Cawthron Lectures

Volume II.

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MAORI CURVILINEAR ART. BOW-PIECE OF WAR CANOE (Auckland Museum).

W. Revell-Reynolds, Photo.
THE COMING OF THE MAORI.

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When I decided to take as my subject for this year's Cawthron lecture, "The Coming of the Maori," I was in a dilemma as to the connection between the subject and the scientific objects of the Institute which the late Mr. Cawthron so nobly endowed. On being shown over the Institute, however, my attention was drawn to a map showing the results of an analytical soil survey of the district, made by members of the staff of the Institute. In the Waimea Plains, an area of soil, known as the Maori gravel, was shown to be very rich in available phosphoric acid and potash. This area is an old Maori pre-European cultivation. Pits had been dug to obtain sand and gravel, which, after having the larger stones removed, were spread over the natural loam top soil to render it more suitable for the cultivation of the kumara, Ipomoea batatas. A soil analysis conducted by chemists with no knowledge of Maori agriculture, showed that the Maoris had purposely burnt quantities of scrub and mixed the ash with the soil to improve their crops. Experiments were being conducted with samples of the Maori gravels, which not only proved that crops grew more luxuriantly in it than in ordinary soil, but that the crops compared more than favourably with those from soil that had been artificially manured according to European scientific methods. It has remained therefore for this Institute to put on scientific record this important feature of ancient Maori agriculture. My diffidence in the appropriateness of my subject has therefore been happily removed, and I feel justified in dealing with the coming of the ancestors of the first agriculturists of the Waimea Plain, who were the empirical precursors of the scientific staff of the Cawthron Institute.

The Maori people of New Zealand, according to their own traditional history, are the result of an intermixture of more than one migration to these shores. Of these migrations, some were accidental or drift, whilst others were expeditionary and deliberate. In dealing therefore with the coming of the Maori, we have to discuss the coming of various waves of voyagers and consider the evidence supplied by oral traditions and genealogical tables. We must further seek what ethnological data can be supplied by our present knowledge of race and culture. Traditional history supplies very definite information about the latest migration, but as we go farther back in time, the added centuries invest the past with the distant haze of uncertainty. Let us therefore reverse the order of the white historian and work back from the well-known to the little-known, from the fairly-certain to the uncertain.
EUROPEAN NAVIGATORS:

The first white-skinned navigator to reach this remote part of the Pacific was the Dutch voyager, Abel Tasman. After abandoning his search for the Great South Continent, in 1642 he sailed into a bay on the coast of the Nelson Province with his two ships, the Heemskerk and the Zeehaan. He found the country to be already discovered and occupied by a brown-skinned race who had very definite opinions about the rights of prior discovery. These opinions being of a very conservative nature as regards fresh immigration, led to a successful attack on one of Tasman's boat-crews. The firing of a cannon failing to effect the usual intimidation of Native races, Tasman sailed away without having made a landing in the country of his discovery. All the ethnological data he has handed down to us are practically this incident, testifying to the fearless character of the 17th century inhabitants of Nelson, and some rather diagrammatic drawings of the double-canoes used by the Maoris in this minor naval engagement.

A little over a century and a quarter later, Captain Cook made his three famous voyages which included New Zealand. He had with him a Native of Tahiti, named Tupai. Tupai was able both to understand and make himself understood by the New Zealanders. Cook thus early observed that the speech of New Zealand and Tahiti were dialects of the same language. This, combined with the similarity between the dress, furniture, boats and nets of the New Zealanders and those of the inhabitants of the South Sea Islands, led him to the conclusion that they were descended from common ancestors who had been Natives of the same country. To Cook, who had seen the marvellous distances travelled by the canoes of the South Sea Islanders, the stretch of ocean separating New Zealand from other land areas offered no obstacle. He thus quotes, in support of his contention, the tradition that the ancestors of the New Zealanders had migrated from another country which was called Heawige. In this name we recognise the Cook spelling of the Maori ancestral Hawaiki.

After Cook came other navigators, whalers, traders and missionaries, and at last in 1840, by the signing of the Treaty of Waitangi, New Zealand came under the Sovereignty of the British Crown. Though early travellers have written varying accounts of the manners and customs of the Native races, many of them are based on inaccurate observation, and contain criticisms from a narrow and intolerant view-point. Early colonists, who had such a rich ethnological field, were too preoccupied with the struggle against Nature and the Maoris themselves, to worry about recording the traditions and history of their predecessors. It was quite sufficient to regard the Maori as part, and the most annoying part, of the fauna of New Zealand. Many, including that prolific writer on Maori matters—the Rev. W. Colenso, F.R.S.—held that the Maoris could not have crossed the wide
expanse of ocean in their rude canoes. They were regarded as aboriginal in the strict sense of the term. If another place of origin was demanded by their affinity with the Islanders of Polynesia, then the Maoris must have crossed in some remote geological period when convenient land connections permitted them to do so dry-footed. The prevailing winds, and the lack of charts and nautical instruments which would have effectively prevented Europeans from navigating a Polynesian canoe to these shores, were held to apply a similar restriction to the descendants of Hui-Te-Rangiora and Te Aru-tanga-nuku. Had such restrictions operated, the peopling of the Pacific would have been greatly delayed.

TRADITION.

THE CANOES:

In spite of the alleged impossibility of ocean transport, Maori tradition is very definite about the coming of their ancestors in canoes from another land. The ancestral canoe is the outstanding feature in traditional history. It figures in the classical laments for the illustrious dead and is proudly named by the impassioned orator who recites the proud achievements of the past. Every tribe knows the canoe in which its ancestors came to New Zealand from the distant homeland in Hawaiki. As the descendants of the various canoes have increased and divided up into an increasing number of tribes and subtribes, the common ancestry from the same canoe has never been forgotten. When a tribe visits another on ceremonial occasions, the welcoming words are used, “Haere mai te Waka,” “Welcome to the canoe.” The old ceremonial dance of welcome is still in common use.

“Drag hither—the canoe!
Draw hither—the canoe!
To its resting place—the canoe!
To its abiding place—the canoe!
To the resting place where shall rest—the canoe!
Welcome—twice welcome!”

Tribes that fought against one another readily combined against an outside foe where they came of the ancestry which was borne hither by the same canoe. Tribes from another canoe were welcomed individually by tribal name or collectively by the name of their ancestral canoe. When the protracted sojourner in other parts returns to his people, he is greeted with the intimate cry of “Welcome, welcome back to your canoe.” Thus, though the canoes which made the historic voyage have been reduced to dust by the centuries, they retain their beauty of line and form in the imagination of the people, and remain fully manned by the ancestral voyagers in the hearts of their descendants.
Plants and birds, held not to be indigenous, came in particular canoes. Even disease and death voyaged over. That dread disease leprosy was brought hither over seas in its own canoe, Moe-kakara. An old time lament for the dead says:

"Death had its own canoes. They were called Karamurauriki and Tata-taore. The bow pieces were attached, the stern pieces were raised and decked with feathers of the albatross. Then they voyaged forth. In these days they still voyage from village to village. Thus are we gathered together to weep for our dead."

Thus the voyaging canoe looms largely on the Maori horizon. It is unnecessary to give geologists the impossible task of creating land bridges that existed a few centuries ago, in order to give the Maori a convenient path to New Zealand. They were daring canoe-men and not pedestrians.

**Teaching of History:**

Though the Maori had no form of writing, traditional history was very carefully learnt and transmitted. Apart from the ordinary tribal history and other matters learnt from parents, relatives and public speakers, there were regularly constituted Houses of Learning known as whare-wananga or whare-kura. These schools were established in various tribal districts. They were named, and many that are remembered from tradition, were famous not only from the high standard of the curriculum but from the great mental attainment and wide knowledge of particular teachers. As in higher cultures, so the status of the priest or teacher was judged from the school in which he had graduated. As with English Universities, there was often controversy between the teaching of different schools. The entrance qualification was one of birth. As the house itself was tapu, the teaching necessarily partook of this nature. No person of unsuitable lineage could be admitted. The higher teaching was thus reserved for the sons of chiefs and priests. The students were carefully selected and went through an initiation ceremony on admission. There have been cases according to the Whanganui tribe, where a person not properly admitted has sat outside on the verandah of the school and absorbed the teachings given within. This was regarded as stolen knowledge. The teaching applied to things celestial as well as things terrestrial. The ritual observed in pacifying the Gods or guardian spirits interested in war, agriculture, fishing, food-gathering and the various activities of life, had to be committed to memory, word perfect. The slightest mistake in ritual, or the error of a single word in an incantation, drew upon the forgetful one the punishment of those supernormal agencies he was trying to placate. Not only non-success but death followed. It will be readily understood that the fear of consequences would
prevent slovenly memorising, and any tendency to depart from the exact text of the teaching. This is a very important point. The desire of the student for the prestige and power imparted by the teaching of the school was tinctured with the fear of leaving anything out that might offend the Gods. Maori tradition is thus full of innumerable exact details that throw light on the past and make it as accurate as an unwritten record can possibly be. Ethnologists are now attaching more value to Native traditions as a means of reconstructing the past. Amongst traditional evidence, that of the Maori people must therefore be treated with the greatest respect.

**Genealogies:**

A matter of the highest importance in Maori life was the learning of genealogies. Many of these, especially those relating to the Gods and the beginning of things, were taught in the schools. It was, however, incumbent on every individual to learn from his elder relatives his own particular descent to at least the ancestor who came in the tribal canoe. Many, however, were not content with this brief period, but went back to the ancestors who lived for generations in Hawaiki and even further back where the names of human beings became mingled with those of the Gods and natural phenomena in a primitive cosmogony. The various offshoots from common ancestors and intertribal alliances were committed to memory. Where seniority of birth counts so much, it was necessary to family prestige to be conversant with the ramifications of blood kin. In offensive or defensive alliances, a knowledge of relationship that to a European might seem obscure, was necessary for successful diplomacy. In the hour of defeat, a claim of relationship with the victorious chief often saved the vanquished from death. Again amongst a people where oratory was so admired, the speaker who could unhesitatingly recite the genealogies showing the relationship of visiting chiefs and tribes to himself earned a respect which added to his social status. Claims to territory, possessions and chieftainship have been decided on genealogical descent. Hence the importance of Maori genealogy and the case in transmitting and learning it. How many generations back Maori genealogies may be regarded as an authentic record, it is difficult to say. At least the period extends back to the canoes and for some time beyond. In the modern study of ethnology, Haddon, Rivers and others found during the Cambridge Expedition to the Torres Straits, that much valuable information regarding a Native race could be obtained by writing out genealogies and studying them from various points of view as to social organisation, etc. Rivers states that the collection of pedigrees has always formed the basis of his ethnographic inquiries. The Maoris, with their blood-kin in Polynesia, offer of all races in the world the best material for investigation by the "Genealogical Method." Some doubt has been cast on the value of Maori genealogies owing to a few having been
falsified to set up a claim in the Native Land Court. These have been readily exposed and in any case only applied to descent from recent ancestors in New Zealand, and do not affect the period of the coming of the Maori. The fact that the genealogies are joined on to the Gods and natural phenomena in no wise lessens their value for the last thousand years. They are the only means we possess of arriving at approximate dates in Maori history, and their value is very great. By comparing them with genealogies from other branches of the Polynesians, the late S. Percy Smith1 was enabled to construct a chronology and pursue his researches into the origin of the Maori people. Whether his confidence in relying upon them as far back as 450 B.C. is justified or not, reliance can at least be placed in them for the period covering the migrations to New Zealand.

THE HAWAIKI MIGRATION, 1350 A.D.

DATE:

As already stated, every Maori whom the exigencies of modern civilised life has not estranged from the teachings of the past, can trace his descent back to one of the canoes of the Great Heke or migration from Hawaiki. Taking the average of a large number of genealogies from various canoes, we have twenty-two to modern times. The Polynesian Society, after careful investigation, has accepted the average of 25 years to each generation. It is thus five and a-half centuries ago or approximately 1350 A.D. when the Fleet crossed the Great Ocean of Kiwa and made their landfall at Aotearoa. It is interesting to know that Columbus, 143 years later, with the aid of the compass, groped his way across the Atlantic to the West Indies. At the period of the Great Fleet, European navigators by hugging the shores of continents had reached the Canaries and Madeira, whilst Jayme Ferrara had reached the port of missing ships in attempting to sail to the Gold Coast of Africa. Comparison with Rarotongan and Tahitian genealogies has been shown by Percy Smith to support the approximate date given above.

CAUSES OF THE MIGRATION:

Migrations of peoples are caused by a push from behind or an alluring prospect in front. In the case of the Maori, the push from behind was the main factor in their leaving Hawaiki. All canoe historians recount the fierce and bitter fighting that was taking place before the departure. In most of these accounts, the dominant figure on the opposing side is the Ariki or High Chief, Uenuku. Reading between the unwritten lines, it seems probable that over-population had been taking place. This, in a limited island area, would result in a shortage of food supplies.

1 Smith (i.)
Necessity would lead to the theft of food, and also a failure to contribute, from insufficient crops, a large enough share to satisfy the demands of the Arikis to whom the lesser chiefs had to contribute. Both these results occur in the canoe narratives. The reason of the sailing of the Arawa canoe is attributed to the theft by Tama-te-kapua and his brother Whakaturia of fruit from a tree belonging to Uenuku the Ariki. In the modern narratives, the tree is called "Te poporo whakamarumaru o Uenuku," "The sheltering poporo of Uenuku." In New Zealand the poporo is the Solanum aviculare. It has a berry which is eaten by children, but is a childish reason for grown men like Tama-te-kapua and his brother to embroil themselves with a man possessing the power and authority of Uenuku. In old laments and sayings, the tree of strife is referred to as "te kuru whakamarumaru o Uenuku." The more classic narratives give kuru instead of poporo. At once the narrative ceases to be childish, for the kuru is one of the most important foods in Polynesia, namely the bread-fruit. If brought to New Zealand by the Fleet, it did not grow. In the course of generations the word kuru lost its meaning. In seeking a local substitute for the fruit tree, the Maori had nothing in his new flora to help him, and so fell back upon the inadequate poporo. It is fortunate that some of the old dirges kept the name alive. It is characteristic of Maori narratives to retail general things in personal terms. Thus we may be excused in amplifying this personal incident into a raid by Tama-te-kapua's people on the bread-fruit trees belonging to Uenuku. The other significant incident is the cause of the leaving of the Aotea canoe. After the gathering of the crop, Turi sent his own son with an offering to Uenuku. Uenuku considered the supply sent totally inadequate and killed Turi's son to augment it. Reprisals followed. After initial successes, Turi found that Uenuku was assembling all his forces against him. Turi's wife in the night heard Uenuku reciting in his packed house, an incantation, the theme of which was the total extermination of Turi's tribe. Realising that the position was untenable, Turi dared the dangers of the deep, rather than await the cruelty of man. In spite of early successes, he realised that bravery could not long avail against the numbers and power controlled by the Ariki. The tribe therefore decided to set out for a far land remote from the tyranny of Uenuku and create for themselves a new home. Other reasons are given by other canoe narratives for the fighting which took place.

THE NEW LAND:

The objective of the migration was definitely New Zealand. Though the discovery of New Zealand has been attributed by tradition to various Polynesian navigators, the outstanding discoverer in the canoe narratives is Kupe. Kupe has been

1 Grey.
definitely assigned from genealogical evidence to a period some centuries before the Fleet. His account, however, of the great land which lay in the Southern seas, has been handed down in traditional history. So also had his sailing directions. Here again we come across another example of concentrating history into a personal narrative. The Aotearoa account states definitely that Kupe personally instructed Turi as to the course he should sail. This was impossible literally, but the general fact remains that Turi did direct his course from the instructions handed down from Kupe.

A thing that must have appealed to the early voyagers was that the land was of great extent and would provide ample room for all. There was also a number of accounts stating that it was uninhabited. This even to the warlike people, just dispossessed and driven from home, must have had some attraction. There would be no opposition to their landing, and they could establish themselves in their new home in peace.

There is another matter worthy of consideration. Various accounts exist of the struggle between obsidian and greenstone in which Hine-tu-a-hoanga, as the personified form of sandstone, (used for grinding down greenstone and other rocks) and Ngahue took part. Ngahue by some is held to have been a contemporary of Kupe. He is stated to have come to New Zealand and taken back a block of greenstone from which an ear drop named Kaukaumataua and two axes, Tutauru and Hauhau-te-rangi, were made. The two axes are said to have been used in the manufacture of the canoes of the migration. Grey's account states that the canoes came to New Zealand in consequence of Ngahue's discovery of greenstone. To a people in the stone age, greenstone was priceless. If there is an element of truth in this story that a previous voyager had taken greenstone back to Hawaiki, we have a further inducement causing the fleet to direct its course to New Zealand, for greenstone was more valuable than gold or pearls.

THE CANOES:

Whether the canoes were double canoes lashed together or were provided with a single outrigger does not concern us here. The names of the principal ones are well known. The lament of Peou for Te Tahuri contains the following:—

Shouldst thou be asked in other lands,
To recite thy family history,
Thou shalt reply, “I ignorant am
And but a child,
And like a child forgetful.”
Has it not been heard by all,

1 Grey.  2 Best (i.)
That Tainui, Te Arawa, Mata-atua,
Kurahaupo and Tokomaru
Were the great canoes of thy ancestors,
That paddled hitherward over the ocean
That lies before us?

These five form the canoes of the Great Fleet that set out together. The famous Aotea, Takitimu and Horouta did not accompany the Fleet, but sailed at approximately the same period. A number of names such as Mamari, Arai-te-Uru and others are spoken of by different tribes. There are also a number of less well known canoes which seem to have come at different periods to the Fleet.

The Voyage:

Each canoe besides having a captain or chief, had a tohunga or priest who acted as navigating officer. It was his duty to direct the course of the canoe by the stars and the sun in order to follow the sailing directions of their ancestral discoverer. He also by means of appropriate incantations placated the gods, averted disaster and ensured a successful voyage. Rakei-ora, the priest of Tokomaru, is thus referred to in an old lament.

Rest O friend! On Tokomaru,
The canoe of Whata,
Rakei-ora it was, who hither landed
The children in safety.

Te Arawa struck troubous times, for she was almost lost in a whirlpool known as the Mouth of the Parata. As it was, a good deal of the cargo of food was thrown overboard to lighten the craft as she was foundering. The powerful incantation of the priest Ngatoro-i-rangi, assisted no doubt by good seamanship, met with success, the canoe lifted over the edge of the whirlpool and Te Arawa slid into safety. To this day the descendants from that canoe, in times of trouble, make metaphorical use of the concluding words.

She lifts, she ascends,
She glides (into safety).
Hui e—Taiki e.

Aotea strained the lashings of her top-boards and the bailers were kept busy until she beached on the island of Rangitahua. There they refitted and killed a dog as an offering to the god, Maru. The karaka, Corynocarpus laevigata, is generally held to have been brought on the Aotea canoe. As this tree, the kernels of whose berries subsequently formed a useful food supply, is found on Sunday Island, in the Kermadecs, and some stone implements have also been found there, it seems probable that the Aotea canoe actually landed on this island. The Ririno canoe, under the command of Potoru, is stated to have accompanied Aotea, but owing to an argument about the sailing course
they parted company. The Aotea people say it was lost. Hence the saying applied to obstinate people, "Very well, persist in the obstinacy of Potoru." Another narrative, however, states that the obstinate Potoru landed on the Boulder Bank near Nelson. Perchance he may have been the ancestor of the early agriculturists of the Waimea Plain.

Takitimu, owing to the precious freight of Gods, was so sacred that cooked food could not be taken on board. They ate their food raw, so say the descendants thereof with obvious pride. The same pride and seeking after departures from the normal to increase prestige have been the causes of embellishing many a historical tale.

The chiefs and priests of Neolithic races were not so primitive in thought as the literal interpretation of their own narratives would seem to make them. Leaders often concealed their shortcomings and mistakes by diverting the narrative into a channel that added to their prestige in the minds of the masses. It was for the acceptance of their own and neighbouring tribesmen that many figurative incidents were related, and not for the literal interpretation of higher cultures that came after. Insufficient food arrangements, which had to be augmented by catching fish on the voyage, could be easily excused in this manner. On the voyage, the more convenient and not uncommon Polynesian custom of eating fish raw could be seized upon as further proof of the sacredness of the canoe, and its mana and prestige thereby enhanced.

THE HAWAIKI OF DEPARTURE:

Because Hawaii of the Sandwich Islands, by the dropping of the K in their dialect, is the same word as the Hawaiki of the Maori dialect, it was held by many that the Maori ancestors came from the Sandwich Islands. By replacing the letter changes, Savaii in Western Samoa had as much claim to the port of departure of the Fleet. Subsequent research has revealed the fact that Hawaikis were dotted over the Polynesian Pacific by branches of the race who carried the place name along from an ancestral Hawaiki in the far West. They came from the Great Hawaiki, the Long Hawaiki, the Far-distant Hawaiki. The near Hawaiki of the Maori has been proved by Percy Smith, through genealogies and historical evidence, to be located in and around Tahiti, of the Society Group. After twenty-two generations, certain ancestors are common to both branches of the race. Many historical incidents occurred in Tahiti. Turi of Aotea fame is a well known ancestor who our Island kinsmen say lived on Raiatea Island. The Ngati-Ruanui tribe of Taranaki, the New Zealand descendants of Turi, have a tribal saying as follows:—

1 Smith (i.)
E kore au e ngaro; te kakano i ruia mai i Rangiatea.

Remembering that the Tahitians have dropped the ng sound, we have:

I will never be lost; the seed which was sown from Rai'atea.

A number of place names along the East Coast, north of Gisborne, correspond with many on the Island of Moorea and offer fruitful ground for investigation by the Ngati-Porou tribe as to an ancestral sojourn in Moorea. The racial connection will probably be found to be as intimate as that suggested by the street names of Dunedin and Edinburgh.

There is definite tradition of the Fleet calling in at Rarotonga, and the names of some of the canoes have been recorded in the traditions of that island. In Rarotonga, there is also a Takitimu tribe.

**The Duration of the Voyage:**

In those days, the Maoris were intrepid and skilled navigators who had made more startling voyages than that between Tahiti and New Zealand. In these days, many Europeans are inclined to look upon the voyage as incredible. Even the present day Maori, whom long settlement on a large land area has caused to forget the old time sea-craft, stresses the supernatural aid of the Gods as the main factor in accomplishing the successful voyage. By so doing, he belittles the skill and knowledge of his sea-faring ancestors. Elsdon Best sums up the position very clearly. After quoting the observations made by Cook, Morrell and Dampier on the sailing speed of Polynesian canoes with a fair wind, he shows that at a moderate average of seven miles an hour, then easily accomplished, it would take eleven days from Tahiti and nine from Rarotonga to reach New Zealand. Thus the difficulty of carrying sufficient food and water supplies for the voyage is easily surmountable. The fact of the canoes bringing the seed tubers of the Taro, the yam and the *kumara*, and introducing the Native dog, proves that there was no shortage of food on the voyage. The Rarotongans say that the fair wind from Rarotonga to New Zealand was at the end of November and in December. It was then that the voyages were made. Maori tradition states that the canoes landed when the *Pohutukawa*, *Metrosideros tomentosa*, was in bloom. With the Polynesian sea-going double or outrigger canoe, amply provisioned, navigated by skilled tohungas following the sea road laid down by Kupe, and with a fair wind, the voyage seems easier but no less wonderful amongst the achievements of compassless navigation. Appropriate incantations were used to inspire confidence in the crews and each

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1 Best (i.)
historic canoe had its own awa to ensure direction, speed and fairweather. The following extract from that Aotea, breathes of the spirit which took pride in the Epic of the Paddle.

Aotea is the canoe,  
Turi is the chief,  
Te Roku-o-whiti is the paddle.  
Behold my paddle!  
It is laid by the canoe’s side,  
Held close to the canoe’s side.  
Now ’tis raised on high—the Paddle!  
Poised for the plunge—the Paddle!  
Now we spring forward!  
Now it leaps and flashes—the Paddle!  
It quivers like a bird’s wing  
This Paddle of mine.  
See! I raise on high,  
The handle of my paddle,  
The Roku-o-whiti.  
I raise it—how it flies and flashes!  
Ha! The outward lift and the dashing,  
The quick thrust in and the backward sweep!  
The swishing, the swirling eddies,  
The boiling white wake  
And the spray that flies from my paddle!

And thus by sail and paddle, the sea-worn voyagers made their landfall on Aotearoa.

The Landfall:

The Aotea canoe, which probably preceded the fleet, made her landfall on the West Coast at Aotea. She was the only one to land directly on the West, and in this we probably see the effect of the argument between Turi and Potoru as to the correct sailing direction. The crew made their way down the Coast until they came to the Patea River, in South Taranaki. This Turi decided was the river facing the West that the Kupe tradition spoke of, so here he built his village, and planted the kumara seed brought in the double belt of his wife, Rongorongo. From here their descendants spread to form the Ngati-Ruanui, Ngarauru and Whanganui tribes. The main fleet made their landfall at and near Whangaparararoa on the East, close to Cape Runaway. Here occurred the incident of the throwing away of the kura head-dress of chieftainship when they saw the shores lined with red-blossomed pohutukawa trees. The kura of Tahiti was made from the red feathers of a certain bird and was only worn by the highest ariki. That confusion could arise between red feathers and red flowers is, to say the least, doubt-
ful. In any case it is not likely that anyone entitled to wear the kura would cast it away. As it is probable that it was the wearers of the kura who drove the voyagers out of Tahiti, the incident seems to be a figurative excuse for not having the kura when they landed. Another narrative states that there was a meeting of the Fleet at Mayor Island. At all events, the canoes speedily parted to seek out various parts for settlement. We must pay tribute to the seamanship which landed them all within a few miles of each other after an eleven days voyage without compass or chart.

The Matatua canoe sailed into the Whakatane River and peopled that district and a goodly portion of the Bay of Plenty. The Arawa beached at Maketu, where two rocks are pointed out as her bow and stern anchors. As the latter, named Tu-te-rangi-haruru, is a solid outcrop of rock, we have another example of figurative language. The stern line was probably made fast to this rock. The descendants of Tama-te-kapua peopled this part and the Hot Lakes region, whilst those of the priest, Ngatoro-i-rangi, spread on to Lake Taupo. Thus the descendants say to-day that of the Arawa canoe, the bow-piece is Maketu and the stern-piece is Mount Tongariro.

The Tainui sailed North, and after being portaged across from the Tamaki to Manukau near the present Otahuhu, she rested at Kawhia. Two stones mark the length of the canoe where she crumpled away to dust. The King Country and Waikato tribes with those of Hauraki claimed descent from Tainui. Her hour glass shaped anchor rests in the Mokau River. The human canoe stretches from Tamaki (Auckland Isthmus) to Mokau.

The Tokomaru canoe sailed round the North Cape, and proceeding beyond the Tainui domain, beached in the Mohakatino River, South of Mokau. Here the famous house named Marae-Rotuhia was erected. The original anchor with a drilled hole has only recently disappeared. On Tokomaru came the famous axe, Poutamawhiria. This was lost for some generations, but was recently unearthed by a land-slip. Owing to the generosity of the European finder it was handed over to the Ngati-mutunga tribe, in whose keeping it now is. From Tokomaru came the Atiawa tribe of North Taranaki, stretching from Parininihi (White cliffs) to Onuku-taipari, south of New Plymouth.

The Kurahaupo narratives conflict. The Ngapuhi of the North say it is petrified into a reef on their Eastern coast. The Aotea people say, it was wrecked and the passengers transferred to their vessel. The descendants at all events are scattered, for tribes in the North trace a connection, whilst the Taranaki tribe wedged in between Tokomaru and Aotea and the Maraupoko, Rangitane and Ngatiapa, stretching from Whangaehu to Lake Horowhenua near Levin, claim descent therefrom.
The Takitimu canoe came about the period of the Fleet, and after dropping settlers along the coast from Gisborne southwards, sailed to the South Island to become petrified into a range of mountains in Otago. Some of the Gisborne tribes, with the Ngati-kahungunu of Wairoa, Hawke's Bay and Wairarapa, claim it as their ancestral means of transport.

The Horouta also came at the Fleet period, but apart from it. It seems to have preceded the Fleet. From it, the Ngati-porou of the East Coast claim descent. Tahu, the eponymous ancestor of the N'Tahu, was a younger brother of Porourangi, and the majority of the present South Island people should belong to the same ancestral source. The common ancestor, however, is Paikea, who, in the absence of a definite canoe, is reported to have used a supernatural means of transport. In the East Coast district, old family note books and genealogies are being assembled by the Hon. A. T. Ngata and others, and further light will be thrown on this area as a result of the intensive researches that are going on.

In the North Auckland Peninsula, the Ngapuhi are held to belong to Mata-atua by outside accounts. Their own accounts give Mamari and other canoes as factors in the peopling of the North. Here again research work is being commenced to clear up the present tangle.

The canoe areas were fairly clearly defined before the acquisition of European firearms. As a result of the conquests of Te Rauparaha and others, changes in canoe distribution were effected. The Ngati-Raukawa from Levin to Otaki are Tainui people from the region of Maungatautari near Cambridge, whilst the Ngati-Toa of Porirua are Tainui people from Kawhia. The Atiawa of Waikanae, Wellington and Petone are Tokomaru tribes from North Taranaki. Marlborough and Nelson also contain Tainui and Tokomaru people from the conquering forces of Te Rauparaha. Far away Chatham Island was occupied by the Ngati-mutunga and Ngati-Tame of Tokomaru.

Thus we can see that the land was covered by descendants of the great Hawaiki migration, and each tribe is definitely associated with its own canoe. They were food producers, and brought with them the kumara, taro, yam and hue (Lagenaria vulgaris). The yam was seen growing by Cook and Banks. It seems to have quickly given place to the European introduced potato. To an early variety of potato, however, it seems to have transferred its Polynesian name of uhi. The paper mulberry, Broussonetia papyrifera, was also introduced to provide bark cloth. It did not do well, and has become extinct. We have mentioned the introduction of the dog. The rat is also said to have been introduced, but whether it was officially on the passenger lists or came as a stowaway, is difficult to ascertain.
THE TOI EXPEDITION, 1150 A.D.

For some time European investigators of Maori tradition were quite satisfied that New Zealand had been entirely peopled by the immigrants of the Hawaiki migration. Judge Wilson was one of the first to draw printed attention to the fact that the country contained a fairly large population ere the coming of the Fleet. Genealogies were extant that extended beyond the Fleet period, yet many of these ancestors lived in New Zealand. The names of various tribes were quoted in land claims before the Native Land Court, who did not come in the historic canoes. Quite large blocks on the East Coasts were rightly decided on these prior occupation claims. Some tribes openly stated that mana and prestige came from the canoes, but right to land occupation came from these prior inhabitants who were termed tangata-whenua, the people of the soil or aborigines.

Of the ancestors to whom most of these tangata-whenua traced back, the most outstanding figure is Toi-kai-rakau, Toi, the wood eater. He received this qualifying term because, apart from fish and fowl, he had to depend upon the products of the forests and fern root for his food supplies. He and his people had no cultivated food. They were food gatherers. Average genealogical tables place him eight generations or two centuries before the coming of the Fleet. Genealogies of the tangata-whenua go back through these eight generations and show continuous settlement in New Zealand. The genealogies of the later immigrants also go back through eight generations to a Toi-te-huatahi who lived in Hawaiki. The parents and sons of the two Tois have the same names. Some of the East Coast tribes, who follow the tangata-whenua descent, say that Toi was born in New Zealand. This contention, however, has to go by the board, for the detailed tradition transmitted by Te Matorohanga shows that the two names represented one and the same person. Toi, the first-born, lived in Hawaiki. Subsequently he came to New Zealand, where, having failed to bring the seed of the kumara and the taro with him, he was perforce called Toi, the Wood-eater. How he deserved his name is as follows:

Toi lived in the Hawaiki of Eastern Polynesia, namely Tahiti. On the occasion of a visit from people of other islands, a great regatta was held in the historic lagoon of Pikopiko-whiti. Toi and the elders sat on the hill of Pukehapopo, whilst the younger men sailed their craft in eager competition. Foremost amongst the canoemen was Toi’s grandson, Whatonga, and his friend Tu Rahui. Victors in the race and flushed with success, these two sailed through the reef opening and out to sea. A sea fog came down and the wind blew strong off the land. They were unable to beat back, and thus disappeared

1 Wilson. 2 Best (i.)
into the unseen. Toi waited day after day and week after week. Then with anxiety tearing at his heart strings, he manned his canoe and set off in search. Tradition states that he sailed to Samoa, to Rarotonga, and finally as a last resort, he determined to seek the land that Kupe the navigator had discovered. Perchance to that far land in the South his beloved grandchild had been driven. He had Kupe's sailing directions to keep a little to the right of the setting sun by day and to steer by Venus by night. Tradition states that he missed Tiritiri-o-te-Moana, as New Zealand was then called, and found the Chatham Islands. Mists, fogs and cold told him he was too far South, so he calmly rectified his mistake and picked up New Zealand. In the Hauraki Gulf region he met the tangata-whenua. Intermarriage took place and Toi finally settled at Whakatane, in the Bay of Plenty. A terraced pa above the present township is pointed out as Kapu-te-rangi, where he lived.

Meanwhile Whatonga had safely landed on a Pacific island, and after some time sailed back to Tahiti. On learning the news of his grandsire's expedition, he fitted up the "Kurahaupo" canoe and set out in his turn to search for the searcher. At Rarotonga, he heard of the direction Toi had gone and so, without hesitation, Whatonga in his turn sailed down to New Zealand. In those days when the crossing of Cook Strait in the vessels that ply thereon is almost a thing of dread, we can only wonder at what seems the impudent coolness of those early adventurers. Whatonga made his landfall at the Tongaporutu River on the West. He coasted round the North, and found his grandfather established at Whakatane. As Elsdon Best¹ says, "There these Vikings settled down, never more to look upon the palm-clad isles of the sunny North, never again to listen to the thunder of far-driven seas on the guardian reef." We now see that these two canoes came from Eastern Polynesia. Therefore they merely provisioned for the voyage, and brought no seed plants. The people they found in occupation had no cultivated food either. Intermarriages took place, and mixed Toi tribes arose. These subsequently warred with the others. One tradition states that some of the tribes were driven out of the country and peopled Chatham Island before the coming of the Fleet. On this we need further enlightenment. Many of these tribes, however, continued in occupation and were dispossessed and absorbed by the descendants of the 1350 migration. During the two centuries between the coming of Toi and the Fleet, it seems probable that some voyages took place from and to Hawaiki.

Many traditions occur of other canoes, the details of which have been lost or overlaid by the greater importance placed on the later arrivals. It is quite evident that, dissatisfied with the indigenous vegetable foods, canoes went back to procure the

¹ Best (i.)
seed of the kumara. South Island and Bay of Plenty traditions are very definite, and must be accepted. The Bay of Plenty version is that recent arrivals made Toi a mixture of preserved kumara, kao, and water, which led to the fitting up of a return expedition. It states that Toi was ignorant of the kumara. This, of course, was impossible, and must be regarded as another of those figurative tales with which we are already acquainted. The incident must have occurred long after the death of Toi, when the taste of the kumara had been forgotten. The name of Toi is used for his descendants and to embellish the tale. Data are accumulating which show that communication was kept up between Hawaiki and New Zealand. The culmination was reached in the fitting up of the Fleet. Further details of the new land had been acquired since the days of Kupe. Thus the Fleet knew the approximate part they were sailing for, and what they needed for food supplies and clothing. It would also seem that they knew where their relations were, for Paikea, after landing at Mayor Island, worked down to the East Cape, where he was expected. The latest wave of people, and a goodly smattering of the previous, were not strangers but blood kin through Toi.

THE PRE-TOI DRIFT PEOPLE.

Concerning the people that Toi found in occupation, accounts are confused. This is due not only to the length of the time that has elapsed, but to the subsequent mixed tribes attaching such importance to their Fleet ancestry that they often purposely forgot or concealed their pre-Toi descent. Yet there have been chiefs who were proud of this latter descent, and looked upon the people of the Canoes as interlopers of yesterday. Many genealogical tables go back to Toi-kai-rakau, but there are others again which show no connection. It is to be hoped that genealogical books may be collected throughout the country and long tables studied to throw light on this interesting subject. As the forests are cleared away, hill tops are found to show traces of occupation concerning which there are absolutely no traditions. When the Fleet arrived, there was a large population in the country. It is more than improbable that this developed after the coming of Toi. New Zealand has been occupied for far longer than seven and a half centuries. South Island genealogical tables go back for forty generations in New Zealand. There must be some explanation in the direction of longer occupation than we have so far admitted. One of the main reasons that have led to the short period theory, has been the acceptance by Mr. Percy Smith of the tradition that Kupe saw no people here when he made his voyage of discovery. This date has been placed by the above authority as approximately 950 A.D. The usual narrative is that Kupe saw two people, who were birds. One of them, a fantail, was flitting about the bar of a latrine. We may well repeat the question that my
Whanganui informant asked, “To whom did the latrine belong?” A Tainui tradition states that Kupe did see men on the West Coast of the North Island. They were engaged in digging up fern root with a pointed stick.

Te Matorohanga, quoted by Elsdon Best, stated that the North Island was settled subsequent to the coming of Kupe by “A dark skinned folk of inferior culture, whose origin is unknown.” They arrived in three canoes, Kahutara, Taikoria and Okoki, which had been driven away from their own warmer land by a westerly wind. After a long drift they reached the Taranaki coast. From here the descendants spread across to the North Auckland Peninsula, Auckland, Waikato, Hauraki, Bay of Plenty, East Coast and Hawke’s Bay districts, where they were found in occupation on the arrival of Toi. Here we have an accidental drift settlement. Wherever these people came from they must surely have been voyaging towards some nearer island in the Pacific with their women folk and a certain amount of provisions. Without a certain amount of the latter, they could not have survived the long drift to New Zealand. Large numbers of the people were living in Taranaki on the arrival of the Fleet, for the Tokomaru narrative states that Manaia of that canoe fought against them. The Matorohanga account goes on to say, that after the mixed Toi tribes had become established they waged war against these people, and after harrying them from pillar to post, drove some of the tribes out of the country. These particular remnants set sail from the mouth of the Rangitikei River, and after calling in at D’Urville Island, crossed over to Chatham Island. There they survived as the Moriori people, who are now represented by two full-blooded male survivors and no females. Whether the three canoes that landed in Taranaki were entirely responsible for all the pre-Toi people, it is difficult to decide. If they were, another difficulty is presented by the extraordinary increase in less than two centuries between the coming of Kupe and the advent of Toi.

Another tradition that must be taken into account for the first peopling is that treating with the fishing up of New Zealand out of the depths of the ocean by the great traditional hero, Maui. Maui Potiki or Maui-Tikitiki-o-Taranga, the youngest of the five Maui brethren, stowed away in his brother’s fishing canoe. When safely out to sea he emerged and directed the course of the canoe on and on until their island home was left far behind. Then with the jaw bone of his ancestress Muriranga-whenua for a hook, by magic spells and potent incantations he caught a wondrous fish. The waters seethed and foamed as Te Ika a Maui, the Fish of Maui, came to the surface and the fishing canoe was thrust high and dry on the peak of Mount Hikurangi. The great fish is the North Island which
forms a stingray with the head at Wellington, the two flappers at the East Cape and Taranaki and the tail trailing away into the North Auckland peninsula. Wilson also refers to the fact that Captain Cook obtained the name for the North Island from the people of the East Coast. They gave him the Maui tradition, and hence the name was printed on the early sheets as Hika-keeno-mawee—the fish fished up by Maui. This name he argues was given because Maui descent was strong on the East Coast. Had Cook asked first on the West Coast, he would probably have been given the later Hawaikian migration name of Aotearoa. In this tradition may there not be some far off echo of a pre-Kupe discoverer who literally fished the island out of the unknown. The tradition states that Maui left his brothers to look after the fish whilst he returned to Hawaiki. Wilson mentions that in the early traditions, he heard Maui’s companions were his own sons, and later versions changed them into his brothers. From early information collected by Judge Wilson’s father, the Judge was strongly of the opinion that the pre-Toi people were descended from Maui and he alludes to them as the Maui migration. On the East Coast, the so called *tangata whenua* are often alluded to as being descended from Maui Potiki. All the Fleet ancestors can be traced back to Maui in Polynesia, but the “tangata whenua” seem to have claimed continuous occupation in New Zealand from his period. The intensive study of genealogical tables which are becoming more available, may yet throw more light on this question.

On the arrival of Toi, these earliest settlers were definitely organised into tribes. The tribal names, unlike those of the Eastern Polynesian immigrants, did not usually consist of a tribal prefix such as Nga, Ngai, Ati, Uri, Whanau, or Aitanga, with the personal name of the eponymous ancestor attached. Some are rather fanciful, such as Haeremarie (proceed gently), Raupo-ngaoheoho (rustling water-flags), Tawarauriki (small leaved tawa tree), Tururu-mauku (drooping fern-tree frond), and Ngaru-tauwhare-wharenga (curling wave). Whether such names as these were really used by themselves or applied to them by subsequent migrations is doubtful. Maoris have a keen sense of humour, and in no direction is it more applied than in naming people. However, such names as Te Maranga-ranga, Wai-o-hua, Nepohatu, Tini-o-awa, etc., definitely represented important tribes. Amongst personal names, that of Maruiwi stands out prominently. A large section of *tangata whenua* under this chief were annihilated to a man, and death and disaster are often referred to as “Te heke o Maruiwi” (the descent of Maruiwi). Owing to the prominence of the name of Maruiwi, Elsdon Best has often referred to the pre-Toi people as the Maruiwi.²

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1 Wilson. 2 Best (ii.)
In the traditional accounts of the wars that took place between the pure pre-Toi and the mixed Toi tribes, we have mentioned the doubtful origin of the Moriori of the Chatham Islands. This migration is supposed to have taken place before the coming of the Fleet. Other pre-Toi tribes lived on in peace and after the arrival of the Hawaikian immigrants, considerable intermarriage took place. Not many women are mentioned in the traditional passenger lists of the Fleet. There is no possible doubt that no matter how much the present tribes may boast about their canoe ancestry, considerable intermingling took place with the previous arrivals. Every tribe has genealogical tables extending to beyond the Canoes, and not all connected up with Toi of thirty generations ago. Wilson quoted Wi Tahata of the Nepohatu as tracing his descent back thirty-eight generations to Maui Potiki. In some parts of the country, there are large tribes who can claim very few ancestors from a canoe of the Fleet period. Amongst them, the tangata-whenua element must form the main factor in the tribe.

Many of the wars against the strictly tangata-whenua tribes were waged long after the Hawaikian immigrants had intermarried and become firmly established. Such were the wars of the Ngati-Raukawa against the Kahu pungapunga down the Waikato Valley, the various struggles along the East Coast and other parts, and the comparatively recent eviction of the Wai-o-hua from the crater forts of the Auckland isthmus by the Ngatiwhatua of Kaipara.

The traditional narrative of the Moriori people of the Chatham Islands centres round the coming of two canoes, Rangihoua and Rangimata. These in company with others left Hawaiki as a result of fighting with the Rauru tribe. The other canoes were lost. Rangihoua was wrecked with total loss of her passengers on Chatham Islands, whilst Rangimata landed safely. Traditional incantations show that the voyage was marked by unfavourable winds and lack of food and water. Rangihoua and Rangimata correspond in importance in Moriori narrative to the Maori Fleet, but according to genealogical evidence occurred about one and a half to two centuries earlier. Like the Maori version, they have an account of people in occupation who were regarded as autochthones. They also have a tradition of a previous navigator, Kahu, who returned to Hawaiki. Rangimata was followed by the Oropuke canoe bringing members of the Rauru tribe. Hostilities ensued and continued until the time of Nunuku-whenua, when the killing of men was forbidden. This wise ancestor seems to have had more success than all combined efforts of the League of Nations, for from that time man settled disputes with an eight foot pole or quarterstaff. The moment blood was drawn the abraded one called out, “I bleed.” Honour was satisfied and the conflict

1 Shand.
ceased. In spite of the degradation of culture which occurred in the Chatham Islands, this solution of a problem, which civilised man seems incapable of dealing with seriously, should be placed to the credit of, in this respect, the more advanced Moriori people.

KUPE, THE NAVIGATOR, 950 A.D.

Though tradition attributes the discovery of the North Island to Maui by the figurative legend of fishing it up out of the deep, the credit of discovery and exploration is given by most of the Fleet narrators to Kupe. The period of 950 A.D. assigned to him by Percy Smith,¹ was marked by notable voyages of discovery in Polynesia. We have even Rarotongan traditions of voyages into the Antarctic during previous generations. About 750 A.D.,² one Hui-te-Rangiora made such a voyage. A century later, Te Aru-tanga-nuku voyaged off to verify for himself the wonders that had been seen. They were te-moana-tai-uka-a-pia (the sea covered with material like arrowroot), the steep white hills that rose out of the sea, the deceitful animals that dived down into the depths, and the tresses of the mysterious woman that floated for fathoms on the surface. In the last we recognise the bull kelp which is unknown in tropical seas. That region which lay to the south of Rapa was marked by rough seas, and was not seen of the Sun. Can the Vikings of old claim any greater spirit of adventure than that possessed by these explorers from the sunlit isles of the Pacific, when they ventured into the cold regions of the South, with neither a push from behind nor an economic attraction from the Southern horizon? Well might the subsequent words of Coleridge’s Ancient Mariner be applied to them:—

The soft wind blew, the white foam flew,
The furrow followed free,
We were the first that ever burst
Into that unknown sea.

Kupe, then, a century later, made the comparatively easy voyage to Tiritiri-Moana. He explored the East Coast of the North Island. He sailed through Cook Straits and between the smaller islands in that region. Hence the old song is figuratively true.

I will sing, I will sing of my ancestor Kupe.
He, it was who severed the land,
So that Kapiti, Mana and Aropawa
Were divided off and stood apart.

He explored the West Coast of the South Island and that of the North, finally departing for the Home Land from the inlet

¹ Smith (ii.) ² Smith (i.)
of Hokiaanga, the Returning Place of Kupe. Place names along the coasts associated with his name, bear witness to his achievements. He returned to hand down to posterity the sailing directions that marked the sea road to New Zealand. Then he rested on his laurels. To invitations to lead another expedition, he replied, "E hoki Kupe?" "Will Kupe return?" The answer was in the negative, and to this day the saying is used as a definite and firm refusal.

Other navigators such as Ngahue, who took back the greenstone, and Nuku are mentioned as heroes of this early period. Maku and Tiwaiwaka figure as traditional claimants to priority of discovery.

**SUMMARY OF TRADITIONAL SETTLEMENT.**

From traditions so far recorded, we may divide the settlement of New Zealand into three periods.

(1) The pre-Toi settlement, occurring a fairly long time before 1150 A.D.

(2) The Toi Expedition of 1150, with the accession of a number of less well known canoes preceding the Fleet.

(3) The Hawaiki migration of 1350, composed of the Fleet of five vessels with well known canoes of the same period, such as Aotea, Takitimu, and Horouta.

**CULTURE.**

We have roughly summarised the traditional evidence as to the various waves of people who settled in the country. An intensive study of the culture of the various tribes may yet assist in filling in some of the gaps left by tradition. In spite of a good deal of material having been irretrievably lost, the still available data have been by no means exhausted. Differences in mythology, tradition, social organisation, ritual and custom exist between various canoe areas. How far these may be due to origin from neighbouring Pacific Islands or areas further apart, has yet to be studied. We would naturally expect that the culture of the Toi and Hawaiki immigrants, being derived from Eastern Polynesia, would be the same. It must be remembered, however, that the Toi people were a mere handful set amongst a numerous people. The failure to bring cultivable food plants, resulted in the disappearance of agriculture and the loss of a God from their pantheon. Though they may have imposed their Gods, their chieftainship and probably their social organisation on the mixed tribes that resulted from intermarriage, the ordinary arts and observances of life must have been largely decided by the mass of the people, who were the labourers and food gatherers. Their local knowledge developed through
longer occupation, must have made the new comers defer to them in many matters. The greater the dilution of Polynesian blood, the greater the chance the previous culture would have of surviving. Whether the two cultures can be separated by removing the overlapping strata contributed by later ethnic waves is again difficult to say at present, but the attempt is worth trying. Members of the Bayard Dominick Expedition who have been working in Polynesia, have distinguished two distinct cultures¹ by comparing outlying islands with those in more central positions.

**CULTURE AREAS:**

Mr. H. D. Skinner² of Otago University has tentatively divided New Zealand into a number of culture areas. He has shown that in material culture, there are distinct differences. The collection of these various differences in order that a careful analysis may be made, is an important matter. Some of the differences may be purely local conditions developed from adaptation to environment; others again may prove to belong to distinct cultures. An instance is afforded by the storing of the kumara crop. On the East Coast, the roofed storehouse well sunk into the ground and covered over with earth is in use. On the West Coast, rounded pits are sunk which communicate with the flat surface by means of a small rectangular opening covered with a slab. In the North, the tubers are heaped on the surface and then covered with leaves and earth. Is the seemingly careless northern method due to the fact that the extra labour to ensure the kumaras being kept warm, is not necessary owing to their more genial climate? Is the roofed house of the East necessary, because the crumbly shale grounds that form the best cultivations, will not keep up in a subterranean dome like the firmer soil of the West? Or were these three distinct methods brought from different parts of Eastern Polynesia? The ancient method of storing in that region should give valuable information. The pre-Toi people knew nothing of it and any memory that Toi handed down was soon forgotten.

**HILL FORTS:**

The terraced hill village seems to belong to the pre-Toi culture. With the exception of Rapa, there is no trace of these entrenchments in Polynesia. Shortly after the landing of Toi, he dwelt in the terraced and fossed fort of Kapu-te-rangi. Well might Mr. Best³ ask, "Did the Polynesian become a fort-builder as soon as he stepped ashore here?" Along the East Coast, the hills and ranges are covered with pa of simple formation. Their names have been long ago forgotten, and they are associated in tradition with the pre-Hawaiian people. The more recently occupied forts from the Bay of Plenty and

¹ Gregory. ² Skinner (i.) ³ Best (ii.)
Taranaki northwards that are associated with the descendants of the Hawaiians are much more elaborate in their defences. It would thus appear that the idea of the hill fort was derived from the pre-Toi people, but subsequently improved and developed by the infusion of Eastern Polynesian blood. The pre-Toi people could not have been the entirely peaceful people that tradition makes them. In the absence of man-eating animals, why entail the vast labour of digging out terraces and fosses with pointed sticks? Some of the terraces seem to have been residential sites without defences, and in appearance resemble the lynchets of Britain.

**Weapons:**

The outstanding feature of Maori warfare has been the love of hand-to-hand fighting. On many occasions, impregnable forts have been vacated and the battle decided hand-to-hand on the level plain. Challenges to single combat were often made, and fought out whilst both armies looked on. Weapons consist of two main varieties; the longer double handed clubs with a broader striking blade at one end and a sharpened, carved or uncarved, stabbing point at the other, and the short stabbing clubs of wood, bone, stone or greenstone. The former when compared with other Polynesian or Melanesian clubs are marked by fineness of make which precludes crude crushing, bruising or battering strokes. The Maori expert went in for quick footwork. He never overswung, and thus quickly recovered on guard if his blow did not connect. The swift, sharp blow with the blade was followed up by the finishing thrust with the point. The short club in the hands of a toa, tried warrior, was a fatal weapon. The user depended on quick foot work to get inside the guard of the longer weapon. Once he was breast to breast with his opponent or fell into a clinch, a quick uppercuto to the temple or some other vulnerable spot, finished the fray. With masters-at-arms teaching the strokes and guards of these two types of weapon, we can understand that the Maori looked down on the use of projectile weapons. The bow and arrow was used neither in war nor in peace. Mr. Best quotes from Te Matorohanga and other sources very definite traditions that the bow was used by the pre-Toi people. As other branches of the Polynesians who were acquainted with it, used it only in sport, it is a question as to whether the pre-Toi bow was of this type or the real Melanesian article. Tradition is supported by the finding of a bow in a swamp excavation.

There are, however, three projectile weapons that were used by the Maoris. These are the throwing spear, the kotaha and the hoeroa. The throwing spear was undoubtedly used on occasions, but the weapon raises no enthusiasm. The unthrown spear or tokotoko wielded by an expert has had its praises sung.
MAORI RECTILINEAR ART. EMBROIDERED BORDER OF CLOAK (Buck Collection).
The *kotaha* was a carved stick with a short length of cord attached to one end. The cord was twisted round a sharpened stake stuck slantwise in the ground. By jerking the *kotaha* forward, the stake was propelled through the air with considerable force and for some distance. The twist of the cord held over a knot at its end, but as the projectile went forward it loosened naturally without retarding the flight of the missile. There are recorded instances of men having been killed by this means, but it played a very insignificant role in Maori warfare. It seems to have been used to hurl lighted brands on to thatched houses within a besieged fort. The *hoeroa* is that curious curved whalebone weapon, about four or five feet long, with a sharpened front edge at one end and a long cord attached to the other. It was used in pursuit, when it was thrown with an underhand movement at a fleeing enemy. The sharpened edge by striking the spine or loins disabled the object, and the pursuer, without slackening speed, wound up the cord which was attached to his left wrist. By the time the weapon came to hand, the wielder was within throwing distance of another enemy and no time was wasted. These three projective weapons are said to have been derived from the pre-Toi people.1

A short striking weapon of stone called a *kurutai* is also said to have been derived from this source. A significant derived weapon is the *huata*,1 a long spear sometimes as much as twenty feet in length. It was entirely used in defence and attack in connection with forts, and thus gives further support to the pre-Toi origin of the Maori fort.

**Decorative Art:**

Maori decorative art2 as exemplified by definite patterns and designs found expression in house panels, plaiting, weaving, painting, tattooing and carving. In the first three arts, the designs are rectilinear and form geometrical figures. The very nature of the technique in house panels, plaiting and weaving confined the artists to motives composed of straight lines. The various strokes were made on a basis of small squares and rectangles, and the area of the surface used did not permit of working the small squares into curved lines. It seems curious that though check patterns could have been quite easily made, the lines followed a diagonal direction and resulted in chevrons, triangles and lozenges. This is probably due to the influence of the oldest of the three arts, plaiting. Plaiting, though it underwent local modifications of technique due to stiffer material, was brought from Polynesia. In plaiting, the coloured wefts, like the others, must cross the white body of the mat or basket in a diagonal direction. Thus the coloured patterns run diagonally. The coloured wefts, being foundation wefts, render the square and rectangle impossible of execution, except as a

1 Best (ii.). 2 Te Rangi Hiroa (i.)
minor detail in a broad band. The house panel developed in New Zealand with the type of house that the colder climate demanded. The idea of the decorative part of the panel may be a faint echo of the sinnet work from the Oceanic area. However, in its development, the panel designs, except for broken vertical lines and steps, took a diagonal direction and its most advanced forms reached the chevron, the triangle and the lozenge. The check pattern is of post-European date, and was suggested by the draught board. The *tāniko* in the embroidered borders of cloaks, is from the point of technique the latest development in Maori weaving. The Maori brought to New Zealand the paper mulberry with which to make bark cloth, and therefore he must have developed weaving locally. Here again his coloured lines were woven diagonally. Hence we may assume that the enforced diagonal technique of the older art of plaiting impressed itself on the Maori artistic sense, and was continued in the subsequent decorative art of the house panel and of weaving.

In painting, tattooing and carving, the neolithic artists were freed from the tyranny of the background of squares. With a piece of charcoal, they could indulge in freehand drawing whether the surface was wood, stone, bone or the human skin. At once Maori decorative art changes from the rectilinear to the curvilinear. The scroll and the double spiral become characteristic. In the whole of Polynesia, as Rivers and others have pointed out, the art is rectilinear. What has happened? Did the Maori bring the scroll and the spiral from Polynesia, and has the art since died out in that region? This seems unlikely. Did he find it in New Zealand when he arrived? If so, did some pre-Toi wave of people bring it here? Where did they bring it from? It is a long cry to the Solomon Islands, the Islands to the south-east of New Guinea and New Guinea itself, where curvilinear art first begins to appear. Or did the mixed Maori people, from nature objects such as the curling frond of the tree-fern, evolve and develop curvilinear motives locally? Does the Manaia or bird-headed man so characteristic of some forms of carving, come from an alien race in the west, or is there any relationship between it and the bird-headed man carved on the walls of the rock shelters of Easter Island?1 Who is responsible for that strangely un-Maori carving that was found in the Kaitaia swamp, and at present rests unsolved in the Auckland Museum? These are problems worth the solving, and a comparative study of the whole Oceanic area is necessary ere such questions can be answered.

And so with many artefacts that are being unearthed or having attention drawn to them, each has a story to tell. Stone and wooden objects of unknown Maori use, may refer us back to the long period of pre-Toi settlement. A statistical locality

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1 Skinner (ii.)
KAITAIA CARVING (Auckland Museum).

H. Winklemann, Photo
study of stone adzes should tell us something. Middens, village and burial sites, cultivations, sand-dunes and swamps may yet add more and more objects of material culture that may aid in building up our knowledge of the pre-Toi people. Mr. H. D. Skinner's\(^1\) study of the material culture of the Moa Hunters shows that these oldest inhabitants of Canterbury and Otago were Polynesians. Some things like the abandonment of the Polynesian balance pole for the Maori plaited burden carrier\(^2\) may be cases of local abandonment and independent evolution. Others must surely point the way to Pacific areas through which they passed from their place of origin.

We see the need for a detailed study of the culture of Polynesia and the neighbouring regions to get a comprehensive view to assist in the solution of the movements of ethnic waves and the coming of the Maori. The comparison of the culture of more remote parts with that of islands more directly on the routes along which peoples have passed, may assist in recognising the stratification of cultures and which strata are superimposed on the others.

From the study of material culture and art, Mr. H. D. Skinner\(^3\) are tentatively dividing New Zealand into smaller culture areas, was of the opinion that the whole area could be grouped into two older culture areas, whose boundaries coincided in a general way with those of the two islands. The Southern Culture is more typically Polynesian than the Northern. This is evidenced by the occurrence of the oval house and the double and outrigger canoe; the absence of earthwork fortifications, the house on piles and curvilinear art; the limited use of carving in houses and canoes, the presence of rectilinear designs in tattooing and the preponderance of the Polynesian types of adze.

The Northern Culture is marked by the rectangular dwelling house with sunken floor, the single canoe, the fortified pa, the storehouse on piles, curvilinear art in carving, rafter patterns and tattooing and the increasing presence of non-Polynesian types of adze. Mr. Skinner points out that the single canoe is dominant in the Solomons, the decorative art of the Massim region makes lavish use of the spiral, and the Sepik river produces moulded clay heads, "the tattoo of which stands closer to that of the Northern Culture than any other in the Pacific." To the adzes of this latter region also those of the Northern Maori seem most closely allied. Mr. Best has pointed out that the fortified pa has its nearest trace in the Fiji Islands. Though the denser population of the North, due to climate and agriculture, may have affected the development of the storehouse on piles and the fortified pa, it does not account for origin. Thus certain elements in the Northern Culture have their affinities with the Western Pacific, outside the Polynesian sphere.

\(^{1}\) Skinner (iii.) \(^{2}\) Te Rangi Hiroa (ii.) \(^{3}\) Skinner (i. and v.)
Moriori material culture, according to the same authority, might be looked on as a fragment of the Southern culture of New Zealand. Superficial differences could be traced to a New Zealand source. In many classes of manufactured article, it was not possible to distinguish the Chatham Island article from that made in Otago. Mr. Skinner regards this as conclusive evidence, "That seven centuries ago, when the Moriori left New Zealand, the Southern Culture of New Zealand had developed most of the features it presented at the beginning of the nineteenth century, in other words, that the difference between the culture-regions in New Zealand was ancient." This last remark of Mr. Skinner's, of course, applies to the condition existing before the arrival of the Fleet in 1850. The subsequent division into smaller culture areas is due to the varying intermixtures of these older cultures with that introduced by the later arrivals from Eastern Polynesia.

**LANGUAGE:**

Maori is a dialect of the Polynesian language, which is grouped as belonging to the Austronesian languages. The work of linguists has revealed them as belonging to a family of languages spoken by peoples ranging from the Himalayas, through Further India and Indonesia, out into the Pacific and including Australia. The family is known as the Austro family of speech.

It is curious that whilst traditional history takes the Maori back definitely to Tahiti, their dialectical affinities are more allied to those of the islands to the East, such as the Marquesas, Austral Group and even Easter Island. Did some of our nearer of kin move East when we moved South, or are there unremem-bered or unrecorded migrations from that direction? In New Zealand a fair amount of difference exists between the speech of the descendants of different canoes. These sub-dialects are well known to the Maoris, who can recognise various tribes by their speech. Slight differences in grammatical construction do exist. A fair number of words are peculiar to certain tribes. Vocatives and interjections characterise some regions. The main differ-ence, however, is in the inflection of the voice.

Notable differences are the dropping of the South Island NG with the substitution of K, the Matatua tribes' use of the N instead of NG, the Rarawa introduction of E before certain vowels when they follow H and the Tokomaru, Aotea and Kurahaupo tribes' tendency to drop the H, or rather not to aspirate it sufficiently. This last usage resembles that prevail-ing in the Cook Group, which erroneously caused the recorders of that dialect to say there was no H in it. Then, curiously enough, the Island of Manihiki has a distinct aspirated H, which is shown in the spelling of the name of the island, yet the speech of Manihiki resembles Maori more closely than that of any other island in the Group. Through this peculiarity, the late Queen
MORIORI OF CHATHAM ISLANDS, LIVING AT DARGAVILLE, N.Z.
Makea of Rarotonga, who had trips to New Zealand, told me
the Manihikians were related to the Maoris. The Ven. Arch-
deacon H. W. Williams is inclined to think that it is now too
late to collect subdialectical differences of sufficient value to
follow up Island affinities.

Mr. Elsdon Best\(^1\) collected a few words which were said to
belong to the pre-Toi people, but, as he remarked, any distinctive
sounds would naturally be Maorified and their significance
destroyed. Of thirteen words that he gives, Archdeacon
Williams\(^2\) could only locate one, with a slight modification of
meaning, in the dialect of the Chatham Islanders.

In the speech of the Moriori of the Chathams, we should
expect from the tradition we have mentioned, that valuable
information might be afforded of the language and origin of
the pre-Toi people. Archdeacon Williams' study\(^3\) of the vocabu-
lar-y collected by the late Mr. Shand, shows that Moriori is not
correctly described as a sub-dialect of New Zealand Maori but,
"It has as much right to be considered independent as any of
the known dialects of the Polynesian language." He disposes
of the so called sibilant sound in Moriori by showing that in the
cases of H, K and T, by arching the tongue against the palate
and uttering the letter with a slight emission of breath, the
effect is produced of a suppressed I or sometimes E sound before
the proper vowel of the word. There is thus no true S, or CH
sound, but it resembles the Rarawa usage where after H, an E
sound is introduced before the proper vowel, as HEONGI for
HONGI, thus resulting in the word being written by early mis-
sionaries as SHUNGHIE. When we remember the Matoro-
hanga tradition of a "drift from the West" having landed the
alleged ancestors of the Moriori on the coast of Taranaki, some
of us might be pardoned for connecting what had been described
as a Moriori sibilant sound with the distinct S sound in the
dialects of Western Polynesia. Besides the Tongan method of
sounding T before I as an S or J (quoted by Archdeacon
Williams), in Niue Island, the T before the vowels I and E
is now pronounced distinctly as S. However, from a com-
parison of the vocabulary with those of other Polynesian dialects,
the Archdeacon says, "In the affinities disclosed, the Marquesan
dialect figures most frequently." Though he enunciates no
theory as to Moriori origin, his results are most important in
showing that as far as dialect is concerned, Moriori affinity is
with Eastern Polynesia and not with the West of recorded
tradition. The significance with Eastern Polynesia was
rendered still greater when about the same time Mr. H. D.
Skinner\(^4\) independently worked out the affinity of Moriori
material culture with that of Easter Island.

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1 Best (ii.)  2 Williams.  3 Williams.  4 Skinner (iv.)
PHYSICAL CHARACTERISTICS.

Information from physical anthropology as to what waves of people came to New Zealand, suffers from insufficient data. The work of the Bayard Dominick Expedition in Polynesia and our own work amongst the Maoris is remedying that serious omission in scientific work. The idea long held that the Polynesian was a fairly homogeneous people has been abandoned. It has been recognised that various types occur and to a varying degree in different Polynesian islands. General observations by travellers and writers, no matter how gifted, are of little or no scientific value. Not only the presence of types, but their relative importance in a population as revealed by percentages, is necessary before physical anthropology can assist tradition, culture and language in attempting to unravel the Polynesian and Maori problems. The data can only be supplied by trained observers working on a common system in taking the necessary physical measurements and interpreting their material.

Dr. Louis R. Sullivan, working on the measurements made by himself in Hawaii and by Bishop Museum associates in Samoa, Tonga, Marquesas, Paumotus, and the Austral Group, has isolated what he considers the Polynesian type. Briefly it is characterised as follows:—

Light brown skin, wavy hair of medium texture, medium beard and body hair development, lips of average thickness, moderately long heads, average cephalic index 77 to 78, tall, average stature about 5 feet 8 inches, very high and moderately high faces, very high noses, oblique nostrils, nasal bridge elevated more than usual, well developed chin and with the Mongoloid eyefold absent. Thus the Polynesian is strikingly Caucasian in appearance, but Dr. Sullivan considers that at present it is impossible to determine his exact place in the human family. Other types are regarded by him as Indonesian, Melanesian and Polynesian with deformed heads. His Indonesian type does not follow the usually accepted type associated by English anthropologists with that term, but is a short, broad-headed type, with broad flat nose and certain Mongoloid characteristics. Professor Rowland Dixon from the study of the available cranial material also isolated four main types amongst the Polynesians, which he calls by other names. Dr. Sullivan, from the area of his material, has not touched upon New Zealand, but in private correspondence, he says it will probably be found that traces of his Indonesian type exist in New Zealand. They do. Professor Dixon from the data supplied by Professor Scott's measurements on Maori and Moriori skulls, attempts to interpret the racial or physical types of man that have peopled New Zealand. His interpretation briefly is as follows:—

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1 Sullivan (i. and ii.) 2 Sullivan (ii.) 3 Dixon (i.) 4 Dixon (ii.)
LONG-HEADED, NARROW-NOSED TYPE.
(Locality: Whanganui.)

BROAD-HEADED, BROAD-NOSED TYPE.
(Locality: Whanganui.)
Taking the crania together in a single series, the Maori is a very mixed people, with a large majority of long-headed factors. The long-headed, narrow-nosed type which he terms Caspian, he finds to be the most important single type present. Then come the long-headed, broad-nosed types (proto-Australoid and proto-Negroid) which he groups together as "Melanesian," and the broad-headed, narrow-nosed type, "Alpine." By dividing New Zealand into three areas, the North Auckland Peninsula, the rest of the North Island, and the South Island, he finds significant local variations. The proportion of long-headed factors decreases from North to South, and the proportion of broad-headed factors increases. Thus in the North Island, the Caspian type is the most important single element and in the South Island, the Alpine. The "Melanesian" elements are greater in the North than in the South. Reading this in the light of traditional history, he holds that the older aboriginal inhabitants, in view of their holding the relatively more remote position, must be the Alpine broad-headed type. This would thus correspond to the pre-Toi people. The later arrivals from Eastern Polynesia, who dominate the North, are the long-headed Caspian and Melanesian types. These are the types predominant in South Eastern Polynesia, whence the Hawaikians came. Reference to the Moriori data supports this contention as to the character of the more ancient stratum, for he finds there that the most dominant type is the Alpine broad-headed type. We have seen that tradition makes the Chatham Islands a cul-de-sac where the older pre-Toi people were preserved without subsequent intermixtures until early in the nineteenth century.

Dixon's theory of the peopling of Polynesia has a bearing on New Zealand. He considers that the first wave consisted of long-headed, broad-nosed types with a dash of Caspian, which developed in Melanesia. This "Melanesian" strain worked East, passed through the Cook, Society and Tuamotu Groups and by "lucky chance" reached Easter Island. They did not voyage South to New Zealand. The next wave consisted in the main of the Caspian type with other long-headed forms. They followed the others as far as Easter Island, and introduced stone work. They did not penetrate to New Zealand. The third and last wave, at probably the early part of the Christian era, was in the main Alpine in type. They were the people of the "long migrations." They poured into Western Polynesia. They also passed East by a more northerly route. "From Tonga, they quested Southward until they reached New Zealand, bringing with them, as a result of fusion with the older Western Polynesian population, considerable Caspian and "Melanesian" elements. Thus, New Zealand received its first inhabitants, some of whom later spread to the Chatham Islands. Later in 13th and 14th centuries, this New Zealand population was profoundly modified by the conquerors who came from the Eastward, bringing primarily dolichocephalic factors." Dixon goes on to say that the elusive "Caucasic" element in the Polynesian
area is "found in the Caspian-Mediterranean factor present to-day most strongly probably in the Maori of New Zealand."

Scott's 1 series of male skulls consisted of 50, of which 25 were from the South Island, seven from the North Auckland district and 18 from the remainder of the North Island. Professor Flower's and Sir William Turner's material raised the North Auckland number to 34. My own 2 series of head measurements on the living numbered 421 adult males. To make my data comparable with Professor Dixon's results, I converted the cephalic indices to cranial indices by allowing Broca's two units of difference between the head and skull indices. The result in the percentage of "Types" is shown in the following table:

<table>
<thead>
<tr>
<th>Type</th>
<th>Total No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Long-headed, narrow-nosed</td>
<td>202</td>
<td>48.0</td>
</tr>
<tr>
<td>2. Long-headed, broad nosed</td>
<td>106</td>
<td>25.1</td>
</tr>
<tr>
<td>3. Broad-headed, narrow-nosed</td>
<td>73</td>
<td>17.3</td>
</tr>
<tr>
<td>4. Broad-headed, broad nosed</td>
<td>40</td>
<td>9.5</td>
</tr>
</tbody>
</table>

The relative incidence thus agrees with Dixon's results, as type 1 corresponds to his Caspian, 2 to his Melanesian and 3 to his Alpine types. A fourth type, corresponding probably to Sullivan's Indonesian type and Dixon's Palae-Alpine type found so prevalent in the Northern Islands of the Sandwich Group, makes it appearance here.

Having more material, as a purely preliminary investigation, I separated tribal districts from which I had more than 30 cases. To again make the figures comparable, I took only the males out of Scott's South Island and Chatham Island data. Map I. shows the distribution of long heads for the areas for which I had data. The results at first sight are startling. The most striking thing is that the high percentage of long heads in the North Island district, as shown by the available skull series of 34, is not supported by my series of 105 heads from that area. Next to the Chatham Islands, the North Auckland area is lowest with 26%. The highest percentage is in the Hawke's Bay-Wairarapa area with 50%, closely followed by the East Coast and Bay of Plenty areas with 48%. The Whanganui area is low down with 29%, whilst the South Island, with the Hot Lakes and Tauranga area is fairly high up with from 42 to 44%.

Map 2, showing the distribution of broad heads, is equally significant. The South Island maintains the top position with 16%, but this is shared by Whanganui. Tauranga comes next with 14%, and North Auckland revises its position by showing the comparatively high proportion of 13%. The Chatham Island males fall to 7.7%.

1 Scott.  2 Te Rangi Hiroa (iii.)
The alteration in distribution shown by these two maps does not necessarily conflict with Professor Dixon's1 theory of a broad-headed wave having preceded a long-headed migration from Eastern Polynesia. In fact it supports it better than the data he obtained from the more meagre skull material. From his result, he took it for granted that the people from Eastern Polynesia worked down from the North Auckland area. Traditional history does not support this. All traditions state that with the exception of Aotea, the Hawaikian canoes made their landfall near Cape Runaway on the East, and worked out from the area where Map 1 shows the distribution of long-heads to be greatest. Three canoes settled on the West along a middle area of Coast. From these Eastern and Western areas, the later comers worked North and South and joined boundaries in the interior. Besides driving the pre-Toi people South, they also drove them Northwards. Therefore the North Auckland area, especially the Northern end, is just as likely to be a cul-de-sac for the broad-heads as the South Island. The diminution in the percentage of the long-heads and the increase of broad-heads in this area, instead of conflicting with Professor Dixon's theory, thus gives it stronger support.

It is also well known that the previous people were not completely destroyed in the intervening districts, but entered into the formation of the present tribes in varying proportion. The Ngai-te-Rangi tribe2 of Tauranga are famous as having considerable pre-Toi blood and maintaining their individuality in the field against all comers. It is significant that they rank high in the percentage of broad heads. Whanganui again, though of Aotea descent, is, by virtue of the upper reaches of its river providing plentiful food and safety, likely to have sheltered the tangata whenua for a longer period, and thus provided more opportunity for gradual intermixture. The high percentage of broad heads would seem to point in this direction. On the other hand, the East Coast and Hawke's Bay regions, which admit a considerable pre-Toi element, show a very low percentage of broad heads. Can it be that the tales of so many less well known canoes have originated in fact and contributed long-headed elements in greater proportion than we wot of? Though the Urewera Country with its forest fastnesses is included in the Mataatua area of 6% of broad heads, an insufficient amount of data from the district makes it of no significance either way.

These two distribution maps are put forward as a suggestion of the way investigation should go. The blanks remain to be filled in.

Before closing, we must say a word about the Chatham Island area. The same tradition that stated the Moriori are descended from a drift migration from the West, which was the

1 Dixon (ii.) 2 Wilson.
origin of the pre-Toi tribes, goes on to state that these people had woolly hair, flat noses, thin shanks and very dark skins. In other words, they were of definite Melanesian or Negroid extraction. However true this may be of the pre-Toi people who settled in New Zealand, it certainly cannot apply to the Moriori of Chatham Islands. Physical anthropology disposes of this without any reason for doubt. If the pre-Toi people had strong Melanesian characteristics and the Moriori are accepted as a remnant who separated from New Zealand before the coming of the Fleet, then the Moriori should show more Melanesian characteristics than the present day Maori who is descended from intermixtures with pre-Toi people in New Zealand. Scott's results do not show this. The lesser height of the Moriori skull noted by him does not make it more Melanesian, but rather points towards the Mediterranean type instead of the Caspian. The Moriori skull is certainly more prognathous than the Maori. If, however, there is one physical characteristic we would expect to find, it should be the Melanesian type of nasal opening. To be Melanesian, the Moriori nasal index should place it in the broad nosed class, or at least give a higher index than the Maori and a higher percentage of the broad nosed type. Scott's average nasal index for 47 male Maori skulls was 47.9, and for 32 Moriori male skulls 46.1, whilst Duckworth's1 average for 7 Moriori male skulls in the Cambridge Museum was 44.3. Thus whilst both are in the narrow nosed class, the Moriori average, instead of showing the Moriori nose to be broader than the Maori, was actually narrower. Furthermore, Scott for 66 Maori skulls of both sexes gives 10.6% as being broad nosed. In my series of 424 living males, it is curious that the same percentage of 10.6 of broad noses exists. In the series of 39 Moriori male skulls mentioned above, there is not a single one that is broad nosed.

From these definite data, the Moriori is less Melanesian than the Maori. If the Melanesian characteristics of the pre-Toi people must be adhered to, then the Moriori cannot belong to that stock. It seems that though Melanesian elements may have existed amongst the pre-Toi people, they may not have been present to the extent that tradition would make us believe.

Dixon's theory that the pre-Toi people were predominantly an Alpine or broad-headed, narrow-nosed type, should find the strongest support in the Chatham Islands area if again the Moriori migrated from New Zealand. His genealogical tables seem to show that he had occupied that area for nearly two centuries before the coming of the Fleet. Whilst the cephalic index was regarded by Dixon as giving support, the distribution of male skulls is not predominantly broad headed. There are 7.7% of broad heads as against 21% of long heads. The more remote areas in New Zealand should certainly show a lower

1 Duckworth.
percentage of broad heads than the still more remote Chatham Islands area. In spite of North Auckland and the South Island having a higher percentage of long heads with 26 and 42 per cent. respectively, they show a marked preponderance of broad heads over the Chatham Islands, having 13 and 14 per cent. respectively. The following table shows this up better.

TABLE II.

<table>
<thead>
<tr>
<th>Area</th>
<th>% Long Heads</th>
<th>% Broad Heads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chatham Islands</td>
<td>21</td>
<td>7.7</td>
</tr>
<tr>
<td>North Auckland</td>
<td>26</td>
<td>13</td>
</tr>
<tr>
<td>South Island</td>
<td>42</td>
<td>16</td>
</tr>
<tr>
<td>Tauranga</td>
<td>44</td>
<td>14</td>
</tr>
<tr>
<td>Whanganui</td>
<td>29</td>
<td>16</td>
</tr>
</tbody>
</table>

It will be remembered that the data derived from Maori living material have been converted for comparison with the South Island and Chatham Islands cranial material. These areas on the main land, whilst showing a higher percentage of long-headed elements, are yet nearly all twice as broad-headed as the Chatham Islands area. The presence of a broad-nosed factor amongst the mainland broad heads does not account for this marked difference. We may therefore say that the remoter parts of New Zealand are more Alpine than the Chatham Islands.

Dixon\(^1\) brings the pre-Toi people from Tonga and Western Polynesia. We have seen that language and material culture do not support this in the case of the Moriori, but point definitely to Eastern Polynesia. The increased data in physical anthropology cannot support the theory that the Moriori are the most unchanged remnants of a pre-Toi wave of Alpine type, as suggested by Professor Dixon, nor yet a pre-Toi wave of Melanesian type as stated by the Matorohanga tradition. Unless we formulate another physical type for the pre-Toi people, we might well doubt whether the Moriori ever went over from New Zealand at all. It may well be that the long-headed, narrow-nosed Polynesian or Caspian-Mediterranean type preceded the broad headed Alpines into New Zealand as, according to Dixon, they did into other parts of Polynesia. A mixture of these two types with the long-headed element predominant, would account for much in the Moriori data and its relation to the Maori material. It would also explain the complete absence of any broad-nosed elements. In any case, the possibility of direct settlement from Eastern Polynesia cannot be overlooked, but the affinity with South Island material culture proves connection with New Zealand. The degradation of culture which followed isolation and lack of suitable material, as evidenced by their

\(^1\) Dixon (ii.)
sea-going craft, did not always exist, else how did they get there?

In New Zealand, the position is further complicated by the presence of broad-nosed elements which include traces of a broad-headed type corresponding probably to a type which Dr. Sullivan has termed Indonesian. It is tempting to associate this element with the Manahune of Polynesian and Maori tradition. Another traditional temptation is to associate the long-headed, broad-nosed element with some distinct Melanesian pre-Toi wave, or isolated canoes as in a Bay of Plenty tradition, or with Melanesian slaves or crews under Polynesian commanders as suggested by Percy Smith. The legend of a fair-headed fair-skinned people known as Turehu or Patupaiarehe might in a similar way be associated with a purer wave of Dixon’s Caspian type with long heads and narrow noses, or even perhaps with his broad-headed Alpine type. However, until more intertribal material is collected and analysed, it is safer to postpone further discussion of the racial elements that took part in the coming of the Maori.

**SUMMARY.**

Traditions concerning the pre-Toi people state:—

(1) A people, sometimes alluded to as the Maruiwi, landed on the West Coast of the North Island, as a drift from the Western Pacific. There are no records of a Hawaiki, pre-drift history, or long genealogical tables associated with them. They are said to have had physical characteristics that indicate a Melanesian or Negroid origin.

(2) The Moriori have an elaborate history as regards events in Hawaiki, the causes of leaving, and long genealogical tables that all point to Eastern Polynesia. Most authorities consider this Hawaiki to be New Zealand, but it does not affect their traditional association with Eastern Polynesia. Genealogies show occupation of Chatham Island for a long period antecedent to the later waves by the Fleet.

Linguistics at present throw no light on the Maruiwi, but show definitely that the Moriori dialect is a distinct one and has the greatest affinity with Eastern Polynesia.

Culture shows that there are elements in the Northern Culture that point to Western affinities of a non-Polynesian source. There is evidence to indicate that the last immigrants from Eastern Polynesia obtained some of these elements from the Maruiwi people they found in occupation. Moriori material Culture belongs to the Southern Culture and has affinities with Eastern Polynesia.

Physical anthropology shows that the Moriori contains long-headed and broad-headed elements associated with a narrow nose. There is complete absence of the broad-nosed type usually

1 Smith (iii.)
associated with a Melanesian stock. The Moriori is thus less Melanesian than the present day Maori. There is thus no physical evidence associating him with the West, unless a narrow-nosed wave from that direction. On the main land, Melanesian and broad-headed elements of two types are present. The broad-headed elements appear especially in remoter areas. What elements can be associated with the older Northern Culture it is difficult to say at present.

From this evidence, it would appear that there were at least two distinct waves of pre-Toi people, coming from different regions and having distinct cultures and physical characteristics. The tradition of a common origin for the Maruiwi and Moriori is not supported by other evidence, but rather opposed by it.

One of these waves came from Eastern Polynesia and landed on the East, probably well to the South. They peopled Chatham Islands, the South Island and probably part of the East Coast of the North Island. The other wave came from the Western Pacific area, landed in Taranaki on the West, and spread North, East and South. They introduced a culture with non-Polynesian elements. They appear to have multiplied very rapidly. It is difficult to say which wave came first, but it was probably the presence of the latter in large numbers in the better climatic regions of the North, that confined the first Eastern Polynesians to the more trying climate of the South. Prior occupation by the Maruiwi would mean the prevention of the spread of the Moriori Northwards. Prior occupation by the Moriori in the North Island may have occurred with subsequent displacement to the more remote areas. Careful analysis of cranial material from the Northern remoter areas may throw light on this latter possibility.

The coming of the later waves from Eastern Polynesia profoundly altered matters. The Maruiwi were displaced and absorbed. The physical characteristics of various tribes have been influenced in varying degree. Strange elements of culture entered into the formation of a new complex that has seemingly rendered the culture of the northern Maori so different from that of the rest of Polynesia.

Other physical elements, such as broad noses, were introduced into the South Island, but the resultant people still show less Melanesian elements than the North. Fortunately, enough of the Southern material culture survived to prove that the earliest wave from Eastern Polynesia, represented by the Moriori, had reached the mainland.

CONCLUSION.

Much material collected since the Cawthron lecture was delivered, has been included in this paper. The object has been to make it as up-to-date a summary of the question as possible.

1 Scott.
Beside tradition, assistance has been sought from culture, language and physical anthropology. Our justification is that whilst "The Coming of the Maori," in a popular sense, may convey the idea of ocean transport to New Zealand, the deeper and more scientific meaning of the phrase must include the study of the various cultural, linguistic and physical elements that, blended together, have resulted in the arrival on the human stage of that most interesting anthropological study, the Maori.

In conclusion, I will quote an old Maori saying, used prior to departure on a journey. In those neolithic days, ere suit-cases had arrived, burdens were packed in baskets and carried on the back by means of plaited burden-carriers, the kawe.

"Tuia te kawe, tairanga te kawe.
Oii—ko te kawe o te haere."

Freely translated, it means:—

"Attach the burden-carrier, lift up the burden.
Ah me! It is time that we departed."

APPENDIX.

THE AOTEA CANOE. In "The Story of Aotea," by the Rev. T. G. Hammond, and published by the Lyttelton Times Co., there is a slightly different version of the quarrel between Turi and Potoru as to the course to be sailed. According to it, Aotea made her landfall near the East Cape and then sailed to the West Coast after being portaged across the Auckland Isthmus in a manner similar to Tainui.

MAORI MATERIAL CULTURE. For a later summing up of this important subject, the reader is referred to a recent article on "The Origin and Relationship of Maori Material Culture and Decorative Art," by Mr. H. D. Skinner, in No. 1 of Vol. 33 of the Journal of the Polynesian Society. The so-called Kaitaia lintel is shown to have affinity with the carved boards placed along the roofs of small memorial houses erected over the graves of the dead in Borneo.

The recently published material by the Bishop Museum, Honolulu, of the results of the Bayard Dominick Expedition to the Marquesas has rendered more information available on Polynesian material culture. Mr. Skinner points out that the spiral was used by the Marquesans in their decorative art, and thus shows that curvilinear art was known to the Polynesians outside New Zealand. Attention is directed to Indonesia and Cambodia, whilst the probable journey of the spiral into the Pacific by diffusion from ancient Egypt is touched upon.
MAORI CURVILINEAR ART. STERN-PIECE OF WAR CANOE.
(Cawthron Institute.)
Collected by the late Mr. Cawthron.
Numerous writings concerning the Canoes and Traditions occur throughout the Volumes of the Polynesian Journal under the names of Elsdon Best, Percy Smith, Gudgeon and others. The following have been directly referred to:—

Best, Elsdon


Cowan, J.

Dixon, Roland B.


Duckworth, W. T. H.

Gregory, H. E.


Grey, Sir George

Hamilton, A.

Matorohanga Te

Rigg, T. and

Bruce, J. A.

Scott, J. H.

Shand, A.

Skinner, H. D.


Smith, S. Percy

(I.) Hawaiki.

Sullivan, L. R.

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Te Rangi Hiroa
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Williams, H. W.


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MAP I.  
NEW ZEALAND. 
MAORI CEPHALIC INDEX.

MAP II.  
NEW ZEALAND. 
MAORI CEPHALIC INDEX.