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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER



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A RE-ORIENTATION OF APPROACHES TOWARDS
THE STUDY OF PREHISTORIC MAORI CLOTHING

Angela Stapleton

Technological models for the development of cloak-making have been postulated by Buck in 1926 and 1949, and Simmons in 1967. These models are a framework within which all the relevant information can be collected. They attempt to explain what has happened in the past using available evidence. However, the accuracy of such explanations can only be tested by their ability to withstand the accumulation of new evidence, and the development of more sophisticated theories about the nature of culture. It is with this in mind that I have looked at the models forwarded by Buck (1926, 1949), Simmons (1967), and Mead (1969), and suggested a re-orientation of studies on prehistoric Maori clothing.

BUCK

In "The Evolution of Maori Clothing" (1926) Buck stated that tapa was introduced with the Great Fleet (1350). This was unsuccessful so plaited textiles were developed. After this, single-pair and then double-pair twining evolved, as did the shaping of garments. Europeans introduced wool, candlewick, and blankets, which took the place of native materials. Buck added that single-pair twining continued into historic times on cloaks used for 'every-day' wear, and that feather and other ornamental cloaks, except for the dogskin, used only the two-pair weft technique. He dismissed the Strath-Taieri fragment described by Hamilton (1892) as an aberrant form, and excluded this technique from his model. However, the Strath-Taieri fragment is identical with the Hauroko cloak (Simmons, 1968a) in technique, and obviously cannot be ignored.

Dates and interpretations of the settlement of New Zealand in this model were governed by Buck's complete belief in traditional history as the means for interpreting prehistory, and the absence of archaeological evidence. The model itself was a 'break-through' in the 1920s and it helped to bring some form of order to this aspect of prehistoric culture in New Zealand.

SIMMONS

Using Buck's basic structure as a guide, Simmons postulated a more detailed evolutionary model after the discovery of the Lake Hauroko burial in 1967 (Simmons, 1967, 1968a). Entitled A Suggested Evolution of clothing for the Murihiku Area, the model was as follows:

- | | |
|---|------------------------------------|
| 1. Original tapa found to be impractical. | |
| 2. 'Large' skin garments of moa, dog, and possibly seal. | Moa common circa
A.D. 1000-1400 |
| 3. (a) 'Small' skin garments of bird, dog, seal. | |
| (b) Plaited garments. | Moa scarce circa
A.D. 1400-1700 |
| 4. Half-hitch weave with no shaping of garment. | |
| 5. Single-pair twine weave with no shaping of garments. | Circa A.D.1700-1800 |
| 6. Double-pair twin weave with no shaping. | |
| 7. Double-pair twine weave with shaping by inserts at the shoulders, buttocks, or both. | Circa A.D.1800-1908 |

This structure is quite hypothetical. For example, Simmons dates the shaping of cloaks for this area between 1800-1900. His information concerning this is based on one cloak - D.10.235 - with an attributed locality and no definite date. The fact that this cloak is identical with one in the Canterbury Museum collected from Dusky Sound in 1842 is insufficient evidence. From the information given, shaping in cloaks for this area could have occurred between 1661 \pm 58 (the date for the Hauroko burial) and 1842, but there is nothing to support his claim of 1800-1900.

Similarly, the information concerning skin garments is hypothetical. In all the other works published on Maori clothing (Best, 1898; Buck, 1926, 1949; Ling-Roth, 1923; and Mead, 1969), the question of preservation, curing, or tanning of skin garments has been virtually ignored. But, faced with a model which postulates the idea that skin garments were used almost exclusively for 400 years, this question is paramount. Should it be proved that skin garments were in fact poorly

preserved, or untanned, then this hypotheses is no longer tenable.

SKIN GARMENTS

I have spent some time in following this up and, although the results are incomplete as yet, it is worthwhile mentioning the things I have found.

The only known ethnographic accounts of the treatment of dogskin are by Colenso (1877) who wrote that:

"The skins, when flayed, were cleaned and stretched in a hollow frame, and then hung up in the wind to dry gradually, protected from the sun, rain and dew."

And Enys (1875) gave a similar description of the method for preserving Huia skins.

In order to appreciate these techniques and to gain some understanding of the possible methods that could have been used, it is necessary to find out what skin consists of, and what happens to it when preservation techniques are applied.

Briefly it is this. "The fibrous dermis, or corium, is the central layer of skin and is composed of long fine collagen fibrils of which 20 to 50 make a fibre. These are bound together by a reticular tissue. This makes the corium a strong flexible structure. To preserve this and make leather, the corium must be thoroughly penetrated by tanning agents." (W. Spiekman, personal communication)

Untanned skins and skin products are not permanent materials; they are liable to attack by micro-organisms, and are very sensitive to moisture. These weaknesses can be overcome to a certain degree by methods of curing and dressing - such as smoking, and treatment with castor oil (this could have been procured easily from sea mammals). However, skin does not last long in damp earth and needs an environment that is dry and sterile - such as a cave or tomb. In New Zealand, the majority of prehistoric skin garments have been found in caves.

Flenderleith states that:

"In the normal course of events, the skin of a slaughtered animal is speedily a prey to the growth of moulds and bacteria. But the mechanical removal of associated fats, muscles, and blood vessels eliminates much nutrient material, and the drying

of the skin goes a long way towards rendering the tissue proof against putrefaction. In this condition, though, the skin is of little practical value. When the collagen fibres have been deprived of their water, the skin becomes horny and brittle, and flexibility can only be restored by relaxing the fibrous bundles so that they slide freely over each other again, as they did before the skin was dried. This relaxing of the skin may be accomplished in several ways, notably by some form of prolonged manipulation, or by the incorporation of lubricants, or usually by a combination of both methods."

(1956)

The Eskimoes and Neanderthals softened skins by chewing, a process which was doubtless enzymatic in action as well as being mechanical and, until a systematic study of wear patterns on Maori mandibles is undertaken, this can be assumed to be one possibility. Manipulative processes may, in themselves, be sufficient, but generally improved results are obtained by the use of dressings such as castor oil. These penetrate and lubricate the tissue, partially replacing moisture as the skin dries.

Hamilton (c. 1880) claimed that wood ash was used for tanning, but, as he gave no source for his information and it was reported well after European contact, the reliability of his information is questionable. However, it is not unlikely that bark and/or wood ash could have been used. One of the earliest materials used for tanning leather in Europe was bark from the oak tree. Crushed hinau bark, which was known to be added to flax for drying purposes, contains soluble tannic acid. Tannins are chemical substances that have the property of combining both the collagen and the protein fibres of the skin, replacing loosely bound water and refining the side chains or cross links of the protein molecules. Material treated in this way is far superior to greenhide, as it is more durable and much more resistant to water.

There are methods available for testing skin for tanning agents. The Shoe and Leather Research Division of the DSIR in Wellington has some methods for testing skin. Dr R. Grimmet of the Chemistry Department, Otago University, is at the moment carrying out a battery of tests on two pieces of skin from cloaks in the Otago Museum. The results from this analysis, and outlines of the tests carried out, will be published at a later date.

Another difficulty with Simmons' model is that he assumes seal skin was used. Although this is evident from early historical accounts from

the Chatham Islands (Hunt, 1866; Skinner, 1923, 1928; Shand, 1911), there was no evidence for this in the Murihiku area up to 1967. Since then Mr P. Coutts of the Anthropology Department, Otago University, has found a pair of sealskin boots in a cave in Chalky Inlet, Fiordland. It is not known whether they are prehistoric or protohistoric, however.

It is also very unlikely that birdskin garments could have been made. According to Mr W. Spiekman, taxidermist to the Dominion Museum, there were only two species of bird that could have been used successfully for this purpose, and they were the kiwi and the moa. Spiekman has rated all native species of birds, used by Simmons in Man, Moa and the Forest (1968b), according to suitability as leather (see Table). The majority of species are not suitable for use. Spiekman points out that untreated skins tear easily and are not strong enough to support their own weight.

In view of all this, it appears as though untanned skin garments could not have played a large part in prehistoric times unless they were adequately treated. Information from chemical analysis will give us more insight into this problem. It is important to note, however, that sealskins on the Chatham Islands were uncured (Skinner, 1923, 1928), as were the dogskin cloaks (cloaks with dogskin strips) collected by Cook (Ling-Roth, 1923). Thus it seems likely that the arts of tanning and curing were unknown in prehistoric New Zealand.

MEAD

The third model of Maori clothing I wish to discuss is that published by S. M. Mead early this year in a book entitled Traditional Maori Clothing: A Study of Technological and Functional Change (1969). Mead concerns himself with functional as well as technological change. He uses three basic time divisions in his study:

1. Classic Maori (1650-1800 A.D.) (Green, 1963)
2. Transitional Maori (1800-1900 A.D.)
3. Modern Maori (1900-1965 A.D.)

His analytical framework for each period is based on several assumptions, and it is in this respect that his model differs considerably from those of Buck and Simmons.

The first assumption is that it is necessary to control in some frames of reference the information gathered for each period so that comparisons will bring out clearly the various factors and facets that change.

Secondly, the categories employed, to be useful, should focus upon features of technology and function which are sensitive to change. Within these considerations, the diagnostic features appear to be materials, decorations, techniques, fashions, style, values, associated rituals, function, and the actual range of garments. More importantly, technology is regarded as merely one aspect of culture, and one that should not be divorced from that context. It is in this respect that Mead's greatest contribution to this field of study is made. He breaks away from the restricted model of Buck's (1926) and from the idea that all development was unilineal, from simple to more complex, although he does ignore most of the prehistoric periods.

Mead's sole use of archaeology is in his adoption of the concept of 'Classic Maori' outlined by Green (1963). He ignores the Hauroko cloak which falls into this period, and this is a grave failing in the book considering the importance of this cloak. Mead also neglects regional variations within the 'Classic Maori' period, something he should have been well aware of from Simmons' work (1968a). There is no sound reason for him to assume that the whole of New Zealand experienced the 'Classic Maori' at the same time, or even to the same degree. In fact, Green's divisions are questionable anyway (Groube, 1967). It is logical to expect that there should be regional variations - dependent upon local environmental conditions.

From an ethnological viewpoint, however, his analytical framework is more realistic than previous ones, which are extremely limited, quite hypothetical, and divorced from a cultural and social context.

SUMMARY

Admittedly it is difficult to reconstruct the past when there is little information to work with. And unless more and systematic archaeological work is carried out, this goal will not be realised. So far there is only one cloak of definite prehistoric origins, and that is the Hauroko cloak.

In order to reconstruct prehistory, it is not sufficient to describe and classify and then leave the specimen in a museum storeroom for decades. As new evidence comes to light, re-assessment and re-evaluation must take place, and this must include the consideration of artefacts as only a part of culture, and that they must not be divorced from their cultural background.

To conclude: a lot more facts are needed, and there should be less emphasis on presuppositions.

T A B L E S

W. Spiekman, 1969.

		1	2	3	4
<u>Bushbirds</u>					
Pigeon	Hemiphaga n novaeseelandiae				*
Tui	Prothemadera n novaeseelandiae			*	
Bellbird	Anthornis m melanura				*
Kaka	Nestor m meridionalis			*	
Kokako	Callaeas spec.			*?	
Kiwi	Apteryx spec.	*			
Saddleback	Philesternus spec.			*	
Robin	Petroica spec.				*
Huia	Heteralocha acutirostris			*?	
Thrush	Turn agra spec.				*
Kakapo	Strigops havroptilus			*	
Parakeet	Cyanoramphus spec.				*
Bush hawk	Falco novaeseelandise			*	
Harrier	Circus approximans gouldi			*	
Weka	Gallirallus spec.		*		
Laughing owl	Sceloglaus spec.				*?
Morepork	Ninox n novaeseelandiae				*
<u>Waterfowl</u>					
Paradise duck	Tadorna variegata				*
Grey duck	Anas givverifrons graceilis				*
Blue duck	Hymenolaimus malacorhynchus				*
Brown teal	Anas castanea chlorotis				*
Scaup	Anthya novaeseelandiae				*
Pukeko	Porphyrio porphyrio melanotus		*		

		1	2	3	4
<u>Open country birds</u>					
Quail	Coturnix n novaeseelandiae				*
Pipit	Anthus n novaeseelandiae				*
<u>Seashore birds</u>					
Mottled shearwater	Pterodroma inexpectata			*	
Diving petrel	Pelancanoides spec.			*	
Fl. shearwater	Puffins gavia gavia			*	
Shearwater	Puffins spec.			*	
Muttonbird	Puffins griseus			*	
White f. tern	Sterna striata			*	
Black f. tern	Chlidonias hybrida albostratus			*	
Black b. gull	Larus dominicanus			*	
Red bill gull	Larus novaehollandiae scopulinus			*	
Albatross	Diomedea spec.			*	
Shag	Phalacrocorax spec.			*	
Mollymawk	Diomedea spec.			*	
Blue penguin	Eudyptila spec.			*	
Penguin	spec.			*	
Prions	spec.			*	

? Indicates that I have not handled this species but judge it according to similar species.

1. Suitable for use as leather, with good curing techniques.
2. & 3. Require modern tanning techniques and are not as suitable.
4. Quite unsuitable for use even with good tanning.

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ACKNOWLEDGMENTS

Mr D. Simmons first interested me in Maori clothing and has inspired me and taught me to be critical. I am much in debt to him for his knowledge and help.

Also I would like to thank Mr W. Spiekman for his help and encouragement, and especially for access to his knowledge of bird skins and skin fibres generally.

To all the other people who have offered me advice or information concerning this paper - many thanks.