic personifications; their belief that man, animals, birds, fish, trees, &c., are all descended from a common source; as also to their mode of life—the incessant reliance on, and searching for, the products of forest and stream, wherewith to sustain life.

It is well known that the original tribes of New Zealand were living in the hunting stage of culture prior to the arrival of the historic fleet. They were a non-agricultural people, or at most possessed only one cultivated product—the gourd-plant. They had to rely on forest, stream, and ocean for their food-supply—a neolithic people with the larder of paleolithic man. Hence the forest-dwelling tribes, such as Tuhoe, must have been close observers of nature, and would be liable to place great importance upon all phases of nature, to strenuously uphold the cult of forest deities, to people that forest with divers supernatural beings and objects possessing singular affinities with its various denizens, animate and otherwise. They did more: they believed the land itself, and the forest, to be endowed with a certain personality or vital spirit, as we shall see anon.

But beyond and behind all this, there comes to those who study Maori forest lore the central idea that at some remote
period, long prior to the arrival of the race in Polynesia, the ancestors of the Maori must have dwelt in a forest country. Many things tend to the formation of this belief.

As to the unseen presence in forests, the more primitive peoples seem to possess this idea, as also a few—a very few—white men who have lived much alone in the forest and are imbued with a strong love of nature, and perhaps imaginative minds. When such a man enters the portals of the woods and wanders companionless in their darkling depths, he is possessed of a curious feeling that he is not alone—that some presence, unseen of mortal eye, fills the solitudes: curious because he is tempted to wander on and explore the dusky recesses of the forest, with a feeling that there is something hidden from his ken—perhaps the woodland presence he feels may be seen ere long. The mental state of our wanderer is one of receptiveness of the effect of nature, and of expectancy. The haunting presence of the forest causes primitive man to evolve myths of fairies, wood-elves, and divers creatures of the ogre type. To cultured man, freed from the more primitive superstitious feelings, it brings a feeling of pleasure, of wondering contentment. But always the receptive mind, the love of nature, the imaginative temperament, must be there.

Then, again, there are strange sounds, of unknown origin, breaking upon the ear. Weird sounds are these, more especially as heard at night in forest-deepths. But you must not erect a tent and camp therein. Your bed shall be a *take rakau*, that you may look upwards and see the great branches of the Children of Tane far above you, with maybe a glimpse of some well-known orb, Venus or Jupiter, or ruddy Antares, through leaf bound spaces. And, at such a time, when your camp-fire has died down, and the solitude has filled your soul, you will greet the gleaming Cross, or the Kakau, or Maui's Fish, as an old and welcome friend that ties you to the world of life, where men are.

"When you hear in forest-deepths sounds like rustlings—a rustling and cracking—that is what we term a *parangeki*. Those sounds are caused by human spirits, spirits of the dead. The singing of the *heketoro* (fairies) is quite a different thing."

The forest and forest life has ever had an important effect on man. A people settling in a forest country must destroy that forest or it will conquer them. The forest is conservative, repressive, making not for culture or advancement. None of the higher types of civilisation of antiquity originated in forest lands. Primitive man remains primitive in sylvan solitudes. Some day a civilised tribe, from open lands, happens along, and hews down that forest. Then the Children of Tane, human
and arboreal, alike disappear, and the place knows them never again.

There is much of silence in the heart of the forest. The voices of the feathered Children of Tane are not often heard. The harsh cry of the kaka occasionally grates upon the ear, even in the dead of night; but for bird-life you must seek the stream-sides, the clearings and edges of the forest. Those birds that frequent the deep solitudes are, as a rule, not a noisy company. In the small clearings of the forest, probably overgrown with light second growth of mako, puahou, wharangi, &c., you will note, on sunny days, the hum of innumerable insects. At times you hear strange sounds that you cannot explain; at others the crash of a fallen tree or branch, more especially in wet weather, for continued rain will cause more destruction in the forest than does the wind.

Should a tree be heard to fall in the forest on a calm night, such an occurrence is termed a takiari. It is an evil omen. If several trees are so heard to fall on windless nights, then some serious disaster will overtake the people ere long.

There is yet another sound that you will hear by day and night, which is one as of people talking. These sounds seem exactly like the voices of persons talking at some distance. In the days of my youth, when camped alone in the bush, I sometimes went in search of those persons. I no longer do so, but they are old friends. In the early seventies an old soldier was lost in the bush between Opotiki and Poverty Bay for a week. He was at length found and brought down to a station at Wai-kohu. He informed me that he often heard those forest voices talking during his week’s wanderings, and used to descend into the gullies to find those people. But he was lightheaded from hunger and exposure. Maybe all dwellers in forest solitudes are a bit lightheaded. Quien sabe!

The forest solitudes will fill some who sojourn therein with a great loneliness and misery, but to other minds may bring a great contentment and even much calm happiness.

**The Sylva and Flora of Tuhoe-land.**

We will now give a list, albeit an incomplete one, of those of the Children of Tane-mahuta that are found in the Tuhoe district—or, rather, such of them as we know the Native names of. For there are many plants the Maori names of which have not been obtained, as also some of which the botanical names are not yet to hand.

Aka. A generic name for climbing-plants and long, thin roots.
Aka-kopu-kereru. Clematis, sp.
Aka-tea. Metrosideros altiflora.
Transactions.

Aka-kura.
Aka-poananga. **Clematis**, sp. († O. indivisa.)
Aka-ngakau-kiore. **Clematis parviflora**.
Aka-kahia. † **Passiflora tetandra**.
Aka-kiore.
Ake. **Dodonaea viscosa**.
Akesake.
Akiraho. A small tree.
Angangi. A moss.
Awanga. A variety of **Phormium tenax**.
Aoanga. A variety of **Phormium tenax**.
Hakeka; syn., keka, hakeke. **Hirneola polytricha**.
Hangaroa. A plant.
Hangehange. **Geniostoma tigustrifolium**.
Harakeke. **Phormium tenax**.
Harore. A generic term for fungi.
Hawai. A variety of harore.
Heketara; syn., kotara and taraheke.
Heruhuru. **Todea hymenophylloides** and **T. superba**.
Hinau. **Elaoacarpus dentatus**.
Hinau-puka. **Elaoacarpus Hookerianus**.
Hohoeka; syn., horoeka, kokoeka. See “**Horoeka**.”
Homangoroa. **Panax Edgerleyi** (mature form).
Horoeka. **Pseudopanax crassifolium**.
Horopito.
Houhi. **Hoheria populnea**.
Houhi-ongaonga.
Houhou; syn., puahou, parapara. **Panax arboreum**.
Huariki.
Hue-o-Raukatari. **Ourisia macrophylla**.
Huhu. A variety of **Phormium tenax**.
Ikaroa. A variety of gourd (hue).
Ipurangi. A variety of harore.
Irirangi. **Hymenophyllum demissum**.
Iwi-tuna. **Lygodium Bulliardii**.
Kahakaha. **Aestua** (? nervosa).
Kahia. **Passiflora tetrandra**.
Kahikatea. **Podocarpus dacrydioides**.
Kahikawaka. **Libocedrus Doniana**.
Kai. Young tree of **Podocarpus ericatus**.
Kaimakamo. **Pennisetum corymbosa**.
Kai-weta. **Carpodetus serratus**.
Kaiwhiria. **Hedycarya arborea**.
Kakareao. **Rhipogonum scandens**.
Kaponga. **Cyathena dealbata**, &c.
Karaka. **Corynocarpus laevigatus**.
Karamuramu. **Coprosma robusta**.
Karetu. **Hierochloe redolens**.
Kareturetu. A grass.
Kauere. **Vitex lucens**.
Kawakawa. **Piper excelsum**.
Keka; syn., hakeka, hakeke. **Hirneola polytricha**.
Keketuwai. A water-plant.
Kiokio. **Freycinetia Banksii**.
Kiokio. **Lomaria procera**.
Kiwikiwii. **Lomaria flaviatilis**.
Koareare. **Panax Edgerleyi** (young state).
Kohe. *Dysoxylum spectabile.*
Kohukohu. *Hypnum clandestimum.*
Kohuwai. A water-plant.
Kokaha. *Astelia,* sp.
Kokakoware. A variety of gourd.
Kokoeka; syn., horeeka and hohoeka.
Kokomuka. *Veronica,* various sp.
Kokomuka-taranga. *Veronica,* sp.
Kokomuka-tu-tara-whare. *Veronica,* sp.
Kopakopa. *Trichomanes reniforme.*
Kopakopa. *Plantago major.*
Kopuru. A moss.
Korokoro-whatu.
Koromiko. *Veronica salicifolia.* Also a generic term for *Veronica.*
Korokorou. A species of *Loranthus.*
Kotara. A tree, probably an *Olearia.*
Kotukutuku. *Fuchsia excorticata.*
Kowhai. *Sophora tetrapetra.*
Kowhai. *Geum urbanum.*
Kowharawhara. *Astelia,* sp.
Kukurahi.
Kumara-hou. *Angelica rosaljolia.*
Kutakuta. *Eleocharis sphacelata.*
Kuwawa. *Eleocharis sphacelata.*
Mahitihi. A plant.
Mahoe. *Malicythus ramiiforus.*
Maiberu. A species of harore.
Maikaika. *Microtis porrifolia.*
Maire. *Olea,* sp.
Makaka; syn., rarauehe.
Mako. *Aristotelia racemosa.*
Mamaku. *Cyathea medullaris.*
Maanga-a-huripapa. *Liberia izioides.*
Maneau. A species of harore.
Mangeao. *Litsaea calicaris.*
Manono; syn., raureka. *Coprosma grandifolia.*
Manoea. *DAcrydium Colensoi.*
Manuka. *Leptospermum scoparium* and *L. ericoides.*
Manuka-roa. A variety of hue (gourd-plant).
Mapau. *Myrsine Urvillei.*
Mapere.
Maru.
Maruru. *Ranunculus hirtus.*
Matai. *Podocarpus spicatus.*
Matata. *Pteris incisa.*
Matau. *Uncinia ferruginea.*
Matau-ririki. *Uncinia leplostandya.*
Matia. The common blue pansy (introduced).
Matoetoe. A plant.
Matukutuku. A plant.
Matua-mauku. *Hymenophyllum dilatatum.*
Mauku. *Asplenium bulbiferum.*
Maukuuku; syn., perei. *Gastrodia Cunninghamii.*
Maurea. A coarse tussock-grass.
Mauri. *Astelia,* sp.
Mawhai.
Mawe. *Galium umbrosum.*
Mekeneke. A species of harore.
Ngaio. *Myoporum latum.*
Ngaio. A variety of *Phormium tenax.*
Ngakau-kiore. See "Akz."
Namunam. *Geranium molle.*
Nei. *Dracophyllum latifolium.*
Nikau. *Rhopalostylis sapida.*
Ninio. *Helichrysum glomeratum.*
Ngihungohu. *Cathodes acerosa.*
Ngihungohu. *Leucopogon fasciculatus.*
Ngutu-kaka. An epiphyte.
Ngutu-nui. A variety of *Phormium tenax.*
Ongague. *Urtica ferox.*
One. A variety of *Phormium tenax.*
Paea. An introduced plant, perhaps *Brassica oleracea.*
Paepene. The common dock (introduced).
Pakau-roharoa. *Polypodium pennigerum.*
Panakenake. *Pratia angulata.*
Panako; syn., petako. *Lomaria Patersonii.*
Paopao. *Eleocharis ophiacantha.*
Paopao-kutukutu. A plant.
Pa-pua. A liverwort, a species of *Marchantia.*
Papa-koura. *Epilobium microphyllum.*
Papauma. *Griselina littoralis.*
Parahara. *Polypodium Bollardii.*
Parani. *Lagenophora petiolata.*
Parapara; syn., puahou, houhou. *Panax arboresum.*
Pari-taniwha. A variety of *Phormium tenax.*
Patate. *Scheflera digitata.*
Patotara. *Leucopogon Fraseri.*
Patu-tiketike. *Coprosma lucida.*
Peka-a-waka. *Bartronia muconata.*
Pepepe. *Dianella intermedia.*
Pere. *Gastrodia Cunninghamii.*
Peretako. *Lomaria Patersonii.*
Pereteo. *Lomaria Patersonii.*
Petako. *Lomaria Patersonii.*
Petako-rou-riki. A fern.
Petako-parahara. A fern.
Petipeti. *Lomaria discolor.*
Piki-arero. *Clematis indivisa.*
Pinnkite. *Pratia angulata.*
Piipiko. *Aspidium Richardii.*
Pipiro. *Coprosma feldii.*
Piripiri. *Hymenophyllum demissum.*
Piripiri. *Actaea sanguisorba.*
Piria; syn., kakareo. *Rhizopogon scandens.*
Poaanga. Flowers of piki-arero.
Poa-taniwha. *Melicope simplex.*
Pohus. *Convolvulus, sp., white- and pink-flowered.*
Poniu. Some edible introduced plant.
Pohoro. *Solanum aviculare.*
Porepore. A plant.
Pororua. A plant.
Puahou. *Panax arboresum.*
Puakato. *Calmsia spectabilis.*
Puapua-a-autehi; syn., mekemeko. A species of harake.
Puha (puwha). A generic term for many plants used for food, as greens.
Puha-totio. A plant.
Puhou; syn., tutu. *Coriaria ruscifolia.*
Puia. *Griselinia lucida.*
Pukatea. *Gnaphalium luteo-album.*
Pukatea. *Laurelia novae-zealandiae.*
Pungitengita. Scotch thistle (introduced).
Punu. *Dicksonia fibrosa.*
Punu. *Todea superba.*
Puriri; syn., kauere. *Vitex lucens.*
Puwatawata. *Enargea marginata.*
Ramarana. Erroneously applied to *Olearia,* sp.
Rararo. A plant.
Rarauhe. *Pieris aquilina.*
Rata. *Metrosideros robusta.*
Rataroa. A variety of *Phormium tenax.*
Raukstauri. *Asplenium flaccidum.*
Raumoa. A plant.
Raupoka. *Earinav suaveolens.*
Raupeti. *Solanum.*
Raupo. *Typha angustifolia.*
Raurekau. *Coprosma grandifolia.*
Rauriku. A plant.
Rauroroa. A plant.
Rau-tawhiria. *Pithecomorium tenusfolium.*
Rengaenga. A plant.
Rapehina-papa. *Arthrobotryum candidum.*
Rereti. *Lomaria lanceolata.*
Rerewai. *Potamogeton Cheesemanii.*
Rewarewa. *Knightia excelsa.* Flowers termed “rewa.”
Rimu. *Dacrydium cupressinum.*
Rumirimu. A generic term for mosses.
Rohutu.
Ruapatu. A variety of *Phormium tenax.*
Tahinui; syn., tauhinu. *Cassinia fulvida.*
Takahakaha.
Takahikah; syn., tananui. A sedge or coarse grass.
Tamatea.
Taneawai. A variety of *Phormium tenax.*
Tanekaha. *Phyllocladus trichomanoides.*
Tanguru. *Olearia furfuracea.*
Tanguru-rake.
Tapairu. *Senecio Kirkii.*
Tapia. *Tepeia antarctica.*
Taramea; syn., takahikahi. *Aciphylla Colensoi* (spear-grass).
Tarahiko; syn., heketara and kotara.
Tarata. *Pithecomorium eugenoides.*
Tarowarewa. A plant, either a parasite or epiphyte.
Taro-para. Probably *Marattia fraxinea.*
Tataramoa. A generic term for brambles and thorny shrubs. The introduced sweetbriar is so named. Also *Rubus australis.*
Tataramoa-turuhunga. *Rubus australis.*
Taueru-kohe. A shrub.
Transactions.

Tawa. Beilschmiedia tawa.
Tawai. Fagus, sp.
Tawaka. A species of Agaricus.
Tawari. Ixia breviflora. Flowers termed “whakou.”
Tawhewheo. Quintinia serrata.
Tawhero. Weinmannia racemosa.
Tawiniwini. Gaultheria antennata.
Tawhiwhi.
Teterewhate. A species of moss, genus Polytrichum.
Ti. A generic term for Cordyline, and applied specially to Cordyline australis.
Ti-kapu. Cordyline Banksii.
Ti para. ? Cordyline terminalis.
Ti-tawhitii. Cordyline, sp.
Ti-toi, or Toi. Cordyline indivisa.
Ti-kumu.
Tikitehetehe. A species of harore.
Tipiwha. A species of harore.
Tirawa; syn., whoki. Dicksonia squarrosa.
Toko. Allocarya excelsum
Toi. A generic term for many sedges, &c.
Toi. Cordyline indivisa.
Toi. A species of fungus (a Taupo word).
Toheraoa. A plant.
Tohetaka. The introduced dandelion.
Toro. Persoonia toru.
Toromiro. Podocarpus ferrugineus.
Tonakenake. A variety of pohue (Convolvulus).
Toropapa. Alsacosa quercifolia.
Toropapa-pukahuh. A moss.
Totara. Podocarpus totara.
Tota-rimu. A small plant.
Totoroone. Parsonia capsularis, and P. rosea.
Tu-huhi. Eugenia maire (an unsatisfactory name).
Tumatakur. Aciphylla squarrosa.
Tumingi.
Tuokura. Dicksonia lanata.
Tururu-mauku. Young plants of Asplenium bulbiferum.
Tutae-manu. A variety of Phormium tenax.
Tutoke. Aspidium Richardii.
Tutukivi. Pterostylis Banksii.
Tutumako.
Tutu-tuato. A fungus, genus Clavaria.
Upoko-tangata.
Upoko-tuato. A variety of hue (gourd).
 Waekura. Gleichenia Cunninghamii.
Wae-kahu. Lycopodium, sp.
Wae-wae-ata. A species of harore.
Waiauru. Fumaria hygrometrica.
Wairuru. A species of harore.
Wain-atau; syn., wai-o-kakukura.
Whakahau-matau. A variety of hue (gourd-plant).
Waoriki. Ranunculus rivularis.
Wharangi. Melicope ternata.
Wharariki. A variety of Phormium tenax.
Whare-hinu. A variety of hue (gourd-plant).
Whare-kaka.
Wheki. *Dicksonia squarrosa*.
Wheki. A plant.
Whereki. The large introduced strawberry.
Wi. A generic term for several coarse grasses, &c.
Whiri-o-ruakatauri. *Lycopodium Billardieri*.
Whiri-o-ruakatauri. *Asplenium flaccidum*.
Wiwi. Several species of rushes (*Juncus*).

The above are the items of the sylva and flora of the Tuhoe district of which the Native names have been obtained. There are many others, principally small plants, &c., which we do not here enumerate, as this paper is one dealing with Maori lore, not with that of the scientific botanist.

"The *aka* (climbing-plants) which cling to trees—these are the things with which Tangaroa is captured. Hence they are used as a means to slay Tangaroa." So sayeth the Maori, meaning that eel-pots are constructed of stems of climbing-plants, and of thin roots.

The *aka kōpu kererū* is the small green-flowered *Clematis*.

The *aka-tea* has a very light-coloured bark, and is extremely durable, hence it is much used for lashing palisades, fences, &c.

The *poonanga* makes a brave show in some parts of the Rua-tahuna district when in flower. The masses of white blossoms are seen on the tops of lofty trees, though more numerous among second-growth timber at deserted cultivations.

The *ngakau kiore* is more generally found in scrub and fern country, where its small yellowish-green flowers are not very conspicuous.

The sap of the *aka-kura* is applied by the Natives to the eyes in cases of inflammation.

The *hahia*, with its orange-coloured fruit and handsome foliage, is here frequently seen. The stem of this climber was formerly much used as a firestick by travelling parties. It was cut green and allowed to become quite dry. One end being set fire to, it was carried in the hand, and would smoulder like punk.

The *ake* is not often seen in Tuhoeland. The most reliable war weapons were fashioned from this timber. A grove of *ake* trees near Te Onepu, on the Whirinaki River, is known as Te Hokowhitu a Ngai-Tawha.

The *awanga*, or *aoanga*, is a variegated variety of *Phormium tenax*.

The *hakeka*, *hakeke*, or *keka* is the fungus of commerce. It grows principally upon dead logs and stumps of *karaka*, *pukatea*, *tawa*, *mahoe*, and *kaiwhiria*, and not upon the living trees. It appears to reach a matured state about two years after the trees have been felled. After that time the quantity on such timber seems to decrease.
The *hangaroa* appears to be a grass, the culms of which were used in making belts or girdles for women, as also anklets, pieces of flax-fibre being drawn through the hollow stems in order to strengthen them. The fruit of the *papa-koura* is also known as *hangaroa*. Children string these berries on pieces of fibre in order to form necklaces and bracelets, as they also use the berries of the sweetbriar.

The sap of the *hangeshange* bark is used as a cure for a skin complaint known as *hawaniwani*.

*Harakeke* is the generic term for *Phormium tenax*, each variety having its distinctive name.

*Harore* is a generic term for many species of fungus, &c., each having its own distinctive name. The *tipitahi* appears to be the mushroom, while the *maiheru*, which grows on open country, is probably the same as the *tiki tahora*. The *puapua-a-autahi*, one of the edible species, is somewhat poisonous, and has to be cooked for a long time in a steam-oven in order to render it innocuous.

Leaves of the *heketara* were used in former times wherewith to give an agreeable scent to oil (a toilet article). The crushed leaves, together with the *kopuru* moss, also seem to have been employed without any agent, to impart a pleasing odour to clothing. If the *heketara* is seen to blossom abundantly it is said to be a token of a fine summer to follow.

The hard frond-stems of the *heruheru* fern are said to have been utilised as teeth for hair-combs in past times. *Todea superba* is also known as *heruheru*.

The bark of the *hinau* and *hinau-puka* were used in dyeing fibre black for being woven into garments. The meal of the berries of the *hinau* was an important item of the Tuhoean food-supply in former times. These berries have a sort of emblematical name—viz., the *Whatu o Poutini*—perhaps only used in song and aphorism. A gum which exudes from the *hinau* tree is dissolved in the liquid used for preparing the black pigment for tattooing purposes. It is said to prevent the tattoo-marks from fading. A *hinau* tree from which the gum exudes without the tree being cut or wounded is said to provide the best bark for dyeing purposes. This bark produces the mordant for dyeing, the fibre being afterwards immersed in a black mud.

The leaves of the *horopito* were used by women when weaning a child, crushed leaves of the same, or of the *kiwakiwa* fern (syn., *kiwakiwi*), being rubbed on the breasts in order to give them a bitter taste. The berries of the *horopito* are termed *matou* by the Arawa Tribe. The sap is used to cure skin-diseases.
The *houhi*, known in some districts as *houi*, *houhere*, and *whauwhi*, is a very common tree in Tuhoeland. That variety bearing a white flower is a charming sight during a season when such blossoms are abundant. The deciduous variety is much the larger specimen of these "ribbonwoods," as they are often termed by settlers (being also known popularly as "lacebark" and "thousand-jacket"). This tree may be seen nearly 2 ft. in diameter and sometimes as much as 50 ft. in height. It has a very insignificant, non-conspicuous flower. The Tuhoe Natives call it *houhi-ongaonga*, because they have a belief that it is a mature form of the *ongaonga* (*Urtica ferox*), saying that the latter eventually develops a single stem which grows into the large deciduous *houhi*—a very singular theory. This tree is certainly deciduous in the Tuhoe district, not partially so. The bark of this tree is extremely thick. Its leaves are eaten by the pigeon. The inner part of the bark was sometimes eaten by refugees or others in an extreme stage of hunger. This tree is probably *Plagianthus betulinus*, though Cheeseman’s Manual does not mention its deciduous habit, but it speaks of *Gaya Lyalli* as being partially so. Mr. Rutland speaks of *Plagianthus betulinus* and *P. discaricatus* as being evergreen or deciduous according to the situation in which they grow. (See Trans. N.Z. Inst., vol. xxi, p. 110.) These deciduous trees are seen growing by the sides of streams, or a little wayup hillsides, in Tuhoeland, to an altitude of at least 2,000 ft.

The *puahou* or *houhou* tree, known also as *parapara*, is very common in this district. It grows readily in places where the forest has been destroyed. Places thickly overgrown with this tree are often alluded to as *tau-parapara*. The old Maori name of the site of the Hawera Township, in Taranaki, was Tau-patate, the latter word (patake) being the native name of *Schefflera digitata*. The bark of the *puahou* is nibbled off and eaten by horses, and they seem to be remarkably fond of it. It may possibly possess some saline property. The *kaka* parrot also nibbles off this bark, but finally rejects it, having apparently derived some benefit therefrom. Rats eat off the bark of the small trees, and also the stems of the leaves. The term *tahumate* seems to be applied to the first *puahou* that blossoms during a season. There is some singular myth about this tree being the offspring of Rehua, the latter being the name of the star Antares, as also of one of the old-time Maori gods, though possibly the star is the visible form of the god.

Rehua = Puanga.

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<th>Poanana</th>
<th>Tahumate</th>
<th>Puahou</th>
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My informant says, "These were the first-born children of Rehua. Their mother was Puanga (the star Rigel in Orion). These children were born in the moon (month) Mahuru, the fourth month of the Maori year. Observe that the puahou blossoms in winter. It was Ruaumoko that caused them to be born when the earth was shaken. After those children were born, then the many others were born. Puahou was born in August, according to your European method of month-names. The duty of those first-born of Rehua is to indicate the approach of the warmth of summer. Puahou was the most important of the children of Rehua. Those children are suckling during the month indicated." The explanation of the above quaint myth is in this wise: Rehua is spoken of in Maori myth as being the origin of the koko bird (syn., tui), the inanga (a small fish), and the trio above given. Poanana seems to be for poananga, the large-flowered white Clematis. These three first-born of Rehua and Puanga (Antares and Rigel) show by means of their blossoming the coming of the warmth of spring. Ruaumoko, the slumbering subterranean monster of Maori myth, is said to cause the changes of season by turning over and causing an earthquake, which has the effect of turning the warmth, or cold, of mother earth uppermost, according to the time of year. This act, in producing warmth towards the close of winter, causes trees to blossom, and the above are among the first to do so, and hence are spoken of as the first-born. After these, then other children are born—that is to say, other trees blossom.

The homangoroa tree is the matured or tree form of the koareare shrub, according to the Tuhoe Natives. The former name is applied to it after the form of its leaves is changed. They have certainly pointed out to me some which were in a sort of transition stage, bearing both forms of leaves, the handsome star-shaped leaf of the koareare (Panax Edgerleyi) and the plain, dark, glossy leaf of the homangoroa. But Williams's Dictionary gives haumangoroa as Panax simplex. However, judging by the descriptions given in Cheeseeman's "New Zealand Flora," both the Tuhoean names apply to P. Edgerleyi.

The kahikatea was a most useful tree to the Maori in former times, on account of the great quantity of bird-food furnished by its berries. This fruit also served as an article of food to bushmen. Persons ascended the trees and collected the berries of the kahikatea, rimu, and matai, which were placed in a basket. When full, the basket was lowered to the ground by means of a cord, there emptied by an assistant, and drawn up again to be refilled. These berries were washed in order to get rid of any leaves, &c., and eaten without being cooked in any way.
When a kahikatea tree decayed, the mapara, or hard resinous heart-wood, was eagerly sought for, and was used for several purposes. Implements and weapons were fashioned therefrom, the wood being exceedingly hard, durable, and difficult to break, hence it carried a fine point. The smaller pieces of mapara were used for making torches for night fishing and travelling, a number of such pieces being tied together for this purpose. Also, the finest pigment for tattooing was made from the soot obtained from this wood when burned in a confined space. Thus this child of Tane and Hine-wao-riki was highly esteemed by the neolithic Maori. The white sap-wood of the tree was not prized, on account of it lacking durability. Canoes were occasionally made of kahikatea, but were much inferior to those made of totara.

The kai,* or young tree of Podocarpus spicatus, is useful to the Maori on account of its thin, pliable, and tough branches, which are used for making eel-pots. I have seen a Native driven off with much tongue-lashing for taking these kai branchlets from the lands of another tribe than his own.

The kaikomako tree is met with in Maori myth, for this was the principal tree into which fire, or the seeds of fire, fled when the memorable contest raged between Maui, the demi-god, and Mahuika, the goddess of fire. Hence it is the best wood from which to fashion kawahi, or fire-sticks, by which to obtain fire by friction. This tree is personified in one Hine-kaikomako. She is the fire-concealer and fire-conserver of mythology. She was taken to wife by Ira, the fire-seeker. I once related this myth to a little Maori girl, stating that Hine is seen now merely in the form of a tree, not endowed with the powers of speech and locomotion. The child remarked, “Kua whakarorohia ahu ki a Hine-kaikomako” (I deeply sympathize with Hine-kaikomako). The child mind grasped and accepted the myth.

The kaponga is Cyathea dealbata, but the word is sometimes used in a generic sense to include several or all species of arborescent ferns. The name ponga is not used by the Tuhoe Natives. The kaponga is found in all parts of the Tuhoe district. The hard, black fibres found in the soft interior of the stem are termed katote. The mamaku is not found at Ruatahuna and other inland places, but is seen in great numbers near the coast, at Rua-toki, Te Wai-mana, and elsewhere. In fact, one often sees dense groves of very fine specimens on the hillsides or in gullies. The soft interior of the upper part of the trunk of this species (Cyathea medullaris) was largely used in former days as an article of food, more especially before the introduction

* Also termed kakai.
of the sweet potato. It was cooked in a steam-oven for about forty-eight hours, the hard outside part of the trunk having first been hewn off. This and other species of fern-trees are remarkable for the great variety of the epiphytes which they bear, ranging from the most minute plants (ferns, mosses, &c.) to forest-trees such as the puahou and tawhero. The two latter are very frequently met with under such conditions, sending roots down the stem of the fern-tree to the ground. Some specimens of wheki and kaiwhanga seem to have their stems enclosed within a network of such roots. The harder stems of the mamaku support a large number of smaller epiphytes, as ferns and Astelia. Many of the puahou (Panax arboreum) so growing are very handsome specimens of their kind, but yield in picturesqueness to a very fine specimen growing on the top of the dead stump of a forest-tree, some 20 ft. in height, and which stands in open ground at Mingi-nui.

The wheki (Dicksonia squarrosa) is very common in some parts, and is much used in the construction of rude huts by the Natives. In this species one often sees the young plants of the same growing on the stems of the mature specimens, though they do not seem to attain any size under such conditions, or to develop into branches. Trunks of the wheki cut and laid on the surface of the ground often put forth new fronds and flourish for some time. This species is termed ti-rawa by the Ngati-Awa Tribe, and a hut the walls of which are formed by such trunks is known as a whare tirawa. It is much used in the construction of cooking-sheds. The tuokura (Dicksonia lanata) is found on the high ranges.

The punui (Dicksonia fibrosa) is very common in the high-lying districts of Tuhoeland. With its thick stem and short rigid fronds it cannot be termed a handsome species. Some of the trunks are of great size. The Natives hew off wide slabs of the fibrous matter and utilise them in the building of foodstores. This material is durable, and is a bar to rats, which do not seem able to gnaw through it.

The karaka tree concerns us little, as it never obtained in Tuhoeland, except a few planted in former times on the northern frontier, as at Rua-toki. Natives say that seeds of the karaka were brought to the Bay of Plenty district in the “Nukutere” canoe.

The karamuramu is remarkable for having entered largely into the sacerdotal rites of the Maori in former days, a wand of this small tree being used by priests in various ways, and rude girdles or aprons made of its leafy branchlets worn by them when the sacredness of their duties prevented them retaining any of their clothing.
The *karelu*, a grass having a sweet scent, more particularly when dry, was much used by girls to make waist-belts with, as many as twenty plaited strands being used to form a belt. The midrib (*tuaka*) was taken out of each leaf before being used, in order to make the leaf more pliable and prevent a breakage.

The *kareturetu* is a grass the botanical name of which I have not obtained.

The *kauere*, or *puriri* tree, is not found in the interior, but only near the coast.

The *kawakawa* is not found at the higher altitudes, but is fairly common nearer the coast, as in the lower part of the Whakatane Valley. The same may be said of the *pukatea*, *nikau*, *kiekie*, *kohe*, *mangeao*, and divers plants.

The *kiekie* was a useful plant to the Tuhoean bushmen, inasmuch as their forest lands did not produce flax (*Phormium tenax*). Belts, sleeping-mats, and rough capes were made from its leaves, which contain a durable fibre. These capes were made from the fibre after the leaves had been subjected to a retting process. Mats and belts were made of narrow strips of the leaves bleached to a pleasing whiteness. The *kiekie* is not found at Rua-tahuna, but only in the lower parts of the valleys, nearer the coast. There is said to be one only plant of *kiekie* at Maunga-pohatu, which is known as Te Kiekie a Rangi-wai-tatao, the same Rangi having brought the plant from the coast lands. That plant is but seldom seen by man, and only by those whose days in the land are numbered. Should you chance to see it, then it is high time to hurry home and put your earthly affairs in order. Tarry not on your way, the gods are calling you. But should your end not be near, then you will not see that ill-omened plant, pass you never so close to it.

The *harakeke* (*Phormium tenax*) and the *kiekie* (*Freycinetia Banksii*) became separated in the dawn of time, according to Maori myth. The *kiekie* followed and clung to its ancestor Tane, hence you see it clinging to the forest-trees. But the *harakeke* went to its ancestor Wai-nui (origin and personification of water), and even so you now see it growing in swamps and by streams. The *raupo* also went to its grandmother Wai-nui, to be nurtured by her. The fruit and sweet flower-bracts of the *kiekie* are eaten by Natives.

The *kiokio* fern, like the poor, is ever with us, being very common. Cliffs and steep sidelong bearings no large trees are almost invariably covered with a dense growth of this *kiokio*, or *Lomaria procera*, as you *pakeha* folk term it. Hence the expression *pari kiokio* (*kiokio* cliff or bluff) is a common one. This fern is said to have originated with one Pari-kiokio, who was born of the Wai-nui above mentioned. Another of Wai-
nuī's offspring was Te Hinatore, a term applied to any phosphorescent substance.

The koareare flourishes on the high-lying ranges, and has a remarkably handsome appearance, the leaves thereof being very attractive to the eye, as also very aromatic. These leaves were used as a scent in former times, and chaplets were made of the green leaves, by the maids of Tuhoe. The mature form of this tree is known as homangoroa.

The kohe tree, termed kohekohe in some districts, is found only in the lower country, near the coast. Its berries are eaten by the koko bird; hence the expression, "He koko kai kohe." The kohe is very easy chopping, and cuts well with a crosscut saw, but it takes the conceit out of your steam-gauge when you put a circular saw into a kohe log.

The karetetetu is a bush-growing plant, resembling the karetu in appearance.

The kokaha is an Astelia. The name is applied by the Tuhoe Natives to the short-leaved terrestrial variety found growing in forests, but not to the narrow-leaved mauri, which grows on logs and the lower part of tree-trunks, nor yet to the kowhara-whara, which grows also on trees, but usually on the branches and upper parts of the trunk. One authority states that the kokaha is known as takahakaha when in flower, or perhaps the latter term is applied to the flower. The tuaka or midrib of the leaf of the kokaha is used in hat-making, while its red-juiced berries were formerly sought for by girls and women as a face-paint, the cheeks being coloured therewith. The fruit of the kowhara-whara is eaten. Leaves of Astelia are used to wrap round eels when cooked by the kopekope process. The kokaha is probably Astelia trinervia. Another species, found growing in swamps, is probably A. nervosa.

The koromiko or kokomuka is plentiful throughout the district, by streams, in old clearings, or wherever it can get a chance to grow. The species termed kokomuka-taranga is but seldom seen in groves here. The kokomuka-tu-tara-whare is also presumably a Veronica, and derives its Native name from the fact that it often is seen growing on or against the earth-covered sleeping-huts of the Natives. Hence the name of this species has been adopted as a title for "stick-at-home" persons, and is crystallized in a favourite proverbial saying, "Na wai te kokomuka tu-tara-whare i kiia kia haere?" (Who said that the "house-wall-standing" veronica should travel?) This saying is said to have originated with one Rua-te-pupuke, an ancestor of very remote times. Some other ancient asked Rua to go afishing, when he made the above remark, meaning that he was too old for exertion, and had grown to the house-wall like the kokomuka.
Another form of the above saying is, "E kore au e haere, he kokomuka tu tara whare." "He koromiko te rakau i tunua ai te moa" (The koromiko is the wood with which the moa was cooked) is another saying applied to this tree. A tribe of the original Polynesian people of the Bay of Plenty district was named Te Tini o te Kokomuka-tu-tara-whare.

The fragrant moss called kopuru was used as a scent in former times by the belles and beaux of the Children of the Mist. The kopuru is sometimes a tohu mate, or token of coming misfortune. If a number of persons are near it and its fragrance is detected by only one of such persons, then some trouble will soon follow. Probably a person of importance will die ere long.

The red-flowered Loranthus known as pirinoa is termed korukoru when in flower, or the flower is so styled. It grows as a parasite on the tawai trees around Wai-kare Moana. Mr. Field gives rorerore as the Native name of a red-flowering Loranthus in the Taupo district, while Mr. J. B. Lee obtained the Native name of amaru for a similar plant.

The kotara is a tree only found on the high range at Maungapohatu in this district. It has a serrated leaf, hence its Native name. In former times its fragrant leaves were employed by Natives as an agent wherewith to import a desired scent to toilet-oils, neck-sachets, &c., hence young specimens were sometimes transplanted into the village cultivation-grounds.

The kotukutuku, or Fuchsia, is a very common tree on the high-lying lands of the Tuhoe district, but not so very numerous in the lower parts of the main valleys. This tree was of no great economic value to the Natives. The fruit is eaten by children, and also furnishes a food for birds. The edible berries of this tree are called hona by the Tuhoe Natives. The flowers are termed takawa. The kotukutuku and houhi-ongaonga (or houhi puruhi) are the principal deciduous trees of Tuhoeeland. The ongaonga (Urtica ferox) and tapia (Tupeia antarctica) are also here deciduous, and the kowhai is often very nearly so, retaining scarcely any leaves in winter.

The kowhai does not obtain to any great extent in the Tuhoe district. The bark is used by the Natives in the form of an infusion as a medicine for internal pains. The flowering of this tree is said to mark the last frost of the season, which is known as the kowhai frost. In some parts the kowhai flood or rains is also upheld as inevitable. The plant Geum urbanum is also termed kowhai.

The kukuurafo is a swamp-plant having hard black knobs on its roots, which are known as the raho of Tuna.* This Tuna is

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* These roots were eaten formerly, the outside part peeled off first.
an *alias* of Puhi, the eel-god of Maori myth. It has been borne in upon me that this same Puhi was originally a snake-god in some distant land, at an early period in Maori history—say, about the time when Tangaroa was a land deity, as I am informed he used to be.

The *kutakuta*, said to be also known as *paopao* and *kuwawa*, was formerly used in the manufacture of aprons and mourning-fillets, as we have recorded elsewhere.

The small tuberous roots of the *maikaika* are eaten by Native children, either raw or roasted.

Both white and black *maire* are found in the Rua-tahuna district. The black or narrow-leaved *maire* is sometimes seen of a great size. This wood was used in former days for the manufacture of implements, such as *ko* (a planting-spade or dibble) and spades (*rana maire*); also certain weapons, as the *wahaika*, which was fashioned from the roots of the tree.

The *maire*, sayeth the Tuhoean bushman, is one of the trees of which we recognise the two sexes. The female tree is termed *maire-rau-ririki*, and the male is *maire-rau-nui*. The *maire* tree is the offspring of Te Pu-whakahara and Hine-pipi. The former was a son of Tane, and appears to be a star-name, or connected in some way with a star. An old saying applied to the hard-wooded: *maire* is, "*E kore e ngawhere, he maire tu wao, ma te toki e tua*"; meaning, "It will not break (or work) easily, it is a forest-standing *maire*, the axe alone can fell it." This saying is also applied to persons. This timber is a favourite fuel for use in meeting-houses, as it gives out but little smoke and a good light; but if seeds are kept in a house in which *maire* is used as fuel, then such seeds will not germinate when planted. In former times, when forest-birds were numerous, the *kereru* (pigeon) and the *koko* (or *tau*) were wont to frequent in great numbers the *maire-rau-nui* trees to feed on the berries thereof, when great numbers would be snared, although they did not fatten on that diet. The *koko* also feeds on the berries of the other *maire* (*maire roro*), but the *kereru* never does so.

The *mahitahi* (*mahiti* = to spring, leap) is so named because its seeds are distributed in the same manner as are those of *furze* (whin).

The *manono* or *raurekau* tree is common on the high-lying lands of Rua-tahuna. Its range is apparently about equal to that of the *papauma*, possibly somewhat more extended. The *manono* tree, or *Coprosma grandifolia*, is also known as *raurekau*, but I am informed that the latter name really applies to the leaves only, while the trunk, or tree, is *manono*, and the fruit is termed *kuwo*. The *koko* bird feeds upon the berries, while the leaf is used by fowlers as a *pepe* or call leaf, with which they
imitate the cry of that bird, and so attract it to snare or pae (perch). In the summer-time a filmy white substance is seen on the leaves of this tree, which may be detached. It was formerly used by women as an ornament, manufactured into a kind of apron, and seemingly also as a pohoi, a bunch of the material being suspended from the ear. This thin white film is termed kahu raurekau. A yellow dye was sometimes prepared from the scraped or pulverised bark of the manono by means of the stone-boiling process. The fibre to be dyed was then boiled in the liquid. This dye, however, was but little used. The crushed bark is also applied to wounds, cuts, or bruises by the Natives. The inner bark was squeezed or pressed in order to express the sap, which was used in cases of skin-disease. The bark has a bitter, pungent taste. It is inadvisable to handle this wood without cleansing the hands afterwards. Mr. Strauchon informs me that if tobacco be rubbed in the hands at such a time, and smoked, the result is a painful affection of the throat and palate. A note on this bark, by Mr. W. Skey,* does not contain anything remarkable.

The manono shrub is but seldom seen within the realm of Tuhoe, it being a denizen of the plains. Nor is its absence to be lamented, for a more dismal-looking thing we know not. Natives say that if a branch of this shrub is broken by any person rain will soon follow.

Of the manuka we have both the red manuka and white manuka, as they are often termed by settlers. The former is, I take it, Leptospermum scoparium, and the latter L. ericoides. Both are termed manuka by the local Natives. The timber of both is termed durable, but is not really so when exposed to wet. Manuka fence-posts of L. ericoides have a life of but three years in this district. The timber lasts longer as rails. The wood of white manuka was formerly used by Natives for manufacturing into weapons and agricultural implements. The long fighting-spears were made of this timber. The bark of this species is much used by the Maoris for roofing their huts, as it is pliable and can be stripped off the tree in long pieces. Hence these trees were valued in former times, and woe betide the person who presumed to take bark from trees on land to which he had no right. The outer bark is stripped off without causing any injury to the tree. The fragrant leaves of L. ericoides were formerly used wherewith to scent toilet-oil. Some Natives hold the erroneous belief that this latter is the male tree and the red manuka the female tree, possibly on account of the conspicuous and abundant flowers and capsules of the latter. A

decoction of the bark of white *manuka* is used by Natives where- 
with to cure diarrhoea.

*Mapere* is the Native name of a species of *toetoe* which grows 
in the bush. It has a dark-green leaf and black "plumes."

The *maru* is a swamp-grass, or sedge.

The *matai* was one of the most important trees of the forest 


to the neolithic Maori, for it was included in a group of trees 


termed *rakau rangatira* (important trees), as opposed to the 


smaller or less useful species, which are known as *rakau ware*, 


or common trees. If you remark to a Native that his hair is 


becoming grey, he will reply that moss grows only on *rakau 


rangatira*—alluding to the long grey moss that is often seen on 


different species of *Podocarpus*. Grey hair is also alluded to 


as the *tarutaru o Tura*, or weeds of Tura. Young trees of *matai* 


are known as *kai* and *kakai* among Tuhoe, and as *mai* among 


some other tribes. "*Ko te wahie tena i taona ai a Tupurupururo*" 


(That is the fuel by means of which the body of Tupurupuru 


was cooked) is a saying connected with this tree. Tupurupuru 


was an ancestor of the East Coast Natives, who lived and was 


slain at Poverty Bay. Natives recognise the difference in 


appearance of timber, &c., that exists among *matai* trees, as also 


differences in the "flesh," as do our bushmen. They believe 


that the variety which has a dry, light inner wood, and splits 


easily, is the female tree. The wood of the *matai* was used for 


drums (*pahu*) and some other articles, as it is said to possess 


good sounding-qualities.


The common blue pansy, introduced by the early mission- 


aries, was named *mata* by Tuhoe, after the name of the Native 


who brought the first plant to Rua-tahuna.


The *matukutuku* is probably a *Lycopodium*.


The *mauku* fern (*Asplenium bulbiferum*) is the most common 


fern in the Tuhoean forests. The young undeveloped fronds, 


termed *pikopiko*, form an article of food; while coarse mats of 


a very temporary nature were plaited from its leaves and used 


as a covering at night by refugees or persons camping out. 


Hence the tribal aphorism, "*Rua-tahuna kakahu mauku*" (Rua- 


tahuna of the *mauku* clothing). The young plants often seen 


adhering in great numbers to the leaves are termed *tururu 


mauku*, which was taken as a tribal name by one division of the 


original inhabitants of the Bay of Plenty district. Fronds 


of this fern seem to have been used in certain rites connected 


with the felling of trees, and the making of a new canoe, in days 


of yore.


*Maukuwuku* is a secondary name of the *perer* (*Gastrodia 


Cunnighamii*), and is a sort of term of courtesy for that plant, 


the tuberous roots of which are eaten by the Natives. If when
searching for the plant you happen to mention its ordinary name (perei), then you will not find a single specimen. It apparently conceals itself when its name is mentioned. Hence, at such a time it is always termed maukuwuku. This plant did not originally spring from the earth, but was formed by the gods; hence, presumably, it has a certain amount of tapu pertaining to it. The roots are dug up in the winter months. A similar superstition to the above seems to obtain in parts of Europe anent the mandrake-plant, and in Tahiti concerning arrowroot and other plants, products, &c.

The maurea, a coarse tussock-grass of a reddish-brown colour, was formerly sought after for the making of belts for women. It is common in the Runanga district. An old proverbial saying, "He maurea kia whiria," preserves the name.

The namunamau (Geranium molle) is said by some botanists to be an introduced plant. The Natives steep the leaves in hot water and apply them to open wounds. It is said by them to be antiseptic. The water in which leaves of this plant, of the piripiri, and some others has been boiled is used in the same way. In cases of bruises it is used as an embrocation.

The neinei (? Dracophyllum latifolium) is found at high altitudes in Tuhoeland. In ascending the ranges of the interior one often passes through a belt of 200 or 300 yards in width, sometimes less, wherein this tree is common, while above and below such belt not a specimen is seen. Its plume-like bunches of leaves make this tree a handsome and conspicuous object. Straight stems of the same are sought after for the making of walking-sticks. It is often termed "spiderwood" by settlers and bushmen, on account of the web-like pattern seen when a stem is cut transversely. The Natives hold the green stick over a fire, and when heated it is beaten with a stick, so that the bark may be detached without injuring the fluted appearance of the wood beneath. In former times a kind of flute was made from the neinei, the pith being removed in the process. I have not, so far, seen the neinei near the coast.

The nikau is found only in the northern part of the Tuhoe district, in the bush of the Rua-toki and Wai-mana districts. The young, undeveloped leaves are eaten, and the leaves are used in thatching huts.

The ngutu kaka is an epiphytal plant found growing upon the tawa tree. It takes root in clumps of Astelia, and sends its roots downwards toward the ground.

The ongaonga (Urtica ferox) is not common in the Tuhoe district, but is occasionally seen, usually near streams. The larger stems were peeled and the inside portion eaten in former times. It is said to have a sweet taste.
The *paea*, an introduced plant, is said to have been named after the European from whom it was first obtained. A Poverty Bay tradition states that Captain Cook was so named by the Natives of that place, on account of his calling out the word “Fire” when ordering his men to set upon the Natives. The Maori pronunciation of the word is *paea*. Or it may have been named after Tupaea.

Some very fine *pahau-kakapo* moss (*Davsonia superba*) is found in the interior, in the Parahaki district. The general name for mosses is *rimurimu*. *Angiangi* and *kohu-kohu* seem to be names both of which are applied to *Hypnum clandestinum*. The *angiangi*, a very soft species, is used as a sort of bandage or covering for parts of the body affected by disease, &c., and by women as a diapar. It is also used by fowlers to cover a *pepe*, or bird-snares, in order to give it the appearance of a growing branch. Colenso says of the *angiangi*, “A long, loose, pendulous, filamentous, white lichen (*Usnea barbata*)”—which is assuredly not the moss above mentioned. Moss was formerly used as a sort of sock when wearing sandals in crossing high, snow-clad hills, it being stuffed in round the foot.

The *papauma* (*Griselia littoralis*) flourishes in the Ruatahuna district. The berries are known as *huariki*, and are eaten by the koko bird, which is said to get very fat on such food. *Karariki* is said to be another name of the *papauma*. Cuttings take root readily.

The berries of the *pa-totara* are eaten by children.

The *pepepe* is so called because the leaves thereof are used as bird-calls (*pepe*) by fowlers.

The large-flowered white *Clematis* has two names applied to it: the flowers are termed *poananga*, while the stem or plant is *piki-arero*. It is *Clematis indivisa*. The species bearing small greenish flowers is called *aka kopu keroeru*. The *ngakau-kiore* is *Clematis parviflora*. *C. indivisa* is sometimes termed *aka poananga*. The *poananga*, *whakou* (flowers of the *tawari* tree), and *kahika* (*rata* blossom) are said by Natives to produce the finest honey. Leaves of the *piki-arero*, as also those of the *horopito*, were used by women to wean a child from suckling, being crushed and rubbed on the breasts (see “Kwikuwi”). The sap of the *horopito* was used in cases of skin-disease.

Young fronds of the *paraharaha* and *rereti* ferns are eaten by Natives, being cooked as greens.

*Poporo*: This name is applied to *Solanum aviculare*. It is said to be so termed before it bears fruit, but is called *kaoho*, or *kahoho*, after it has once borne fruit. Apparently fruiting specimens are known by this latter name.
The leaves of the pohue, tohetaka, kohukohu (a kind of chickweed), panakenake, pororua, raupeti, and poniu were cooked and eaten as greens.

The puakaito has been observed only on the high range at Maunga-pohatu in this district.

A sort of jelly was made from the ripe berries of the puhou, or tutu, in former times. This jelly was a much appreciated food-item, but the process of making it was tedious, as the fruit had to be carefully strained, in order that all the poisonous seeds might be retained by the strainer. The latter consisted of a closely woven basket, lined with plumes of the toetoe-kakaho. The seeds are termed huarua. It is said by local Natives that if a person breaks off young branches, stems, of the tutu that such act will cause a downfall of rain ere long.

Natives formerly made cartridge-holders of the tough wood of the puka (Griselinia lucida).

An Olearia usually termed akeake by Natives is termed ramarama by the Tuhoe Natives. The latter name is applied by most tribes to Myrurus bullata. The wood of this Tuhoean ramarama was formerly used for making certain toys, as tops, and kororohu, because it was thought to make more sound than most other woods.

The starchy rhizomes of the rarauhe were an important item in the food-supply of the Natives in pre-European days, but are seldom used now. The young fronds of the rarauhe are termed mokehu, while haumia is a sort of emblematical term for the roots or rhizomes thereof. Haumia was one of the offspring of Rangi and Papa (Heaven and Earth), and is personified, as it were, in the fern-root. Haumia retired to the bosom of the Earth Mother in order to provide sustenance for the human offspring of Rangi and Papa. The enemies of Haumia are represented by the Maori people (because they ate largely of fern-root). The children (offspring) of the mokehu are the mosquito and sandfly. These two assail man. Sandflies are a dauntless folk. It matters not how many thousands be slain, they reck not of that, but still attack man. Nothing but fire can stop them. The saying of the warlike sandfly is, “What matter if I be slain, so long as I draw forth the blood of the Maori people of the world” (Hai aha ahau te mate ai, i nga toto o te iwi Maori o te ao ka pakaru kai waho). The rarauhe is also known as takaka and makaka.

The rata is a prominent feature in the higher forest ranges. This huge tree was held in much esteem in former times, because it was much resorted to by birds seeking the honey contained in its flowers. Most of these trees had special names, such as Te Tohu a te Ropu, a rata tree at O-haua, which is said to
be always the first to bloom of such trees in that vicinity. The flowers of the rata are termed kahika and te kanohi o Tawhaki. In the old-time legend of Tawhaki and his ascent to the heavens it is stated that after his encounter with Tama-i-waho the hapless Tawhaki fell from the heavens and perished at the place where the sky hangs down. When the people of this lower world awoke next morn, behold! the rata, the pohutukawa, the kowhai trees were all red, reddened by the blood (toto) of Tawhaki. Even so the blood of Tawhaki and the kura (red-feather ornaments) of his taiaha (a weapon) are seen in the blossoms of those trees. The above does not quite explain why the rata flowers are termed the kanohi (face or eye) of Tawhaki. Possibly he became red in the face through ascending to such great altitudes. A decoction of the bark of the rata, boiled for some time, is used by Natives to apply to wounds. As elsewhere, most of the rata trees of this district commenced life far sundered from mother earth, but at some places—e.g., near Taumata-miere—many terrestrial specimens are seen. A rata at Heipipi began its sinful career high up on the branches of a matai, about 4 ft. in diameter. Finding that the latter tree was hollow, the rata sent a questing root-stem down the hollow centre of the matai, which reached the ground and found much nourishment therein, even that it grew to such dimensions as to rend asunder the great trunk of the matai, which rent is about 8 in. in width, and has killed the tree. The root-stem gained access to the hollow centre of the supporting tree through a knot-hole. The ngutara, or so-called vegetable caterpillar, is found under many of these rata trees. These creatures were formerly collected by the Natives and burned, the residue of black ash being used to make a pigment for tattooing purposes. The term kahika, applied to the blossoms of the rata, seems to be used in the same manner as is the name whakou (flowers of the tawari tree), and some others—viz., the name appears to be applied to the whole tree while it is in flower, but no longer. Apparently the Maori is not happy unless he can bring superstitious ideas to bear on every subject. Hence, when procuring the bark of the rata for medicinal purposes, he will only do so at early morn, and no person of the hamlet may partake of food, or smoke a pipe, until the medicine is prepared, otherwise it will lose all its efficiency. Probably this custom arose through the still-room artist being afraid of losing his breakfast. The honey of the rata blossom is known as wai kaihua. It is eagerly sought by the kaka birds, and when these birds are seen on the rata trees it is known that the rarangi tahi season has arrived, so the bird-snares are laid aside, and the long, pliant spears get to work. As the wise woodsman sayeth, "Ka kai te kaka i te:
wai kaibua, ka kiia he rarangi tahi.” Another old saying is, “Kēt whawhati noa mai te rau o te rata,” which Sir George Grey translates as, “Do not fly into a passion (get red in the face), for no cause, like the wind scattering the rata blossom.” Colenso gives it as meaning, “Don’t pluck and fling about to no purpose the blossoms of the rata”; hence, “Don’t become ashamed when your lying is detected.” The rata trees of terrestrial origin I have seen only on high ranges in this district, while those of epiphytic origin are seen on sidings and lower ground. The former furnish the more solid trunk to the splitter or sawyer, save in cases when the latter develops but a single aerial root.

The names raukatauri and whiri-o-raukata-uri seem to be applied to several species of Lycopodium.

The inner part of the roots (karito) of the raupo were formerly eaten, and a kind of bread was made from its seeds (tahuna, tahune, hune).

The rau-tawhi is said to have been so named because branches thereof were used as tawhi—green branchlets carried in the hand and waved during the ceremonies of receiving and welcoming visitors. It is known among some tribes as kowhiwhi, and is often termed “silverleaf” by settlers.

The rewarewa, an aquatic plant, is seen in ponds and other placid waters. Its leaves have a very pretty effect as seen floating on the surface of such waters.

The kohuwai is apparently a kind of aquatic moss, while retoreto seems to be the name of the duckweed.

The rewarewa tree is very common in some parts of Tuhoe-land. Its flowers are termed rewa (He rewarewa te tinana, he rewa nga pau).

The rimu tree is also of common occurrence, much more so than the rewarewa in the higher-lying districts.

The tawhinu is seen only in river-beds in the lower parts of their courses.

The tamatea is found in swampy places in open country, and is used as thatch for huts.

The tanguru grows among fern and scrub, often on steep, rocky hillsides. Its aromatic leaves (? young leaves) were gathered by the exquisites of Maoriland, as also were those of the kotara, ko-areare, &c.

The tangaru-rake is said to be a species found growing on the summits of high ranges, where scrub alone prevails.

The tapairu (Senecio Kirkii) is found on the ranges of the interior, growing as an epiphyte, and also in a terrestrial form. The white blossoms of the former are very conspicuous in the forest.
The tapia, a true parasite, is very common throughout the district, and is deciduous, losing all its leaves, at least in the Rua-tahuna district. It is found growing on the puahou tree (Panax arboenum), but rarely on any other. In only one instance have I seen it growing on any other species, and that was a kai-veta tree (Carpodetus serratus). The berries are eaten by Native children.

The tarata tree shows some very fine specimens in the interior, its fine foliage being a beautiful sight in the early summer. In former times the Natives obtained an aromatic gum from this tree by means of wounding the trunk. It was used to scent satchets with.

The tara-para I have not seen, as it is found only up the Wai-o-eka River in this district, but from descriptions given by Natives I judge it to be the para-tawhiti of the north (Marrattia fraxinea). Its large rhizomes are eaten by the Natives.

The tawa is very common throughout the Tuhoe district, and was a most useful tree to the Maori in former times. From its trunk he fashioned slender bird-spears (maiere and tao-roa) of great length, while its wood is an excellent fuel. Its fruit, termed pokere, furnished a kernel that was one of the principal food-items of these Tuhoean bushmen. These kernels were steamed in a hapi (steam earth-oven) for two days and then dried, when they would keep for years. When placed in the steam-oven they were covered and surrounded with leaves and fronds of karamuramu, hangehange, petako, paraharaha, and rau-tawhiri. These leaves imparted a brownish colour to the kernels that was considered desirable. When required for food these dried kernels were stoneboiled and pounded. The kernels were sometimes roasted before a fire, and, when heated, exploded with a popping sound; hence ahi tawa, a fire at which tawa kernels are roasted, is a term sometimes employed to express noisiness. Of a noisy child it is said, "Ko te ahi tawa hai whakarite" (It resembles a tawa fire). The tawa tree is sometimes termed tawa rawangi, from the rustling sound made by its leaves in a breeze. A tawa mapua is a tawa tree that bears abundance of fruit. This fruit is a favourite food of the pigeon. The straight-grained white timber of the tawa tree is described by the terms ngako and kaupuka. European bushmen divide the tawa into two varieties, termed by them "white" tawa and "black" tawa. The former has a very white, easy-splitting, soft wood, excellent chopping for the bushman, and is a splendid fuel timber. These trees do not seem to grow so large as the black variety, but are more plentiful, and often very straight in the grain. The Natives made their bird-spears of this kind. The black tawa has a darker-coloured timber, is much harder,
and does not split as well as the white. It is much inferior as firewood, and the heart is often quite black. This black heart-wood is very tough. Sir George Grey has placed on record two old-time sayings connected with this tree: "He tawa para, he whati noa" (The branch, decayed wood of the tawa breaks easily). This is applied to a person timid in battle, &c. "Ka mahi te tawa who" (Now is seen the strength of the heart-wood of the tawa)—said of an energetic fighter, &c.

The tawai tree is plentiful in the high-lying districts, as Rua-tahuna, more especially on the high ranges. Some of these trees are of great size, and the heart-wood thereof is very durable. At these high altitudes the tawai supports a great many epiphytical plants, for the humidity of the air is most marked. The principal benefit derived by the Maori from this tree was the fact that the beech mast provided food for the native rat, great numbers of which were trapped in former times. The bark was used in dyeing fibres for weaving purposes; while the puku tawai, a kind of fungoid growth on the trunk, was used as punk in fire-generating, and as a fire-stick. The puku tawa, a similar growth on the tawa tree, was considered useless for this purpose.

The tawaka, a species of Agaricus found growing on dead logs or stumps of the tawa, houhi, and mahoe trees, was eaten by the Natives. It is said that when a person has eaten of this food it is not well that he should go into the cultivations of the hamlet, among the gourd-plants, or the fruit of those plants will decay prematurely; or, should that person go a-fishing, he will not take a single fish.

The flowers of the tawari tree are termed whakou, which blossoms make a brave show in some seasons. In like manner the hinau and some other trees differ much as to the quantity of flowers produced in different seasons.

The tawhero is found in all parts of the Tuhoe district, and may be said to be the most common tree thereof. Its bark is sometimes used in the dyeing of fibre for making cloaks, &c. Handles for the large stone adzes were made from branches of tawhero.

The two species of Gaultheria (G. antipoda and G. oppositifolia) found here seem to be both termed tawiniwini by the Natives. Colenso gives koropuku as a name for a variety of G. antipoda.

The name  ti is used as a generic term for Cordyline. The following species are found in the Tuhoe district: 1, ti (Cordyline australis); 2, ti-kapu (C. Banksii); 3, toi (Cordyline indivisa); 4, ti-para (? C. terminalis). C. pumilio I know not in this district, while the ti-tawhiti is doubtful. The latter is said to be distinct from the ti-para, and was in former times a prized article of food.

8—Trans.
of food. It does not appear to have grown, or been cultivated, in this district, or at least not in the interior, but the name is known to the old men. The following remark was made by a local Native before the Land Commission: "He ti tawhiti te o ia mate ai te tahi tangata o Rotorua, na reira i tapaia taua ingoa ki tetahi wahine o konei" (A ti-tawhiti was the last food partaken of by a certain dying person at Rotorua, hence that name was given to a woman of this place).

The common species of Cordyline (C. australis), the "cabbage-tree" of the settlers, is known as ti to the Natives, though it is also a generic term for all the species. C. australis is known as kouka, or ti-kouka, among some tribes; others, again, term it whanake. The leaves of this species are said to contain a bitter sap which is absent in leaves of the toi. Leaves of the latter are said to have been sometimes steamed and the fleshy part eaten. The tap-root and upper part of the trunk of the ti were eaten. After having been steamed for about forty-eight hours it was chewed and the fibrous matter rejected. The roots contain sugar and farinaceous matter. The leaves of C. australis contain a strong fibre, which is much more durable than that of Phormium tenax, hence it was much used in the manufacture of snares and other articles exposed to the weather. Rough shoulder-capes were also made from these leaves. The ti are much frequented by pigeons in the season, and it was a valuable tree to the old-time Maori.

The ti-kapu seems to be known in other districts as ti-parae and ti-ngahere, while Williams's Maori Dictionary gives hauora as another name for it. The word parae is generally used by the Maoris to denote open country, but the Tuhoe Tribe apply the term to bush country, which is somewhat confusing to a newcomer. The ti-kapu is generally found about the edge of a forest, or on high ridges and steep places where small timber prevails. Myriads of these plants sprang into life on the Tau-mata-miere Range when the bridle-track was made and the trees felled a width of a chain. On the high ranges of the interior the toi springs up on such cleared lines, though not in such great numbers. Of the ti-kapu, the young undeveloped leaves (rito) alone were eaten.

The toi, or ti-toi, is known to some tribes as ti-mataku-tai (ocean-fearing Cordyline), which same is an excellent name for it, as it does not flourish near the coast. The kauru, or upper part of the trunk of the toi, was sometimes eaten prepared as was that of the ti, but it does not seem to have been much appreciated. The outside of the kauru was cut off before being steamed in the earth-oven; the tap-root was also eaten; while the young leaves were used as a vegetable, as we use greens. The fibre
Best.—Maori Forest Lore.

contained in the leaves is exceedingly strong, and such leaves have a peculiar elasticity when subjected to a strain lengthwise. This species is sometimes termed the “mountain-palm,” and is a very handsome object as seen growing on the high ranges, the leaves being 7 in. and 8 in. in width. The midrib (tuaka) of these leaves is of a red colour, and was used in making waist-belts, while from the coarse fibre rough rain-capes are made. These capes are very much more durable than those made of flax (Phormium), and were almost the only clothing used by the Tuhoe Tribe in former tribes.

The ti-para I believe to be C. terminalis. But very few plants now exist in the district, nor does it appear that it ever grew here in a wild state, but only as a cultivated plant. It was formerly grown by the Natives because it was much esteemed as an article of food, the whole plant being edible. The outside of this species was not removed when placed in the steam-oven. It was the best-eating of all the species of Cordyline here known. When the stem of this species has attained a height of about 3 ft. or 4 ft. the Natives bend it down until the upper part touches the ground, and cover that part with earth. It takes root where it is so covered, and then the bent trunk between the two roots is cut out, cooked, and eaten. When the young plant grows up it is treated in a similar manner. A small sucker planted in my camp garden two years ago is now 2 ft. in height, and has about a hundred leaves, which are 1½ in. wide in the middle. This species seems to be known as ti-pore among some tribes, while Williams gives mahonge as the name of a variety of ti-para. The following old saying was given by a member of the Atiawa Tribe: “E kore e riro, he ti tamore no Barotonga.” (A chief possessing courage, energy, &c., was said to be able to withstand a gale like the branchless Cordyline of Barotonga. Enemies would not conquer him, any more than the wind could overthrow a branchless ti). In his collection of Maori proverbs Sir George Grey gives “Ehara i te ti e wana ake” (When man dies he dies completely; no suckers or shoots spring from his decaying body, as they do from the stump of a ti).

The ti-kumu, a plant found only on the summit of Maungapohatu in this district, appears to be similar to the “leather-plant” of the south—a Čelmisia. It is mentioned in, I think, Dieffenbach’s “New Zealand” as being found on Mount Egmont. He gives it the same name as that used by Tuhoe; while in Parkinson’s Journal it appears as teegoomme—evidently as near as an Englishman could get to it. Some tribes seem to have utilised the ti-kumu leaf in the making of rude capes, &c.*

Transactions.

The titoki, rimu, hinau, and tawa trees do not produce fruit every year, according to my Native informants, but only when they like (kia puta tana hiahia), then they fruit (katahi ka hua). A rimu tree may go several years without producing fruit. From the seeds of the titoki the Maoris formerly expressed an oil which was used for toilet purposes. A strong bag was woven of strips of flax-leaves, being about 6 in. in diameter and 3 ft. in length. This bag was termed a ngeheheki, or kopa whakawiri titoki. The seeds were placed in it, and the mouth of the bag tied up. The bag was then pounded with a club, so as to crush the seeds. At either end stood a man, who held an end of the bag firmly, and, by turning in opposite direction, sufficient pressure was obtained to express the oil contained in the berries, or at least a portion of it. One authority states that hot-stones were placed among the crushed seeds to increase the flow of oil. This oil was placed in gourds, and scented by means of placing therein certain aromatic leaves, &c., as those of the heketara, koareare, manuka, and the koparu moss. We have representations of a similar instrument used by the ancient Egyptians, who, however, obtained increased purchase by winding the confining cord round the long bag in a spiral manner, attaching one end to one side of a square wooden frame, and passing the other end through a hole in the beam on the other side of the frame. This end was then secured to a wooden bar, which gave a great power to the twisting process. Colenso gives a saying I have never heard—“Ko nga rangatira a te tau titoki”—applied to a person of low birth who obtains some of this toilet-oil in the season when the titoki tree bears plenty of fruit. That man is a chief only in the titoki season. The Tuhoe people have a saying, “Apa he peka titoki”* (When a man dies, his branches—children—live after him, unlike branches of the titoki, which die for ever). This rendering may be correct, but it conflicts with several other sayings, as, “Apa he peka a kai” (Food products grow again when planted, but man when buried appears no more).

Toi, a species of fungus, is not, I think, a Tuhoe word. It is applied to a kind of toadstool that grows in deserted huts, &c. Toi whenua is a term used by Te Atiawa—the people of a place, the permanent or original inhabitants.

The introduced dandelion (tohetaka) has a very firm grip on New Zealand. Its leaves are sometimes eaten by Natives, cooked as greens. “Kai te moe tonu te tohetaka” (The dandelion still sleeps) is said of a late sleeper. That plant does not open its flowers until the day is well aired.

*In full, “He peka, tangata, apa he peka titoki.”
The *toromiro* tree, known as *miro* in many other districts, is not a very common tree in this district, but is much prized by the Natives on account of the amount of food provided by it for the pigeon, which becomes extremely fat when feeding on its berries. Hence every tree of this species is well known by the sub-tribe on whose land it stands, and most of such trees are known by distinct names, as also are any trees of other species—kahikatea, matai, rata, &c.—that were much resorted to by birds, and were for that reason favourite snaring-trees. The Natives profess to know the male and female trees of *toromiro*, stating that the female trees alone bear fruit, while others, which produce flowers only and never fruit, are said to be male trees. The bark of the *toromiro* is used medicinally by the Natives; albeit these *wai rakau* medicines, as they term them, are quite a modern usage.

The *toetoe-kakaho* is used here, as in other districts, in the construction of huts—the leaves as thatch occasionally, the flower-stalks for lining the roof. Natives recognise two varieties of *toetoe-kakaho*—one, known as *kakaho-matariki*, produces the best reeds (culms) for house-lining; the other, termed *kakaho-puha*, has larger and somewhat crooked or bent culms, deemed inferior for the above purpose. Hence the following saying: "*Ka whakarereatia te puha, ka whai ki te matariki*" (The *puha* is rejected, the *matariki* sought after)—a saying that is made use of in speaking of persons, or, in fact, almost anything. The term *rake kakaho* is applied to a plant of this species which produces a large number of straight culms of the better kind for house-lining, walls and roof; or, rather, it applies to the bunch or collection of culms, not to the whole plant. "*Te rake kakaho a Tunono*" (the culm-clump of Tunono) is a Ngati-Awa saying. It was first used to describe the sons of one Tunono. These men were all tall, and all had grey hair, hence they were likened to a *rake kakaho*. The following saying is a well-known one: "*He ta kakaho, e kitea ana te oio i te hau; he ta ngakau, e kore e kitea*" (The crookedness of a culm is seen when the wind blows; the crookedness of the [human] mind is not seen). The leaves of *toetoe-kakaho* do not appear to be looked upon as making very good thatch, but are used for huts. The rush (*wiwi*) seems more durable.

The *upoko-tangata*, sometimes called *toetoe-whatu-manu*, was formerly used in the making of kites (*manu*), the triangular stems being used for that purpose. Two varieties are recognised by Natives.

The *toro-papa* is evidently so named from its curious growth. It not only spreads underground, throwing up several stems, but also such branches as come into contact with the earth take root.
The _totara_ is sometimes termed _Te Riu o Tane_, because most canoes were fashioned from that timber. This was, in former times, the most prized tree of the forest, the foremost of _rakau rangatira_. Its timber was the best for canoes and house-building and other purposes. The bark was used for covering houses, and vessels for containing water and preserved foods were made of it. Vessels made for the former purpose were termed _patua_, and were often used for stoneboiling, as also were _kumete_, a wooden trough. The bark vessels, made to contain preserved birds, rats, &c., were called _papa_. Temporary _patua_, used to hold water, were sometimes made from bark of the _mako_ and _kouhou_ trees, but these would only be serviceable for one day. The Tuhoe Natives claim that they recognise the male and female trees of _totara_. They call the male (toa) tree _karaka_, and the female (_uvwa_ tree _kotukutuku_. The terms _kouwha_ and _karava_ are also used to denote the female sex of trees. The outer bark of the _karaka_ or male _totara_ tree is termed _tuanui_; the inner bark is called _kiri_ (the common name for bark or skin). The _tuanui_ bark is thick, and peels off in long strips. It is the only kind valued. The _kotukutuku_, or female _totara_, has no _tuanui_ bark, but only a thin bark resembling that of the native _Fuschia_ ( _kotukutuku_ ) tree, hence the latter name has been applied to the female _totara_. One informant tells me that in ancient times all the _totara_ folk lived together, but that after the contest already described in this veracious chronicle some of them fled to cliffs and rugged lands, there to dwell. Also, that the _matai_ wood that pops when burned comes from a male tree; that which does not act so is of a female tree. And who am I that I should doubt these things?

The thick-barked _manuka_ is also termed the male tree by Natives. This is our "white" _manuka_. The scientific botanist may tell the simple autochthones that they are wrong. I decline to do so, lest I lose my reputation for trusting, childlike faith.

The bushmen of Tuhoe say, "Only the female trees bear fruit (_Ko nga rakau kouwha anake e hua ana_). That produced by the male trees is termed _hæ_ (pollen). It is like dust, and is blown and carried by the wind. It is not a real _hua_ (fruit), but a form of _pua_ (blossom or seed). It is produced by male trees of _toromiro_, _kahika_, _matai_, &c. All trees are divided into male and female sexes; we recognise the male and female sexes of the _totara_, _matai_, _kahika_, _kotara_, and some other trees."

In vol. i of the "Transactions of the New Zealand Institute," page 13 of special essays, is an interesting account of how the Maoris lightened the labours of future canoe-makers by stripping off a piece of bark and a portion of the wood from comparatively young _totara_.

I have obtained no satisfactory name locally for *Eugenia maire*. One Native gave *puka* as the name thereof, but the statement is unsupported, and I have little faith in it. Another gave *tu-huhi*, which is very unsatisfactory, and might be applied to any swamp-growing tree. Such tree or plant names as the latter, and *tu-repo, tu-tahuna, tu-tawai, tu-pari, piripiri, piri-pari, piri-noa, &c.*, are objects of my deepest scorn. They appear to be employed by Natives who do not know the proper names of such plants, &c. It is quite easy to call a plant that grows on cliffs a “cliff-grower,” but that is not necessarily the proper name of it. In the north the Natives call the above tree *maire-tawhake*, and Mr. J. B. Lee obtained *whakoukou* as a name for it, while Dr. Hector gives *whawhakou*.

A kind of sandal or galligaskin was made from the *tumatakuru* (*Aciphylla squarrosa*) plant by the Tuhoe Natives in former times. Several kinds of sandals or buskins were made and used in winter-time, when crossing the high ranges of the interior, which were often snow-covered. Tuhoe have traditions of several parties of travellers which were snowed up on those ranges and perished miserably in past times. When Hape-nui, some generations ago, started to cross the Huia-raw Range, then deeply covered with snow, the folk of Rua-tahuna tried to dissuade him from the attempt. But Hape declined to stay, saying, “*He riri avatia.*” Even so he perished. Paerau, of Rua-tahuna, crossed the same range at a time when the summit at Te Whakairinga was very deeply covered with snow. He marked the depth of snow by cutting a notch in a tree, which mark was pointed out to travellers for many years after.

The *toheraoa* plant is said to be so called because if a portion of the seed-head gets into food it will choke a person. Deaths have so occurred.

The *tuokura* (*Dicksonia lanata*) appears to be known as *tuakura* among other tribes. When Te Kahu-o-te-rangi, of the Wai-roa district, East Coast, visited Ngati-Apa, of Galatea, he took as a wife one Taratara of the latter people. Their nuptial couch was composed of fronds of *tuokura*. When Te Kahu returned home he left his new wife behind, saying, “*Ki te whanau to tamaiti he tane, tapaina ki te kahu o te rangi. Ki te whanau he wahi, tapaina ki te rake o tuokura*” (If your child be born a male, name it after the hawk of the heavens [his own name]; if born a female, then name it after the *rake o tuokura*). The term *rake* is applied to high exposed range-tops where few large trees are seen, but only scrub and very hardy plants and ferns, such as the *tuokura*.

The name *waiku-atua* is applied to several species in different districts, for which see Cheeseman’s “New Zealand Flora,”
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page 1110. Ngati-Awa know that name, and also waru-o-Kahu-
kura (the milk of Kahukura). They give the following origin of the name: Just before Pou-rangahua, of Kiri-kino, Turanga-
district, went to Hawaiki he seems to have visited Whakatane, where he appears to have taken to wife one Kanioro, sister of Hoaki and Taukata, who brought the knowledge of the *kumara* to the Hapu-oneone people of Kakaho-roa, as Whakatane was then called. It was proposed to despatch a vessel to Hawaiki in order to obtain seed *kumara* (sweet potatoes). Pou said, “Do not sail until I return here. I am going home to see my child Kahukura, at Kiri-kino. I have noticed that when the sun rises he puts out his tongue in that direction, so I think that away toward the place where the sun rises is some desirable food *hai whakawai mo taku tamaiti* (to cause the child’s mother to give abundance of milk). When Pou returned to Kakaho-
roa he found that the Ara-tawhao had sailed without him, so he obtained the *tawau* (milky juice) of the plant since known as *waiu-atua* and *waiu-o-Kahukura*. It is probably *Euphorbia*
*glauca*.

The *vaoriki* plant (*Ranunculus rivularis*) is found in some swamps of the district. It is poisonous to stock. It may be seen in swamps about Galatea, as also is the white moss *Sphag-
num cymbifolium*. The leaves of the *wharangi* are also poisonous to stock, and the honey obtained from its flowers is extremely hurtful to the genus *hono*.

The stems of the *tonakenake*, a small variety of *pohue*, were used in the manufacture of cel-pots.

A coastal variety of *Asplenium flaccidum* is found on the Rurima rocks, off Matata.

A few notes lately obtained: Several Natives inform me that the *kokomuka-taranga* and *kokomuka-tu-tara-ware* are one and the same. Mr. Cheeseman gives the former name for *Veronica parviflora* (leaves 1 in. to 2½ in. long), whereas the Tuhoean *kokomuka-taranga* has leaves 4½ in. long. The tough stems of the *iwi-tuna* (*Lycopodium Billardieri*) were formerly used to put round the neck for suspending ornaments of stone, &c., thereto. The white *maire* is here termed *maire-roru*. The black *maire* is *Olea Cunninghiamii*. One Native gave *mahiru-
heru* as the name of *Gleichenia circinata*, but it seems doubtful, inasmuch as other Natives do not recognise the name. Several Natives state that *kotara*, *heketara*, and *taraheke* are all names of one tree. Cheeseman gives *heketara* as *Olearia Cunninghiamii*. I have been told that *tororire* is a tree-name, but have not learned as to which tree it is applied. The ends of the fronds of the *kiwitiwi* fern are chewed as a cure for ulceration or soreness of the mouth or tongue.
The general term for the bark of trees in this district is *kiri*, which is also used to denote skin; hence, when bark is meant, the phrase *kiri rakau* (tree-skin, or bark) is employed. Other words for bark in various districts are *peha*, *hiako*, *tapeha*, and *tangai*. Tuhoe use the word *torokiri* for bark or the outside of a tree. They employ this word to denote outside slabs from a sawpit or mill, which are of sap-wood with bark on.

The term *iho* is used for the middle of a tree, the centre of the heart-wood. *Taikura* is the reddish heart-wood between the *iho* and the sap. *Taitea* is the sap-wood. The first term (*iho*) is used to denote the very heart, or kernel, of anything, even of a speech. *Taikura* implies a red or reddish-brown colour, as seen in the heart-wood of many trees. *Taitea* denotes whiteness, as of sap-wood, &c.

An old proverbial expression says, "Ruia taitea, kia tu ko taikaka anake" (Reject the sap-wood and leave only the heart-wood). Here the word *taikaka* is used for heart-wood—perhaps a northern word. Sir George Grey gives the following words for the timber of the *totara*: *Iho* or *iho*, the heart; next the *kaka*, or hard part; then the *rangiura*, or reddest part; then the *taitea* or sap, which soon decays. The above proverb means, Discard the useless or worthless, retain that which is valuable—a saying often quoted by the Maori. A somewhat similar saying is, "He rakau tawhito, e mau ana te taitea i waha ra, e tu te kōhīwi" (In an old tree the outside is sap-wood, but it encloses hard, durable heart-wood). (See "Kōhīwi," post.)

The Maoris are acquainted with the movement of sap in trees, hence they cut off the tops of certain species of *Cordyline*, intended for food, before the sap rises in the spring.

The top of a tree is termed *kauki* or *matamata*—i.e., the very highest part, the top of the head. The head of a tree is *kauru* or *kouru*. The branches are termed *peka* or *manga*, but a very large main branch or division of a tree is called *ruha*. A dry, dead branch is *puanga*. The word *kawekaweke* is employed to denote extreme length in branches. The trunk of a tree is termed the *tinana*. The base of the trunk is the *take*. A stump is *tumutumu* or *kotumu*. *Take* is also applied to the root. *Pu* and *putake* are applied to the base or root of anything—of a tree, or an argument, or action—its secondary meaning being "reason, cause." Roots are termed *paiake* and *pakiaka*. Small rootlets or fibres are called *weu*, *weru*, and *piakaka*. An old saying of these bird-snaring, tree-climbing bushmen is, "He toa piki rakau, he kai na te pakiaka" (The fearless tree-climber becomes food for a root. Some day he will fall from a tree on to the roots thereof, and so perish).

The term *wana* is usually applied to a shoot or bud, but
among Tuhoe it is used to denote a young tree, a seedling (*he wana karaka*); while *mahuri* and *kahuri* denote a sapling—i.e., of a larger growth than a *wana*. *Huri* is used for "seed," as seed potatoes, seed *taro*, &c. *Pua* means "seed"—apparently small seeds only—but is sometimes used for "flower." *Puawai* is also applied to flowers. A large seed, as those of the gourd and pumpkin, or a kernel, as those of the *tawa*, *titoki*, &c., are termed *kakano*. Kernels are also termed *iho*. Fruit, berries, are styled *hua*, which is also used for egg and the roe of a fish: *hua manu*, a bird's egg, or "bird-fruit"—an expressive term.

As we have already seen, the flowers of a tree sometimes bear a special name, distinct from that of the tree that bears them. The blossoms of the *reiwarewa* tree are termed *rewa*, those of the *tawari* are known as *whakou*, &c.

In his work, "Evolution of the Idea of God," Grant Allen states that primitive man, the genial savage, would not possess the faculty of perception to the extent of perceiving that plants spring from seeds. I would much like to meet that primitive man. He would be a curiosity, and very primitive withal. For those are just the things that the savage does notice—the operations of nature. Were he not so to do he would not be a primitive man for long, nor any other kind of man, for that matter.

The pollen of trees is termed *hae*; that of some plants, as *rarauhe*, is *nehu* or *puehu*. The rains of January, which cause the pollen of trees to disappear, are termed *hikawai*.

The Natives deem the abundant flowering of certain trees as a sign of a fruitful season. The fourth month of the Maori year, which year begins about the middle of June, is marked by the flowering of the *puahou*, or the appearance of its berries; the fifth month, by the flowering of the *kowhai*; the sixth month, by the *rewa* blossom; the seventh month, by the blooming of the *kahika*; and the eighth month, by the flowering of the *taowhiwhi*. Thus it will be seen that the flowering of trees served as time-markers to the Maori. Thus, when intending to burn off a patch of *rarauhe* fern, in order to prevent the growth of scrub, and to render the edible rhizomes a desirable white colour, the Natives would do so when the *hinau* and *whakou* blossoms appeared. If they waited until the *rata* and *korukoru* blossoms came the fern-roots would be brown, and the edible matter of inferior quality. Also, the *kekerevai*, an edible beetle (?), appears on the *manuka* when that tree blossoms, and was then sought for. It is not seen in the winter. The flowering of certain trees, the dying of leaves of *raupo*, &c., the

*Kakano* is also used to denote the grain of timber.
fall of the leaves of the *kotukutuku*, were signs of certain birds being in good condition—it was time to commence snaring the same. There are a great number of such *toha* (signs, tokens) well known to that keen student of nature the Maori. He may be a bit primitive, but he knows the functions of seeds and the varied manifestations of Dame Nature in the *uao tapu nui* a Tane.

The Maori has two names for leaves—*rau* and *wha*. The first is applied to all short or comparatively short leaves, however broad, while the long leaves, such as those of *raupo* and *flax* (*Phormium*), are termed *wha*. I have also heard the latter term applied to leaves of the *toi* (*Cordyline indivisa*), *kiekie*, *mauri*, &c. *Wha taro* or *whawha taro* is the leaf-stalk of the *taro*. Some Natives maintain that while a *wha raupo* implies the whole leaf, a flax-leaf, owing to its different form, contains two *wha*—i.e., that each half of the leaf is a *wha*. This is possibly correct. Sir George Grey, in his “Whakapepeha,” gives a Maori proverbial saying, “*He wha tawhara ki uta, he kiko tamure ki tai,*” and translates *wha tawhara* as the “broad fruit of the tawhara.” *Tawhara* are the flower-bracts of the *kiekie*, which are eaten by Natives.

Young shoots of the *rarauhe* fern are termed *mokihau*. The word *kotau* is employed to denote young shoots, as those of *tutu*, *pirita*, &c., and those of *rarauhe* before they appear above ground. The word *pitau* has a similar meaning, but is more often applied to young curled unexpanded fronds of tree-ferns. The word *koata* is used for the unexpanded fronds of tree-ferns before they reach the *kotau* stage of growth, also to those of the *mikau*, and many other trees, &c., of similar growth. One also hears *koata* applied to young shoots, as those of the *tutu*. *Pīhī* is the general term for shoots of plants; and the horns of cattle, goats, &c., are also termed *pīhī* usually, but in the Waikato district are called *maire*. The term *rito* seems to be equivalent to *koata*, and is applied to the young unexpanded leaves or heart of a plant. The word *komata* means young shoots of plants and trees. The old dead leaves of certain acrogenous plants—*toi* (*Cordyline indivisa*), and *ti* (*C. australis*), and others, as also those of *flax* (*Phormium*)—which dry leaves hang down in masses for years ere they become separated from the trunk—that is, in sheltered situations—are termed *koka* and *kuka*. The former term, says one authority, is applied to those leaves just turning a brownish colour—the first symptom of decay; while the leaves of previous years, which are quite dry, are called *kuka*. The *kuka* of *C. indivisa* are used in the making of rough rain-capes, as loosely hanging outside pieces to turn the rain. These two terms apply only to such leaves as are termed *wha*, and
not to leaves called rau. The Natives say that the latter class of leaves are killed by summer weather, which turns them brown (kua tu pakaka), but that wha die in a different manner, and hang long on the plant or trunk after becoming dry. The word *tuakoka* is employed to describe a poverty-stricken place or person—"*Ou ma ki a te kainga tuakoka, kaore he kaka, he aha!*

The leaves of the gourd-plant (*hue*), pumpkin, &c., bear different names. The first two leaves put forth are termed rau kakano, or "seed leaves." When a third leaf appears, it is said "*kua rau tara te hue.*" The fourth leaf is called *putaihinu* (*putauhinu* among some tribes). When the first runner (*kawai* or *vaero*) appears, it is styled *uma* (*kua uma te hue*). This shoot soon falls and commences to run (*toro*).

The expression *whatu toto* is applied to the red-coloured sound heart-wood of the *totara* and *matai* trees. This timber takes a long time to dry out and become light when split. The term *komako* is applied to the lighter-coloured *totara* wood that soon becomes light and dry. *Aritahi* means straight-grained timber, easily split. That peculiar state of *totara* timber known to bushmen as "*dozy*"—i.e., pitted with small holes—is here called *tatarapo* and *kakapo*, but on the west coast is termed *kaikaka*. This condition is oft noted in *totara* growing on stony ground, and it impairs the value of the timber. Apparently it is a state of incipient decay. *Makohe* is another word meaning straight-grained, easy splitting, of timber. This state is expressed as "good rift" by American lumbermen—the timber rives well.

My late friend Te Puia Nuku, who was one of the Tuhoe contingent that marched to Whirinaki in the early fifties in order to save Ngati-Manawa from being wiped out by Ngati-Maru, under Tarai, told me that during the hostile speeches then made the latter chief said to the Tuhoe warriors, "*Ahkoa he iti te matahi, ka pakaru i a au te totara*" (Though the wedge be a small one, yet will the *totara* be riven by me)—meaning that though Tuhoe were numerous and versed in warfare, yet he was a match for them. Wepiha, of Ngati-Awa, promptly replied, "*Ae! Me he makohe; tena, mehemea he pu peka kai roto, e kore e pakaru i a koe*" (Yes! If it be good rift; but if it contains blind knots, then it will never be split by you). He meant that Ngati-Maru might defeat ordinary fighters, but that so many famed warriors were present that they could not hope for a victory. *A pu peka* is the hard, interlocked wood which composes the internal base of a tree-branch—that part of it that extends from the heart of a tree outwards to the bark, but supports or shows no external limb: it has
decayed or been broken off. A *puku whenewhene* is a "blind knot" that does not extend out to the outside of a tree, but is sometimes marked by a *puku* or excrescence on the outside, over which the bark is intact. These "blind knots," or branches in embryo, seem to be also termed *pu kanohi*. *Toropuku* is a term apparently applied to an incipient knot inside a tree, and perhaps sometimes to the heart-wood. The light-weight brittle inner wood of a tree is termed *puwhawha* and *puanga* among Tuhoe. *Puaka* seems to be applied to a *rumu* tree among the Arawa Tribe. "*He rakau puwhawha*" is a term sometimes applied to an old man, presumably because he has become dried up, light, and withered. With this may be compared the famous saying of Pou-whare-kura, wife of Kahu-nguru: "*Tu ana he rakau puwhawha, hae re ana he rakau wharemoa.*"

The decayed heart-wood of the matai tree (i.e., natural decay, not as affected by grubs) is termed *popo-a-whairiri*. The word *waipawa* is used to denote the dry brush wood of the tawa tree when quite dead, dry, and light. It then breaks easily, or flies well off the axe. "*Kua waipawata te rakau na,*" and "*Te waipawa pai!*" are common expressions. Clear timber—i.e., good, sound, solid, straight-grained timber, free from shakes, decay, ring-shakes, blind knots, or other defects—is called *ngako*, an expression often applied to the wood of the white tawa. *Mapua* describes a tree bearing abundantly of fruit: *He tawa mapua*. *Poike* seems to have a similar meaning: *Poike ana te hua o te rakau*.

The term *puarere* implies "run to seed." The words *koiki*, *kohiwi*, and *paiko* denote hard, sound, dry heart-wood, from which all sap-wood has decayed: *He koiki matai*. The expression *kohiwi* is also applied to a person who is mentally inert, absent-minded, or listless, who has no heart for action. Should the human medium of a god be deserted by such spirit, then it would be said, "*E noho kohiwi noa iho ana te tangata*" (Nothing but his *kohiwi* remains; his knowledge—hence also his power and prestige—has departed; only the earthly body is left). *Koero* and *hiwi* have a somewhat similar meaning to that of *koiki*, but more applied to anything that has become dry, attenuated, old in appearance, as a dry weather-beaten branch. Another way in which the term *kohiwi* is employed—viz.: "The Iho o Kapuru is the name of a cave. The *iho* (severed portion of umbilical cord) of Kapuru was deposited there. *He totara tona kohiwianga.*" My informant seemed to mean that a *totara* tree which stands at that place is all that remains of the *iho*, or that represents it.

As observed, the Tuhoe Tribe apply the term *para* to forestlands, while *pakihi* is open land on which nothing taller than
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grass, sedges, or rushes grow. Treeless country on which fern or scrub grows is called mania. Nuku maraha denotes open country, and the term seems to convey a sense of flatness—open lands over which one can see for a considerable distance.

High-lying forest lands, such as the high ranges of Huiauau, &c., where beeches and tawhero are the principal trees, and where snow lies in winter, are termed hunua by the Tuhoe Tribe, while the forests of the lower country, which may also be very hilly, are known as uruora. It is so named on account of there being much bird-food in these forests at a lower altitude, the trees being kahika, toromiro, rimu, maire, rata, &c., which do not grow on tops of high ranges. Any forest or portion of a forest that produces a great quantity of berries, seeds, &c., on which birds feed and fatten is termed a whenua pua, or fruitful land; sometimes simply pua: "He pua tera whenua a Te Wera-iti," or "He hunua a Te Peke, engari a konei, he pua tenei." The expression toiora seems to apply to hunua lands. As my informant put it: "Ka tau ki te whenua tawai, pipiro, tuokura, ko o te rake ko ona rakau. Me tau ki reira tawau toiora." (It applies to tawai, pipiro, and tuokura lands, the trees of sterile lands. Let the term toiora be applied there.) The term rake is applied to the poor high-lying lands, such as the upper slopes and summits of high ranges, whereon but a thin layer of soil covers the rock. The word pukahu is used to denote the fibrous, spongy mass of rootlets, moss, &c., that covers the ground in tawai forests on the summits of ranges. Poor, sterile surface-matter on soil is known as akeake. Tatahou is virgin soil, while soil exhausted by cultivation is termed patahe.

Scrub or brush is known as tawhao, ururua, heuheu, and moheuheu, but the last two words seem to be applied more especially to the growth of scrub and fern over tracks: Kua heuheu katoa te huarahi (The track is all overgrown). Kua apiapi te huarahi has a similar meaning, the word apiapi meaning "filled up, closely occupied." Arawheu is an expression denoting the summer months when paths are much overgrown, as the word itself implies. Travellers would gradually clear away such obstructions by breaking off encroaching branches. In traversing old-time trails of neolithic man, we sometimes see young trees which have been tied with an open single knot by travellers, in order that such might be cut and converted into walking-staffs when grown to a desirable size. Such tough woods as young hinau were so treated.

A second growth of timber, such as grows up in a forest-clearing, or cultivation-ground, and which usually consists of such small trees as mako, kotukutuku, koromiko, and puahou, is known as waipapa and waiteuheu. "Kua waipapa te wae-
**TREE-CLIMBING.**

The Maoris were, and are, adepts at tree-climbing, for much of their food was obtained from trees, which were ascended in order to set snares for birds, or for spearing the same, and also when in search of various berries. For both these purposes the Natives climbed to the top branches of lofty forest-trees, and clambered out on the branches in order to reach the outer branchlets. There are three methods of tree-climbing employed by the Maori—viz., the piki, the tapeke, and the rou methods. To piki a tree is simply to climb it by means of hand-holds—i.e., holding on to branches, &c. In the tapeke method the climber “swarms” up the tree, clasping the trunk with his hands, and also gripping it with his legs. In such cases as where the trunk is too large to ascend in this manner, two loops of cord, or some climbing-plant, are employed. The feet are confined in one such cord, and the other is grasped in each hand. After drawing his feet, with their confining cord, upwards, the climber slips the hand-loop up the further side of the tree. If the bark be rough, then the hand-cord is jerked upwards, so as to clear any obstruction. The rou method is employed in cases where the two former plans are not suitable, and in cases where the tree is ascended often, as a tree on which birds are taken by fowlers. It is a permanent ladder, or is so as long as the poles and lashings remain sound. The rou consists of saplings placed upright against the trunk of a tree, and retained there by means of lashings passed round the tree, such lashings being the stems of climbing-plants. Two such poles are placed parallel to each other, like the sides of a ladder, the rungs or foothold being twisted creepers of a tough nature, such as aka tea.

The Maori measured the girth of trees with the extended arms, the process being termed whananga by the Tuhoe Tribe. Each stretch of the two arms is called a pae.* If the fingers do not meet in so clasping a tree, or if, after measuring off two or more pae, the fingers do not reach the starting-point, then the

*Pae is also used as a verb.
portion over is termed *hamama* (literally, "open, vacant"). "*Pae hia to rakau?*” (How many *pae* is your tree?) “*Pae rua*” (Two *pae*); or, “*Pae toru hamama*” (Three *pae* and a space over).

**Tree-felling.**

In felling bush in order to make a garden or cultivation-ground, three different methods are employed—viz., the *autara*, *whakapapa*, and *hapai tu*. The first-named (*autara* or *kaurangi*) consists in cutting down all small stuff and in lopping off all branches of larger trees, leaving their trunks (with the bases of branches) standing. When dry the felled bush is burned off and crops planted. The *whakapapa* method consists of felling all trees, save perhaps a few very large ones, then burning off, &c., as before. In some districts, where frosts prevail, potatoes are planted just before the bush is felled. These potatoes grow, protected from the frosts by the felled timber. When the timber dries in the spring it is burned off. The potato-plants are, of course, also burned, but grow up again more vigorously than ever, the soil being enriched by the ashes. By this method potatoes are planted as early as July, thus insuring an early crop. This method is termed *whakapara*.

In lopping off branches in the *autara* method every branch must be so cut. If only those on one side of the tree are so cut off it is unlucky—*he aitu, he pouaru* (an evil omen)—a widow or widower; the workman will soon lose his wife, or will himself die. Stone axes were employed for such work.

The *hapai tu* mode is again different, for every tree is felled, and all logs, branches, rubbish, &c., removed from the ground—except perhaps some large logs—leaving the ground ready to be turned up for the crop. Observing a patch of bush where no big trees stood, I inquired the reason. The answer was, “*He hapai tu pea na nehera*” (Maybe it is a *hapai tu* of olden days).

The usual term for tree-felling in this district is *topē rakau*, but a better term is *tua rakau*. *Waere =* to clear by cutting down trees; hence *warenga*, a clearing. *Para =* to cut down bush, &c.; to clear.

**Stone Axes.**

The felling of a tree of large size, as when making a canoe, obtaining timber for a large house, &c., was a serious undertaking to the neolithic Maori. It was accomplished by means of fire and stone axes. The process was an exceedingly tedious one. The *toki*, or stone axes, might be better described as adzes, inasmuch as they were helped as is an adze—or, rather, the relative positions of head and helve were similar, for in no
case were handles inserted in the head, but the head was lashed on to the helve. The most prized stone was the *pounamu*, or greenstone, of which, however, the Tuhoe Tribe do not appear to have become possessed to any great extent, hence it was used by them principally for war-weapons and small axes, not for large *toki*. Small adzes (*toki*) were used for fine work, as in finishing off a canoe, &c. A small greenstone adze of this type in my possession is 2½ in. long, the cutting-face is 1½ in., while the *reke* or poll is but ½ in. The thickest part—*i.e.*, the *uma*, or swell—is ¾ in. The greenstone *toki* and weapons or chisels were much more highly valued than those made of other kinds of stone. The other stones used for such implements were *kara*, *uri*, *onewa*, and *kohurau*. The first two are black, the third is dark-grey, while the last-named I am not acquainted with.

The different kinds, sizes, &c., of these adzes were known each by its own special name:—

*Toki ngao pae.*—A large, heavy axe for heavy roughing-out work.

*Toki ngao tu.*—A medium-sized axe (adze) for shaping beams, canoes, &c.

*Toki ngao matariki.*—A small finishing-adze.

*Toki whakarau.*—Seems to be the same as the *ngao matariki*. (See "*whakarau*," below.)

*Toki pou tangata; toki hohou pu; toki whawhao pu.*—These names are applied to small greenstone *toki*, helved as adzes, sometimes used for fine wood-working, but often merely carried by chiefs as a token of chieftainship; carried in belt, or in hand when making a speech. Sometimes used to despatch a stricken foe in fighting.

*Poki.*—Concerning the *poki* I have no notes save two supplied by Mr. S. Percy Smith, who says, "The *poki* was a big stone axe, sometimes 18 in. long, lashed on in line with handle, not at right angles as an adze. I think that *poki* is a Ngai-Tahu word, but am not sure. The old-fashioned European axes were termed *poke*. The *poki* was used as a huge chisel, but without the use of a hammer."

*Toki titaha.*—My Tuhoe notes say, "The old-fashioned, long-bladed, steel axes obtained from European traders in early days. No longer seen." Williams's Dictionary says "*Tokitita*, or *toki whakapae*: the common felling-axe." Tregear, in "The Maori Race," applies these two names to the big stone *poki* above described, which does not agree with Williams's or my own notes.

*Poke.*—The American-pattern steel axe. Not applied to any stone axe.
Panehe.—A steel hatchet. The term not applied to any stone tool.

Patiti.—An iron or steel hatchet.

Williams's Dictionary also gives panekeke as a small iron tool, a hatchet. Patiti kupa is said to be the European squaring-axe, but kupa sounds suspiciously like "cooper."

Small toki were carried in the belt, but with large ones the handle was thrust down under the shoulder-cape, thus resting on the back of the carrier, being supported by the head of the axe resting on the collar of the cape. Handles for these stone axes—or, rather, adzes—were made of the branch of a tree, the tawhero and matai being favourite woods for the purpose. A small branch was selected for the handle; a secondary branch and a piece of the main branch from which it sprang was cut off and left adhering to the handle. The whole was then reduced in size, and properly shaped, being made smooth by means of hard rubbing on the rough outside of a kaponga, or tree-fern. Its shape was then like a human leg from the knee downwards, including the foot, the stone toki being lashed on to the sole of the foot.

The name of the above adze-like implement is toki, which name was also applied to metal axes obtained from early European voyagers and traders. European adzes are termed kapu and kapukapu, so called from their shape. The blades of our carpenters' planes were formerly much sought after for the purpose of using as adzes, being lashed on to handles like unto the one described above. The term tarai signifies to adze down or hew a timber with a kapu or toki. Tarei is a variant form of the above expression. To use a small implement, as a panehe, to shape a timber is described by the term tukou.

Regarding the term whakarau used above, it appears to signify the finishing-off process in timber-hewing, the smoothening of the surface with a small toki. When a workman is finishing off a canoe it may be asked, "How is So-and-so's canoe?" The reply will be "E! Kua oti, kua whakarau te toki" (O! It is almost finished, the adze is just doing the whakarau). It is then known that the waimanu (hollowing-out) work is done, and that the surface is being finished off. When the workman commences to whakarau a canoe-hull he casts a small stone into the hold thereof, in order to preserve his knowledge of the art of timber-working, that it may not be lost—Kia mau tonu tana maramara, ora kia mau tonu mohiotanga, kia kore e ngaro.

In making stone axes and other implements the Tuhoe people seem to have obtained the stone from outside sources, the rocks within their tribal boundaries being principally a
shattered slate, and in some parts sandstone, limestone, and volcanic tuff. Stone was obtained from the Wai-kato district, and also from the Wai-poa River, inland of Poverty Bay. Pieces of stone were first chipped (toto) into something like the desired form, and then reduced, made smooth, and brought to an edge by means of rubbing on sandstone—a very lengthy process. The Maori did not use a handstone as we use a hone or whetstone for sharpening purposes: he laid the grindstone on the ground and rubbed the implement on it. Two kinds of sandstone were used by the Tuhoe people as grinders—one, known as totara, is a fine-grained stone of a reddish colour; the other, termed tunaeeke, is a coarser-grained, greenish-coloured stone. In some places, where a surface of suitable sandstone was exposed, implements were taken to it, and the rubbing done there. At the Mimiha Creek, near Mataua, is such a rock, in which are many grooves formed in days gone by by the neolithic Maori. Tuhoe obtained the tunaeeke sandstone from a small stream near Kaka-nui, at Rua-tahuna.

Many of the stone adzes of the Maori were given special names, and many are famous in song and legend, such as Te Awhiorangi, Te Manokuha, Te Rakuraku-o-Tawhaki, and Huite-rangiora.

Certain charms were repeated over the stone toki used in felling and working timber, as in canoe-making, hewing out timbers for an important house, &c. Here is a specimen of such charms:

Toki uri, toki uri, toki amoamo
Ako hoki au i taku toki nei
Kia rahirahi to kiki
Kia rahirahi to kaka
Nohea te toki nei e manahi
Nohea te toki nei e manaha
Te manaha nui a Tane
Ka whakarongo nui ake
Nui ake, nui marire
Koia ra tutara wiwini
Koia ra tutara wawana
Nohea i toki ai?
No runga i toki ai
Oi!
Taku toki nei he riponga, he awhenga
Homai taku toki
Tu mai te toki
Haumi—e!
Taiki—e!

The following is said to have been a song, of the nature of a charm, which was sung in connection with, or as referring to, the Whatu o Poutini (apparently a term for pounamu, or greenstone):—
Transactions.

Kaore ra, e hine!
He putanga ki te tonga
Nou anako ra te putanga
Ko Whakahewa i te rengi
Nana i kimi ko Poutini, ko Wharaua
Ko te wai ra i tere ai te toki
Ka kitea i roire, e tuhi ana, e rapa ana
I raro i te whatu kura o Tangaroa
Ko whatu uira ra tana
Ko whatu rarama ra tana
Ka howa o Rua tumata kurukuru
Tumata ka rewa
Homai, whakapiritia ki a Hine-tua-hoanga
Hai oro i te toki
He pua totara kauorohia
He pua totara kauorohia
Kauorohia te ati tipua
Kauorohia te ati tawhito
Hai whakakoi ra, e hine!
I te mata o te toki
Hai tua tua i te wao a Tane
I te tua tua i te wao a Tane
I te maramara o Tuhehu
I te tama iara na Mumuhanga
Hai ara mo taua
Kia whiti ai taua
Ki rawahi o te awa
E hine!

The word *kauoro* is a form of *oro*, "to grind by rubbing on a stone." A grindstone is *hoanga*. Mumuhanga was, as we have seen, the origin of the *totara* tree, while Tuhehu is said to be a daughter of hers, and the emblem or personification of the *totara*.

In felling trees, should a tree fall backwards (not the way it was intended to fell it), that circumstance was deemed an unlucky omen. If the tree hangs on the stump—i.e., the butt thereof remains on the stump and does not fall to earth—that is also unlucky, and is termed a *hongi*.

When a man was employed in felling a tree he would expectorate into the *tuaumu* (scarf, kerf) in order to prevent his arms from becoming weary.

_He kupu i mahue:_ Remarks omitted. When about to engage in felling and hewing timber for a house, canoe, fort, &c., the *karakia* or charm was repeated over the stone tools in order that they might do the work effectively, and that no mishap occur to such work, to the timbers, or workers thereof. There was a certain amount of *tapu* pertaining to the destruction or utilising of the Children of Tane (trees), or at least of the more important species thereof. When so working, all chips must be left where the work is done, and not burned or taken away. To do either of these things was deemed unlucky—the work
would never be finished; some untoward incident would prevent its completion: so sayeth the Maori.

There are different methods of adzing timber. In finishing off slabs for a house a sort of pattern was often adzed on, marked by the “bite” of the tool as it took the timber at each blow. These different modes are known as *toro, heretua, miri, ao marama*, and *whākahēkehēke*.

In felling a tree the Maori proceeded in the same way as we do—that is, by first cutting a front scarf on the side towards which the tree was supposed to fall, and then cutting a back scarf on the opposite side. A scarf was termed *umu, imu, tuaumu, tuaimu*, and *tarawaha*, the last-mentioned being a Ngati-Raukawa word. The front scarf I know not any special term for, but the back scarf (skarf) was called the *imu whakahinga*—i.e., the *imu* which causes the tree to fall. To continue a scarf right round the trunk of the tree was looked upon as the work of an ignorant workman, as it is with us. Such a scarf was termed an *umu potaka* or *more potaka*. In felling a big-based tree, a stage, termed *whata* or *whatarangi*, was erected, on which the tree-fellers stood to work. In beginning the work, the large, heavy stone axe described above under the name of *poki* was employed. Being fastened on in line with the handle (by means of lashings of *aka*, the poll of the axe being butted against the base of a scarf in end of handle), this weapon was really used as a chisel. The handle was long, and held by several men, who grasped this shaft firmly, and at a given signal thrust it forward with all their strength, bringing the huge stone chisel into contact with the wood with considerable force. The process may be described as “bashing” rather than cutting as do metal axes. Personally I would prefer to use a Michigan double bit. Having “bashed” out a groove or channel of some depth for a desired distance round the trunk, the process was repeated higher up the trunk, the two grooves being horizontal and parallel, and some distance apart, in order to allow room for carrying the scarf in, and also to give sufficient space to kindle a fire therein. Having formed these two channels, the next thing was to split out the block of timber between them. This was chipped out in pieces by the same battering process with the *poki*, and in some cases hardwood wedges were employed. In the latter case a perpendicular groove would be formed by punching with a *poki*, in which slot the point of a wedge would be inserted, the wedge being driven in by means of a heavy wooden beetle or maul (*ta*).

Having carried the scarf in for some little distance by this process, a fire was then kindled in the scarf, and kept burning for some time. When the inner part had at last become charred
(and it takes a long time, as I well do know, having tried it) the fire was raked out and the charred surface of the wood chipped with stone toki. This done, the fire was again kindled, and the process was repeated, charring with fire and chipping off, for day after day until the front scarf was considered deep enough. The back scarf was taken out in a similar manner, the work being continued, of course, until the tree fell. Certain charms repeated were believed to be of great assistance in this labour.

A member of the Ngati-Raukawa Tribe, Tamati Ranapiri, of O-hau, informed me that the tarawaha (scarf) was cut out on that side of the tree facing the wind. Presumably this would be the back scarf, so that the work would be assisted by the wind. His words were, "Ka tvehera te tarawaha ki te mata o te hau." He used the word karo to describe the chipping-out process. Ngati-Awa use the term patoto to indicate the "bashing" process with the heavy stone axes.

No level cut could be made in the trunk with an ordinary adze like toki, but it was often used for chipping off the charred inner surface (konga or panga ahi) after the fire was raked out, and for chipping off splinters on the face of the scarf.

On an islet in the Wai-kare-iti Lake stands a totara tree which some old neolith started in to fell in days gone by, but only cut in the front scarf about 5 in. or 6 in. From the top to the bottom of the scarf is about 30 in. space. The two grooves had been made and the timber between split out. The marks of the stone tools are plainly seen on the heart-wood, but at the edges the sap-wood and bark have grown over the wound.

Old Pio, of Ngati-Awa, had his little say on this subject: "Te putake o te waka. Ko Tane te rakau, e tu nei i te ngaherehere. Ka tirohia, pae rua ranei, pae toru ranei. Ka mea te iwi Maori me tua hei waka. Ka hui te iwi ki te tua. Te toki, he toki kohatu. Te rua o nga toki, he ahi. Ka ki te tangata—me noho tonu i te taha o te ahi, i te take o te rakau, i tetehi taha o te rakau, i te imu whakahinga. Ka patoto te toki kohatu, ka ka te ahi ki te wahi e patotia ana e te toki kohatu, ka hinga, ka tareia, ka oti, ka whai waka." (The origin of the canoe. The tree standing in the forest is Tane. It is examined, and may be two pae [fathoms] or three [in circumference]. The Maori propose to fell it and make a canoe. The people assemble to fell it. The axe [used] is a stone axe. Another axe [used] is fire. A person says, "Remain by the side of the fire at the base of the tree, on one side of it, at the imu whakahinga." The stone axe dashes against the trunk. Fire is kindled at the place beaten by the stone axe. At length the tree falls, it is shaped, and finished, [the people become] canoe-possessed, &c., &c.).
The following account of the rites pertaining to tree-felling was given by Tutakangahau, of Maunga-pohatu, a direct descendant of the Children of the Mist, and our last old warlock and man of knowledge among Tuhoe:

"These remarks concern certain works performed by the hands of man. A person desires to make a clearing in the forest, or to fell a tree for a canoe, or for house timbers, or for some other purpose. In the early morn he goes to the forest. He makes a certain contrivance, the semblance of an axe. He takes a small branch, and fastens to one end thereof a leaf (a leaf to represent blade of axe is secured to end of a stick). He then prepares for his task, girding himself by donning a belt, at the same time repeating—

Kai te hiahia (a wishing)
Kai te koronga (a desiring)
Kai a Tane (for Tane).

He then grasps his toy axe, and strikes the trunk of the tree that he desires to fell with the leaf—although, of course (as Tu quaintly puts it), no chips will fly with such an axe. Then he recites the following charm:

He ao pukapuka
He ao mahamaha
He toki henahena
Hē toki ta wahie
Ka pa ki tua
Ka pa ki waho
Ka pa ki a Tane.

He then takes up the real axe and strikes therewith the tree. When the first chip flies off he ceases to chop, picks up the chip and carries it away, leaving his companion to continue the chopping at the tree. The man goes off with his wooden chip into the forest. At length he stops, and listens. If he hears the sound of the axe beating on the tree-trunk he again goes on, then stops again to listen. When he can no longer hear the sound of the axe he halts and kindles a fire, which is known as the ahi tumuwhenua (tumuwhenua fire). This fire is kindled by the friction process. When the fire burns up he places the chip in it and repeats the following karakia (charm, spell, invocation):

Hika ra taku ahi
E tumutumū whenua
E aneane whenua
E raro timu, e raro take
E Hawaiki
Ka hika ki te ihi o Tane
Ka hika ki te mana o Tane
Noho mai i tua na
E tapu ana Tane
E maota ko te rangi o Hawaiki—e.
This is the *tumutumu-whenua* fire (or rite). The chip is burned in this fire. This rite and chip are for the gods. The man now returns to his companion; the chopping continues, until many chips are collected, when another fire is kindled by friction near the base of the tree. This is the *ahi purakau* (*purakau* fire). The chips are burned in that fire. Food is cooked. This is to take the *tapu* off, that the proceedings may be freed from *tapu*. This rite is to (placate) Tane. The other, the *tumutumu whenua*, was to the gods. Now the officiating person recites a *karakia* (incantation, &c.). This is the *karakia* of the *ahi purakau*:

```
Hika ra taku ahi, e Tane
Hika ra taku ahi, e Tane
He ahi purakau, e Tane
Ka hika i te ihi o Tane
Ka hika i te mana o Tane
Ka hika i te maruwha o Tane
Ka hika i te pukapuka o Tane
Ka hika i te mahamaha o Tane.
Ka kai koe, e Tane
Ka kai hoki au, e Tane
Ka mama nga pukeanga
Ka mama nga wananga
Ka mama hoki ahau
Tenei tavira.
```

This rite takes the *tapu* off Tane (*i.e.*, off trees, the offspring of Tane), to prevent him punishing the tree-fellers—**to prevent the axe being broken, or the workmen being cut by an axe. The closing lines mean that offerings (placatory?) are made to the *pukenga* and *wananga*. When the food (ritual or sacerdotal feast) is cooked, then the *taumaha* rite is performed. The officiating priest takes a small portion of the food, and repeats over it the charm termed a *taumaha*, as you Europeans say a prayer before a meal. This not only completes the lifting of the *tapu* from the food, the work and workmen, but is also a *pou* (it strengthens or supports the workmen), and it wards off evil influences and sickness from the workers, and prevents them from becoming unduly wearied. It makes them intelligent and clear-minded at their work, and pertains to Tane. Here is the *taumaha*:

```
Tenei te pou ka eke
To pou kaia koe
Ko te pou o tenei mahi
Tiaho i roto
Wananga i roto
Korero i roto
Tena te umu
Te umu ka eke
Ko te umu o tenei whaihanga
Ka ma taku hau tu
Ka ma taku hau mahi
```
By this rite the priest has now taken off the tapu pertaining to the proceedings and the food. The people can now eat of the food and continue their labours."

Such is old Tu's account of these tree-felling rites, the best description I have collected. The taumaha was recited over the foods at all ritual feasts. Another form may be seen at page 96, vol. xxxv, of the Transactions. All religious rites were performed early in the morning, before the people partook of food, or after sunset. When about to perform any rite, the officiating priest divested himself of all his clothing, and secured a girdle round his waist. This girdle often consisted of nothing more than a few green branchlets of karamuramu (a Coprosma). The true meaning of the above ceremonies and invocations was to placate Tane (the origin and tutelary deity of forests, trees, and birds) and the gods of the Maori pantheon, that they might not resent the felling of the tree or trees, and hence punish the fellers thereof for their sacrilegious act in slaying the offspring of Tane. The first sacred fire and rite are for the gods (atua), the second for Tane.

Another note, from Pio, of Awa, is brief and unsatisfactory:—

"Another remark: Persons go to the forest to fell a tree for a canoe. The first thing done is to kindle the ahi purakau. When it burns up, a chip, a piece of bark, is put on the fire, as also some mauku (a fern—Asplenium bulbiferum). The fire is kindled at the base of the tree. Then the karakia is recited:—

Ana ra te ahi
Ki te take o te rakau
Te maramara o Tane
Ka pokai koa
Te riu tapu nui o Tane
Ka tapahia koa
Te kauru tapu nui o Tane
Whiwhia mai, rawega mai
Rei kure, Rei ora
Torohi."

Then the tree is felled. There will be two scarfs cut in that tree, the imu tua and the imu whakahinga."

* Evidently incomplete.—E. B.
A reference to the above rites may be found in "Nga Motatea," page 105. For the expression "Tane tumuwhenua," see Trans. N.Z. Inst., vol. xxx, page 52. A Ngati-Awa note in my note-book says that when a canoe was dubbed out in the forest, fronds of the mauku fern were fastened thereon, though the meaning of the act is not explained. In vol. 3 (page 4) of White's "Ancient History of the Maori" a similar custom is mentioned.

This occurs in the well-known legend of Rata felling the forest-tree, which the forest elves re-erect on its stump, because their consent to the felling thereof has not been obtained. The forest folk said to Rata, "It is for us to consent to you cutting the throat of your ancestor, Tane-mahuta, and felling him. When you have felled your tree, then fetch some paretao (a forest fern) and cover the butt (or stump) of your tree, and then set to at hewing the trunk." These forest elves were the Tini o Te Hakuturi. These folk were wont to punish persons who did not placate the gods and spirits of the forest, as also Tane, in that manner. They chanted a charm that caused the tree to stand up on its stump again, and the chips to return to their original position.

**Hauling Trees.**

When engaged in dragging heavy logs from the forest, such as the ridge-pole of a large house, or a canoe, the hauling-track was carefully selected and cleared. Skids were laid down, over which the heavy timber was hauled. The puahou (or parapara) furnished these skids, it being used because of the slippery nature of the surface of the wood when the bark is removed. Long forest-creeper stems were attached to the timber or canoe, and used as drag-ropes. Such hauling-work was never done without the use of hauling-songs (tau to), of which there were many. These consisted of brief lines sung by a fuggleman, and a chorus, generally consisting of but one or two words, to each line. The chorus was given, in deep tones, by the haulers, who all hauled at the drag-ropes as they shouted. People would collect from many hamlets for such a task, which was conducted as a working-bee (tuao). Women accompanied such parties to carry and cook food; in fact, it was a picnic for the whole subtribe or family group.

**He Tau to Waka (A Canoe-Hauling Song).**

(The italicised words repeated by haulers as a chorus and signal for united action in hauling.)

Ka piki te iwi
Ka kake te iwi
*Mauri, kakekake*!
Ki te rangi nu a e moko (a Ue-moko)
Pouri
*Pouri*!
Potango
Potango!
Hakere ra—i, mau ra—i
He tieke, he tieke Tangaroa!
Tu mai te toki
Hauā—e!
Te hiwi, te maunga e tu mai nei
E tupa
Hoi eke!
E tupa
Hoi eke!
Tupato
Hoi eke!
Homai te tu
Kauaia!
Homai te maro
Kauaia!
Kia hurua
Kauaia!
Kia sweha
Kauaia!
Ki te takapu (? takupu)
Kauaia!
Ki te takere
Kauaia!
No te hanga
Kauaia!
No Tane
Kauaia!
Titī—e!
Tata—e!
Kei te puke iti kei tatahi
Nīore, naiore!
I pati kau te wai o te ure
Turuki!
Turuki
Turuki!
Paneka
Paneka!
Mau ai te tieke
Tena koia!
Tane rauhi
Tane mama!
Tane hikitia
Tane hapaiinga!
Tane toinaha ki te rangi
Tane pūha, tane mana!
Tane hikitia ki te ure
E ki te rangi!
Ka tapu te waka nei
Tukutuku rawa te waka nei!
Nga whenua te waka nei
Ko te whenua te waka nei!
Aotearoa te waka nei
Ko kahukura, ko waitohere!
Turuki, turuki
Paneka, paneka awa!
Should any error be made in the rendering of these hauling-songs, it is looked upon as an unlucky omen.

There were certain rites performed at the launching of a new canoe, and at the opening of a new house, at which religious ceremonies a human sacrifice sometimes took place.

The idea of the indwelling spirit of the tree, as also those of tree gods or forest deities, are far spread o’er the earth. In Burmah, Siam, and other eastern lands this belief appears to have been universal and strong. Presumably the belief in tree spirits and such small deer would merge into that of a god of vegetation as a people advanced in culture. The Maori looked upon Tane as the origin of all trees and plants, but also believed in divers breeds of forest elves, &c., and held that the ancestral gods would punish persons who interfered with any forest products, tree, or bird-life, unless he performed rites of placation or propitiation. In fact, a system of placatory rites and invocations was the very essence of Maori religion.

“Takoto kau ana te whanau o Tane” (The offspring of Tane lie low) is a saying heard when a tree has been felled, or a piece of forest-ground cleared.

In turning over a heavy log the Natives used wooden handspikes and levers, also a contrivance termed a poipot. A hole was made in one end of the log (so as not to spoil the timber in the middle of the log), and one end of a long pole inserted in this hole. A long rope was fastened to the upper end of the pole, and a number of men “tailed on” to this line. By means of this crude windlass arrangement—a considerable leverage was gained. Old Tutaka, my informant, was not quite sure, however, that this contrivance was known to them in pre-pakeha days. It may have been adapted from our “Spanish windlass.”

**Splitting Logs.**

The tools used by the Maori in splitting timber for house timbers, &c., were extremely primitive, and consisted of wooden wedges and a wooden club for a maul. This maul or beetle was termed a ta, and was simply a heavy club of maire wood, a very hard and close-grained timber. The roots were preferred, as being less liable to split.

“Mehemea ko te ta o Manunui-taraki” (It reminds one of the maul of Manunui-taraki). This Manunui was an ancestor who used a remarkably heavy maul with ease; hence the above saying is often heard when a man performs some noteworthy feat of strength, as in lifting weights.

A splitting-wedge is called matakahi, while a wedge used for tightening, as in helving a European axe, was termed a matia.
The splitting-wedges were of different sizes. Small entering-wedges (hai loro i te ara) were known as pipi, while large bursting-wedges were called kaumuiku. An old Maori saying is this—"Ko te pipi te tuatahi, ko te kaumuiku te tuarua" (The pipi is first used, then the kaumuiku)—which may be applied to many situations. Bad-splitting timber, with inlocked grain, is described by the terms puti and humengemenge, and straight-grained good-splitting timber as makohe. The term tahatonga is also applied to timber difficult to split, because it is said to be a peculiarity of tahatonga trees—that is to say, of trees exposed to the south winds. Some Natives state that the bark of trees is thickest on the north side, the side facing the sun.

A proverbial expression of former times: "He kino tangata, e kore e taea; he kino rakau ka taea" (Human faults cannot be overcome, but timber faults may be). This alludes to inferior, bad-splitting, faulty timber.

Having no metal tools, the working of timber was an excessively arduous task to the Maori, and much timber was wasted in dubbing down logs or large balks to the desired size, for slabs, &c.

When a long-continued rain occurs in spring or summer, the expression whakahapu kakanamoe (seed-conceiver) is applied to it. "It is raining," remarks some one. "Nothing but the trees blossoming and producing seeds (or pollen)," says a person of knowledge, "for such is the effect of rain during the fourth to the eighth months (of the Maori year): it causes male trees to blossom."

The expression taru kahika (ta = causative prefix, hence taru kahika = whakaru kahika) is applied to a light rain in summer-time, or to cloudy, damp weather after rain, with a sea-breeze, or showery weather. Such is said to cause the rata to blossom, and to loosen and distribute the pollen of the kahika and other trees. A person says, "It is raining; we will get wet." "Not at all," remarks another, "it is only a taru kahika."

In Maoriland the year began in winter. Its commencement was marked by the appearance of the Pleiades (Matariki) on the eastern horizon just before dawn, which occurs about the middle of June. If the stars of Matariki are indistinctly seen—do not stand out distinctly—that is said to be a sign of a cold, unprolific season to follow. But if these stars stand out distinctly, then a warm, fruitful season follows. The four seasons are—takurua, winter; te koanga, spring (digging or planting season); raumati, summer; ngahuru, autumn.

The following expressions are used to denote various kinds of seasons:
Transactions.

Tau mahana.—A warm season; prolific.
Tau horakora; tau hua; tau ruru; tau kai.—A prolific season; food products plentiful.
Tau maiao.—A cold, unprolific season.
Tau tukuroa.—Slow growth of crops; late fruiting of trees, &c.
Tau tane.
Tau wahine.—Denotes quick growth, abundant foliage, good crops.
Tau nihoa roa.—A season during which birds and rats eat all kinds of food. Rats bold at eating crops.
Tau maro.—A backward season; poor growth of crops, &c.

If the riroriro bird builds its roofed nest with the entrance thereto facing the north, the prevailing winds of the coming season will be from the south. When the forest-trees commence flowering, or the fruit forms, on the lower branches first, and so proceeds upwards, a tau mahana, or prolific season, follows; there will be no late frosts. But if such blossoming, &c., begins on the uppermost branches, and so on downwards, then a tau maiao ensues.

Inasmuch as our forest-lore notes are scarce half-completed, we will here cease our labours for a space, leaving the balance for the days that lie before. E rau rangi pea ka kitea.

ART. XVI.—Additions to the New Zealand Molluscan Fauna.

By W. H. WEBSTER, B.A., Waiuku.

[Read before the Auckland Institute, 12th December, 1907.]

Plates XX and XXI.

Acanthochites (Loboplax) mariae, n. sp. Plate XX, figs. 1–11.

Shell elongated, elevated, dorsal angle about 110. Colour-greenish-grey, minutely freckled with dark. Latero-pleural areas crowded with flattened granules, strap-shaped or oval, as in A. zelandicus, all the valves being bordered with irregular, raised, white, pebble-like granules of the same type as those in A. violaceus, with which this species also agrees in having 5 prominent lobes on the anterior valve, the ribs being of white raised elongated granules, the ribs of all valves similarly marked; another characteristic feature is the presence of three almond-shaped white granules just within the posterior edge of each median valve. Dorsal areas wedge-shaped, the edges being serrated, sculptured with cuneiform lyrulae. The posterior-