
Ngā Tohu o ngā Kairaranga: The Signs of the Weavers

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Abstract

The whakapapa (genealogy) and histories of iwi Māori (tribe/peoples) are continued within oral histories, and they are represented in our taonga (Māori treasures) such as toi whakairo (carving), tā moko (tattoo), and whatu raranga (weaving). This article explores findings from the feather identification of Māori kākahu (cloaks) in the Museum of New Zealand Te Papa Tongarewa. By examining the techniques and materials used in the making of selected cloaks, I reflect on how this information can potentially tell us about the weaver, the intended wearer, events, and the time and environment in which they were living. I argue that the discovery of possible feather “signatures” in kākahu means that cloaks are a tangible form of retaining histories and memories. Finally, I propose that museums play an important role in unlocking and interpreting the knowledge needed to reconnect these taonga to their origins.

Keywords: whakapapa, taonga, weavers, Māori, cloaks, feathers, signatures, museum

<i>Rarangahia te korari ka kitea te whānau</i>	Weave the flax and find the family
<i>Whakairoitia te rākau ka kitea te tupuna</i>	Carve the wood and find the ancestor
<i>Tāmokohia te kiri ka kitea te tangata</i>	Incise the skin and find the person.

Whatu raranga: he taonga tuku iho

Māori weaving is a taonga handed down the generations. Taonga can be described as having ancestral connections in that they contain histories and knowledge relationships to people and places. As Ngai Tahu historian, Rawiri Te Maire Tau, observes, “Every ‘thing’ was related and all ‘things’ were held together by genealogical connections that eventually referenced back to the self.”¹ Taonga are treasured because they were made, used, worn, and revered by our tūpuna (Māori ancestors); they therefore connect the living to those passed.

Weaving links Māori directly to our ancestors in the retained practices inherited from our origins in eastern Polynesia. The plaiting and finger twining methods of basketry were successfully adapted to produce protective clothing for the harsh temperate New Zealand climate, where the basis for most Māori clothing was created from scraped harakeke (New Zealand flax, *Phormium* spp.), (Figure 1).² The single-pair finger twining method (whatu aho pātahi) was employed for the coarser, roughly scraped, harakeke rain capes.

The resulting softer fibre from intense scraping and pounding, referred to as muka, formed the foundation (kaupapa) of the finer warmer Māori cloaks. Double-pair finger twining (whatu aho rua) in which two pairs of horizontal wefts (aho) held together the thicker vertical warps (whenu) to form the kaupapa (Figure 2). This latter weaving method is preferred in decorated cloaks to better secure attachments such as feathers and hukahuka (dyed muka tassels).³ Decorated cloaks usually begin from the bottom left-hand corner and the attachments are added as each row progresses. The cloak finishes in the top right-hand corner and is then turned upright to wear. Dedication, skill, and time go into preparing the materials to create each kākahu.

Figure 1. Harakeke flax leaves.



Figure 2. Horizontal aho and vertical whenu (warp) threads.



The mana and prestige of Māori feather cloaks

Māori anthropologist and museum ethnologist Te Rangi Hiroa (Sir Peter Buck) wrote in *The Coming of the Maori* (1950) that, “woven garments were ... a form of wealth necessary for social exchange and to provide appropriate gifts at marriages and funerals”.⁴ The relationship between cloaks and whakapapa and whānau (family) indicates they also played an important role in birth and death rituals.⁵

Fragments of two South Island burial cloaks found in Otago (Strath Taieri) and Southland (Lake Hauroko), dated around the sixteenth and seventeenth centuries, seem to point towards a transitional period in the evolution of Māori feather cloak production. They both employ single-pair twining, but also feature a passive weft (aho) that is wrapped around a running weft.⁶ The Strath Taieri cloak integrates the feathers and skins of weka (woodhen, *Gallirallus australis*),⁷ albatross (family Diomedidae), and presumably moa (order Dinornithiforme).^{8,9} The Lake Hauroko fragments also comprise feathers and skin from kākā (South Island bush parrot, *Nestor meridionalis meridionalis*), kākāpō (night parrot, *Strigops habroptilus*) as well as kurī (Polynesian dog, *Canis lupis domesticus*) skin.¹⁰ It can be assumed that the incorporation of dog and bird skin and feathers provided warmth and insulation, but it is also theorised that these cloaks were highly regarded prestige items based on the cultural value and rarity of the species. Moa became extinct around the period the Taieri cloak was produced.

Cloaks symbolise prestige, status, and authority (mana) with certain cloaks worn only on special occasions. At European contact, mainly men or women of high rank wore kaitaka, a large finely-made cloak decorated with tāniko borders (coloured geometric bands of tightly twined muka strands). Kahu kurī (dog skin cloak) helped to identify rangatira (chiefs) or fighting men of rank. Kurī were highly prized and valued for their hunting abilities, and their skin and hair were desired for cloaks and adornment of taiaha (carved fighting weapons).

Kahu/kākahu kura (red feather or chiefly cloaks)

Feather cloaks were rarely recorded at first European contact. A few red feathered cloaks worn by rangatira were recorded by English naturalist and botanist, Joseph Banks, in 1770 on James Cook’s first voyage to New Zealand. Presumably the red feathers were from the underwing or belly of the kākā (bush parrot, *Nestor meridionalis*); they were highly prized and incorporated into Māori cloaks to indicate the status of the wearer (Figure 3).^{11,12} Red feathers are commonly employed in cloak production throughout many Polynesian cultures. The colour red is symbolic in its connection to high chiefs and in having an association to the gods (atua) in New Zealand, Hawai’i, and Tahiti.¹³

Figure 3. North Island kākā orange underwing covert feathers.

Figure 4. South Island brown kiwi back feathers.



Kahu kiwi (kiwi feather cloaks)

Kahu kiwi are one of the most prestigious feather cloaks and exhibit the lustrous brown feathers of the native brown kiwi (*Apteryx* spp.).¹⁴ These birds were treasured and widely sought after for cloak production. The strong, large, brown-back feathers were preferred, and when woven in with the ventral side of the feather facing out (whakaaraara) it made the cloak wearer appear larger (Figure 4).¹⁵ Pure albino (white) kiwi were extremely rare and, therefore, coveted. Before the general decline of brown kiwi populations, wholly white birds were keenly hunted by Māori for their inclusion in cloak designs.

Other rare and culturally significant New Zealand birds—such as the now extinct huia (*Heterolocha acutirostris*), albatross, and kākāpō—were also acquired for personal adornments and Māori clothing until their decline towards the middle of the nineteenth century. Around this time new geometric designs appeared fashioned from feathers of the kererū (New Zealand pigeon, *Hemiphaga novaeseelandiae*), tūi (parson bird, *Prosthemadera novaeseelandiae*), weka, and kākārīki (parakeet, *Cyanoramphus* spp.).¹⁶ Time-intensive cloaks, such as the kaitaka and kahu kurī, were also gradually replaced by the more expressive feather cloaks that took less time and effort to create.¹⁷

The introduction of numerous European and North American game birds and fowl throughout the 1800s resulted in wild populations distributed across New Zealand.¹⁸ The decline and protection of native species saw the introduced ring-necked pheasant (*Phasianus colchicus*), peafowl (*Pavo cristatus*), and chicken (*Gallus gallus* var. *domesticus*) being mixed with native species, adding new varieties of colours to feather cloak-making.¹⁹

Numerous kākahu were gifted and exchanged between iwi (peoples) for other taonga to initiate or maintain important tribal relationships.²⁰ There are instances of kākahu being buried with people or gifted to bereaved families at tangihanga (funerals).²¹ Information about the cloaks (such as the owner, name of the weaver, and origin or date it was produced) was often lost or forgotten. Museums throughout the world hold numerous Māori collections of no known provenance. It is argued it is the role of museums to lead research in the recovery of information regarding taonga Māori by documenting the knowledge of modern practitioners and researching the materials, designs, and techniques used to produce them.

Feather identification of Te Papa's Māori cloaks

When chronicling the evolution of Māori cloaks in *The Coming of the Maori*, Hiroa states that, “the garments themselves tell us what did occur but to understand them, we must learn their language through the minute details of technique”.²²

The Museum of New Zealand Te Papa Tongarewa holds over 300 Māori cloaks. In 2007, approximately 110 cloaks containing feathers were identified to species level, where possible, and it is currently accepted that all of them were produced after 1800. Comparative microscopic feather and bird skin image databases assisted in the identification of more than 20 native and 10 introduced bird species, where some species had not previously been recorded in the literature as being used in Māori cloaks.²³ Microscopic feather identification of a museum ethnological collection was a first for Te Papa and New Zealand. Methodologies were replicated from the microscopic feather identification of a native feather blanket in North America, leading to its provenance.²⁴ Less than one-third of Te Papa's cloaks have a known iwi affiliation or geographic association.

The most common birds recorded in Te Papa's cloaks are the native brown kiwi (52 cloaks), kererū (45), kākā (43), and tūī (35). These birds are ground dwelling or low flying and are easily caught. Before the 1800s they were all common and relatively widespread in their distribution.²⁵ Other native species identified include albatross, huia, weka, kākāpō (Figure 5), pūkeko (*Porphyrio melanotus melanotus*), kākārīki, Australasian bittern (*Botaurus poiciloptilus*), and swamp harrier (kāhu, *Circus approximans*).

Figure 5. Mottled green kākāpō back feathers.

Figure 6. Male ring-necked pheasant lower back feathers.



Introduced birds were also well represented in Te Papa's Māori cloaks. Feathers from the domestic chicken were identified in 25 cloaks, and also common was the ring-necked pheasant (15) (Figure 6) and peacock (13). To a lesser degree, helmeted guineafowl (*Numida meleagris*), wild turkey (*Meleagris gallopavo*), California quail (*Callipepla californica*), and mallard (*Anas platyrhynchos platyrhynchos*) were also identified.²⁶

Findings and an interpretation of the knowledge gained from the feather identification of Te Papa's nineteenth and twentieth-century Māori cloaks are outlined below. Theories discussed intend to demonstrate that through the design, selection of birds, or placement of feathers that weavers communicated

information about the prestige of the cloak, the status of the wearer, and potentially their identity.

Ngā tohu o ngā kairaranga

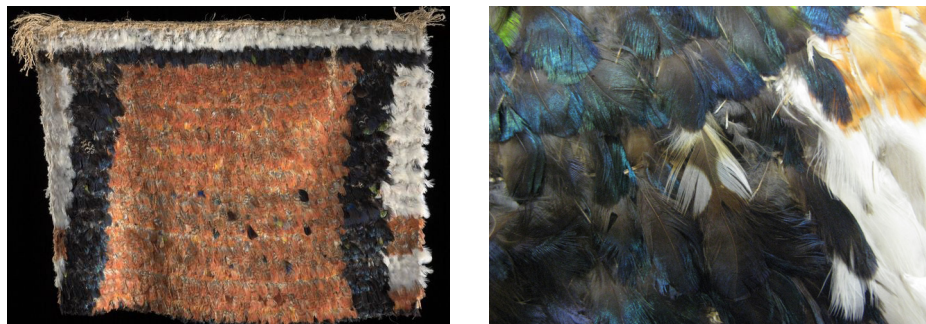
Culturally significant bird species in Māori cloaks

Certain birds symbolise important aspects of Māori culture. Brown kiwi are the hidden birds of the atua, Tāne Mahuta (deity of man and the forest). The regal, black and white-tipped tail feathers of the huia are associated to rangatiratanga (chieftainship), while the kōtuku (white heron, *Ardea modesta*) in its flight is connected to Ranginui (the sky father). Soaring albatrosses (toroa) represent strength and grace, while the kāhu and karearea (New Zealand falcon, *Falco novaeseelandiae*) were respected for their strength and fearlessness.²⁷

A relatively small kahu huruhuru (feather cloak) in Te Papa's collection (Te Papa ME011987) is intriguing in its design and use of feathers (Figure 7); estimated to have been produced pre-1900, it is single-pair twined which is unusual for a feather cloak. The orange kākā feathers from under the wing, and white kererū belly feathers in the side borders, form a canvas for the black tūi and blue pūkeko feathers that produce a large dark π pattern across the cloak. Small bunches and single feathers from the kākārīki (lime green), peacock, pheasant (a single feather), and reddish brown kākā feathers are scattered throughout.

Figure 7. Kahu huruhuru with feathers from kākā, kererū, tūi, pūkeko, peacock, pheasant, kākārīki, and ruru (Te Papa ME011987).

Figure 8. Close-up of a mottled ruru belly feather in a kahu huruhuru (Te Papa ME011987).



The most significant finds were two single feathers from the ruru (morepork, *Ninox novaeseelandiae*). There is one ruru feather within each of the vertical columns of the π design. The feathers originating from the belly are distinctively mottled white, cream, and brown (Figure 8). The cloak's right-hand side border (facing the garment) has an additional orange band of kākā feathers hidden under the white kererū feathers. Above this hidden band is a single iridescent black peacock feather. Despite its small size, this cloak communicates an interesting story in terms of the feathers and birds used by the weaver. For different iwi the ruru represents the spirits or an atua, for others it is an omen for death, alternatively the feathers could have been inserted as a kaitiaki (guardian).²⁸ This is the only

occurrence of ruru in the cloak collection, and there is no literature suggesting ruru were used in Māori cloaks.

The placement and design of feathers in Māori cloaks

Feathers of contrasting colours were added for effect in a number of cloaks, apparently to lift the colour away from the darker background of the cloak.²⁹ This technique is said to have “added interest and variety”.³⁰ It was also observed that in at least 30 museum cloaks that feathers were hidden and woven in amongst surrounding feathers, visible when surrounding feathers were lifted. Single feathers or small bunches of various species such as huia, chicken, pheasant, albino brown kiwi, and kākā feathers were placed under the feathers of different species. Strands of coloured wool have also been recorded hidden amongst feathers. The deliberate selection of certain birds, and the placement and use of feathers for the purpose of concealment from onlookers, has previously been unrecorded in the literature.

One example is of a kahu kiwi in the museum collection (Te Papa, ME003714) that has hidden bunches of black huia feathers across the kaupapa of the cloak of brown kiwi feathers (Figures 9 and 10). Brown kiwi is the most frequently recorded species in the cloak collection, and are seen in at least 52 of the 110 cloaks surveyed. Both the brown kiwi and huia feathers in this cloak were woven in with the ventral side of the feather facing out. The huia was quite possibly the most valuable bird to Māori, unique to New Zealand before deforestation, predation, and hunting for their feathers led to their extinction by 1907.³¹ The tail feathers were coveted by Māori for hair ornamentation.³² Huia feathers were also remembered for being inserted into kākahu as well.³³

Figure 9. Kahu kiwi (kiwi feather cloak) with brown kiwi and huia feathers (Te Papa ME003714).

Figure 10. Close-up of hidden huia feathers amongst dark brown kiwi feathers (Te Papa ME003714).



It is likely that hidden feather “signatures” were very personal information that was not discussed freely amongst weavers. The feathers can be seen only when the surrounding kiwi feathers are lifted up. As cloak feathers are plucked and painstakingly sorted and bunched, or butted according to size and colour; it is therefore unlikely that feathers of another species and colour could be woven in accidentally. It is argued here that there is knowledge and personal information contained in the species or feather placement. Some single feather patterns across a cloak could represent landscapes, constellations, or relate to events or people that are known to the weaver. Patterning in cloaks often communicates information. Geometric tāniko designs have associations to whakapapa and landscapes in the

form of tribal motifs.³⁴ It is unlikely that these odd feathers are mistakes or a lapse in concentration for such skilled practitioners, particularly as it can take up to nine months to produce a modern cloak.³⁵

Discussions with modern weavers have given further insight and support to this theory. There are contemporary examples of weavers inserting different coloured feathers into cloaks to honour people that have passed away. One weaver was known to use red thread in her cloaks as an individual sign that she had created it. Another used a specific species of bird in their piece in memory of a relative who had passed away. This hypothesis can be further tested with ongoing feather cloak research in private and museum collections by recording possible comparable “signatures” between collections.

Writing, initials, and symbolism in Māori cloaks

There are examples of cloaks in the collection that communicate more evident forms of information by weaving in writing. A Te Papa kahu huruhuru (feather cloak) (Te Papa ME010762) contains a Māori word using brown kiwi feathers (Figure 11). Production time for the cloak is estimated to be 1850-1900. Materials comprise of muka (flax) as the kaupapa, feathers, and wool. There are alternating rectangular patterns of green and white kererū, and reddish brown kākā feathers. Each of the white rectangles have small bunches of alternating orange kākā and black tūi feathers located roughly in the centre, and the bottom and two side borders comprise bluish-black tūi feathers.

Figure 11. Kahu huruhuru with kererū, kākā, tūi, and brown kiwi (Te Papa ME010762).



At the top of the cloak tāmoē, brown kiwi feathers form a word. Tāmoē is described as a technique in which the feathers are woven in flat, with the ventral (under) side of the feather facing down as they are on the bird.³⁶ The letters are facing upright when the cloak is worn, requiring them to be woven in upside

down. Certain letters may be identified (possibly an A and R on the far right). Unfortunately, due to a loss of feathers the word has not been deciphered to date.

Incorporating writing into cloak weaving certainly moved away from what was considered traditional design. Yet, Mead (1968) keenly observed that:

*... weavers loved to decorate their cloaks, especially those worn by chiefs ... [and] ... the desire of chiefs to look resplendent and their wish to outdo others, combined with the technical and artistic skill of their weavers, meant there was always room for improvement and innovation.*³⁷

This ongoing change in techniques, designs, and materials from 1800 to the present is unmistakably reflected in the Māori cloaks stored in Te Papa's collections.

Cloaks that contain initials are certainly noteworthy in that they most likely refer to the weaver or the wearer. A korowai (cloak with hukahuka, tassels) in the Te Papa collection (ME014386) features a number of unusual elements and design. It contains distinctive features associated with a korowai, and feathers throughout the kaupapa, but it also has a woollen tāniko bottom border, which is typically seen in kaitaka. First, there are the initials 'H' and 'A' woven in red wool into the corners of the coloured tāniko border at the bottom of the cloak (Figures 12 and 13). The letters are upside down when the cloak is facing the correct way up. When constructing the cloak and attaching the tāniko border to the rest of it, however, these letters would have been the correct way up from the perspective of the weaver, weaving from the garment's bottom left-hand corner to the right.

Figure 12. Korowai with brown kiwi feathers and initials in the tāniko border (Te Papa ME014386).

Figure 13. Close-up of the initial H in bottom corner of tāniko border of cloak (Te Papa ME014386).



Numerous hukahuka are missing, having either disintegrated or been removed. Brown kiwi feathers are sparsely woven in small bunches throughout the cloak, and in some bunches there are also orange and brown kākā feathers. Numerous vertical whenu (warps) have been carefully removed in six bands across the cloak, leaving remnants of the horizontal aho holding the rest of the tightly twined whenu together. It is difficult to ascertain whether this removal was performed by the weaver during production or at a later date. This fragile cloak is unique, with many facets to its design and construction. It is an example of changing techniques and innovative design, underscoring how traditional cloak-making continually changes where new techniques, materials, and designs are often combined. Most importantly from the perspective of researching the origins of this cloak, it

is significant because of the addition of initials that again (if observed in other private or museum collections) could assist with its provenance.

The role of museums

Feathered cloaks are no longer needed for warmth but they still retain mana and prestige for the wearer at social occasions such as weddings and graduations today. The birds were likely chosen based on a number of factors: essentially whether the bird was culturally or personally significant, its rarity, or the colour of the feathers. The feathers and the birds themselves are therefore a pivotal factor in rediscovering the origins of museum cloaks.

Scientific tools can offer an insight into an environment and time in which the weavers were living and creating kākahu by telling us more about the materials used. These tools give us a further glimpse into the information held within Māori cloaks, essentially conveyed to us by the weavers through non-verbal communication.

Isotopic analyses of feathers has proven to be an effective tool in tracing the geographical origins of birds, and it proposes to assist in helping to provenance cloaks, or at least the birds used in cloaks. The stable isotope composition of bird feathers determined by diet and ingested water signals is a unique geographical marker of the bird's origin.³⁸ Provenance can therefore potentially be determined by comparing isotopic landscapes along New Zealand against feathers of known geographic origins to the cloak feathers, thus providing the provenance of the birds used. Similarly, the DNA of cloak feathers and muka can be compared to a database of New Zealand birds and flax cultivars, which could determine species, sex, the number of birds in a cloak, and potentially estimate the origin of the birds and muka.³⁹

Modern-day weavers play an important role in understanding concepts and their techniques should be documented. The admission of some contemporary weavers that they insert personal information into their cloaks should encourage ongoing research into older museum cloaks, particularly if the same "signature" or anomaly is seen in two or more different garments. It could be an effective tool in locating cloak origins and re-connecting museum weaving to iwi Māori.

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Biographical note

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