NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER

EARLY PROTOHISTORIC MAORI FOOD PREPARATION, AND APPLICATION OF THE DIRECT HISTORICAL APPROACH TO NEW ZEALAND PREHISTORY

D. Wayne Orchiston,
Department of History,
University of Melbourne.

Abstract

The terminal prehistoric documentation available to the New Zealand ethnohistorian contains much information of relevance to the prehistorian, thus permitting application of the direct historical approach. In this paper we review the evidence for Maori food preparation at Queen Charlotte Sound during the 1770s, and upon applying the findings to the prehistoric situation conclude that:

(i) the Archaic Maoris may also have used the open fire, and not just the *haangi*, in cooking their food, and

(ii) since some plant foods were prepared for human consumption by cooking, the New Zealand prehistorian need not always expect to find faunal remains associated with oven areas, nor need he necessarily explain the absence of bones and/or shells in terms of disintegration caused by soil conditions.

INTRODUCTION

In their search for the functional meaning of different artifacts and practices, archaeologists have long seen fit to employ analogy, that is, to draw on ethnographic parallels, and to relate these to their prehistoric situations. Hole and Heizer (1973: 214) briefly describe the rationale behind this approach:

> "Items made and used in a certain fashion by primitive people provide the archaologist with an analogue of an item that is similar in form and material to one which has been recovered from a prehistoric site. He may thus identify the prehistoric object by its similarity to the more recent one whose function is known."

Chang (1967: 229) distinguishes between two types of analogy. His general comparative approach is not relevant here, but this is not so of the specific historical analogy, also called the direct historical approach (see Ascher, 1961; Binford, 1966; Kehoe, 1958; Peterson, 1968; Steward, 1942; Thompson, 1956; Wedel, 1938; White and Peterson, 1969). This form of analogy, which involves demonstrable cultural continuity from the prehistoric past to the ethnographic present, has been avidly pursued in the Americas, Polynesia, Melanesia, Australia, and South-east Asia, among other regions. A subtle difference exists, though, between the U.S.A. and New Zealand on one hand, and the New Guinea Highlands and northern Thailand on the other. Whereas the indigenous horticultural and peasant societies are still extant in the latter instances, or at least were during the era of the trained field anthropologist, in both the U.S.A. and New Zealand the indigenes had undergone so great a degree of acculturation by the time that anthropology had emerged as a recognised discipline that contemporary field anthropological methods are next to useless in the reconstruction of immediate pre-European (i.e. terminal prehistoric) and early protohistoric culture. Such studies, where they are attempted, become the domain of the ethnohistorian, and it is he who must blend the evidence deduced from a skilful study of the early European MS and published literary and pictorial sources of explorers, missionaries, traders, beachcombers, and the like, with the theoretical orientation and insights provided by modern social, cultural, structural, cognitive, and ecological anthropology. In New Zealand the ethnographic "present" therefore dates to the eighteenth century.

As a recognised discipline ethnohistory is still in its infancy, and consequently is seen by some as a "... no-man's land between anthropology and history. An ethnohistorian tends to be a historian who is an amateur anthropologist, or an anthropologist who is an amateur historian, and in consequence the object of suspicion of anthropologist and historian alike." (Dening, 1966: 23). In comparison to the anthropologist the ethnohistorian works at a serious disadvantage in that the sources at his disposal have innumerable shortcomings that hinder detailed cultural reconstructions

Danielsson, 1958: 22-24; Dening, 1966: 26-27, 35-41; Gunson, 1963; Maude, 1971: 12-13; Orchiston, 1974: 1.4-1.15; White, 1961). "The problem of ethnohistory," says Dening (1966: 27), "is how to use these sources fruitfully despite their limitations." Numerous studies have shown that this is now possible for protohistoric New Zealand (for example, see Bathgate, 1969; Biggs, 1960; Coutts, 1969; Groube, 1964, 1965; Heuer, 1972; Millar, 1971; Orchiston, 1967, 1971, 1972, 1974; Shawcross, 1967; Urlich, 1970, 1972; Vayda, 1960, 1970).

Ethnographic parallels drawn from the protohistoric and historic periods have been extensively used in New Zealand prehistoric studies, but there is some need for caution. All too often a single, most obvious, ethnographic function is applied to the prehistoric case, when in fact more than one possibility exists. For instance, *paua* shell rings from archaeological sites are generally interpreted as greenstone *hei tiki* or wood-carving components, but documentation from Queen Charlotte Sound in 1773 shows they also served to decorate women's clothing (Bayly, 1773: 205; Forster, 1777, I: 179). In another example, unground greenstone flakes are usually seen as by-products of artifact manufacture or use, or as artifacts in their own right. In the latter instance they are generally associated with fine finishing work on wooden artifacts, but the Cook-voyages documentation from Queen Charlotte Sound also indicates that they were used for self-scarification (Forster, 1777, I: 418; Parkinson, 1773: 116).

The ethnographic record can also serve to indicate the existence of types of artifacts that would, in the general run of archaeological work, fail to be recognised as such. Most shells in archaeological sites are usually assumed to relate to food consumption by the site's occupants, but there is now considerable protohistoric evidence that shells were used as artifacts in their own right for preparing flax fibre, doing fine finishing work on wooden artifacts, cutting human hair, and self-scarification (Anderson, 1776-1777: 813; Cruise, 1957: 207-208; Kent, 1823: 34; L'Horme, 1769-1770: 337; Parkinson, 1773: 116; Wakefield, 1845, I: 61-62.

This paper is concerned with aspects of the ecology of the terminal prehistoric Queen Charlotte Sound Maoris, and their significance to Archaic Maori prehistory. The human ecological details presented here are drawn from a larger ethnohistorical study (Orchiston, 1974: Part 1 and Section 3.6).

THE PREPARATION OF MAORI FOOD AT QUEEN CHARLOTTE SOUND DURING THE 1770s

Although a variety of foodstuffs was observed to have been eaten by the Queen Charlotte Sound Maoris of the 1770s (see Table 1, after Orchiston 1974: Table 3.29), by weight fish and rhizomes of the bracken fern accounted for the great bulk of the food intake. We shall now review the way(s) in which the items listed in this Table were prepared for human consumption.

TABLE 1: MAORI FOODS DOCUMENTED AT QUEEN CHARLOTTE SOUND, 1770-1777

Food	Cooking Method(s) observed	Months observed eaten
Fish	*Haangi* or open fire	J F A M J O N D
Fernroot	*Haangi* and open fire	J F A M J O N D
Dogs	*Haangi*	J F A M J
Human flesh	*Haangi* and open fire	J N D
Mamaku	*Haangi*	F N
Penguin		F N
Karaka berry		F
Tawa berry		F
Crayfish		F
Squid		F
Mussels		F
Paua		F
Shag(s)		F
Weka		F
Lice		F

The manner in which fish and other flesh foods were prepared for eating is detailed by Furneaux (1772-1774: 739):

> "The manner they dress their food is, they first dig a hole in the ground in which they make a fire and heat a number of stones, which then done are taken out together with the fire that the pit or oven is quite clear, on which they lay their fish or any other food wrapped up in green leaves, and put on the hot stones, and then they rake the coals over them and make more fire if necessary; this method does them quite clean and very good; they never take the guts out, as they prefer them to the Fish, they likewise spit them and place them round the Fire to roast, but this is done only when they are in a hurry."

The second method of cooking fish was practised by a group of Maoris who came down the Sound to the *Resolution* and *Adventure* on 29 May 1773:

> "In the evening they all went on shore, abreast of the sloops, and made some temporary huts of the branches of trees, near which they hauled their canoes on the dry land, and made fires, over which they prepared their suppers. Their meals consisted of some fresh fishes, which they had caught in their canoes not far from shore, with a kind of hoopnet, described in Captain Cook's former voyage."
>
> (Forster, 1777, I: 175)

Large numbers of fish were also dried (Anderson, 1776-1777: 812; Beaglehole, 1963, I: 460; Edgar, 1776-1778: 59; Williamson, 1776-1778: f45). Cook saw "a prodigious quantity" at East Bay *pa* in January 1770 (Reed and Reed, 1969: 105).

Bracken fern grew above the timberline in certain places on both shores of Queen Charlotte Sound (Forster, 1777, I: 169, 410; Parkinson, 1773: 115), and Banks describes the manner in which the rhizomes were prepared for eating:

> "... the fern roots are laid upon the open fire, until they are thoroughly hot, and the bark of them burned to a Coal, they are then beat with a wooden hammer over a stone which causes all the bark to fly off and leaves the inside consisting of a small proportion of a glutinous pulp, mixd with many fibres which they generally spit out after having suck'd each mouthfull a long time ..."
>
> (Morrell, 1958: 137).

Sometimes a *haangi* was used instead of the open fire (Sparrman, 1944: 191). Furneaux (1772-1774: 739) claims that fernroot was sometimes eaten without being pounded, but Edgar (1776-1778: 59) contradicts this:

> "... they have nothing by way of Bread Except the Fern Root which is intolerably bad, and which they are obliged to beat a long time before they can Eat it."

After pounding, fernroot was sometimes formed into little cakes that were baked on the embers of the fire (Furneaux, *ibid.*; Sparrman, 1944: 114, 191).

Dogs, although seen on all Cook voyage sojourns, were only occasionally eaten (Anderson, 1776-1777: 812; Edgar, 1776-1778: 59; Furneaux, *ibid.*; King, 1776-1778: f53; Wales, 1772-1774: 819; Williamson, 1776-1778: f45). When Cook, Banks, and others visited Cannibal Cove on 16 January 1770 the Maoris there "... were employed ... in dressing their Provisions which were a Dog who was at that time buried in their Oven ..." (Morrell, 1958: 98). Cannibalism, meanwhile, was occasionally practised in a ritual-religious context, and human flesh was also typically prepared in the *haangi* (see Burney, 1772-1774: 750). However, an open fire was used in November 1773 when "cuts" from the human head acquired by Pickersgill upon the arrival of a war party at Indian Cove were prepared for public consumption (by other Maoris).

The root of the Black Tree-fern (or mamaku of the Maoris) was eaten by the natives of Queen Charlotte Sound both in November 1773 (on the second stop-over of Cook's second voyage) and February 1777 (third voyage). Forster (1777, I: 416-417) provides the first European reference to mamaku:

> "... the natives at our watering-place were seen to eat a root boiled or baked by means of hot stones; and Mr Whitehouse the first mate brought some of it on board, which tasted rather better than a turnep. My father returned on shore with him: for a few trifles obtained some large pieces of this root, and with some difficulty prevailed on two of the natives to accompany Mr Whitehouse and him into the woods, in order to point out to them the species of plant to which the root belonged. They walked up a considerable way without any arms whatsoever, trusting to the honesty of their guides. These men pointed out a species of fern-tree, which they called *mamaghoo*, as having the edible root; and at the same time shewed the difference between this, and another kind of fern-tree, which they named *ponga*. The first is full of tender pulp or pith, which when cut exsudes a reddish juice of a gelatinous nature, nearly related to sago. This is so much the less singular, as the real sago-tree is a species of fern. The good nutritive root of the *mamaghoo* must not, however, be confounded with that wretched article of New Zealand diet, the common fern-root, or *acrostichum furcatum*, Linn. The latter consists of nothing but insipid sticks, which after being boiled over the fire for some time, are beaten or bruised on a stone with a piece of wood much resembling the Tahetian cloth-beater, but round instead of square, and

> without any grooves. The bruised mass is chewed, what little juice there may be in it is sucked out, and the rest thrown aside. The *mamaghoo* on the contrary is tolerably good eating, and the only fault seems to be, that it is not plentiful enough for a constant supply."

The third voyage account is after Anderson (1776-1777: 812):

> "... they roast or rather bake the root and part of the stalk ... in a great hole dug for that purpose which serves as an oven, after which they split it and find within a fine gelatinous substance like boild Sago powder but firmer."

The preparation of the remaining foodstuffs in Table 1 is not documented in the Cook voyages ethnohistorical sources, but since the fruit of the karaka was poisonous in an untreated state the procedure adopted in later times cannot have deviated far from that used. This involved the steaming of these fruit in a *haangi*, after which they were put into loosely woven baskets and placed in running water. After removal the outer skin and pulp were detached, leaving the large seed intact. These seeds were sun-dried and then stored for future use (Colenso, 1880: 26). Again we must look to later ethnographic accounts for the preparation of the tawa fruit. Colenso (1880: 29) states that they were steamed for "a long time" in the *haangi*, but Best (1907: 224) is more explicit: the kernels were steamed in the *haangi* (Best uses the term *umu*) for two days and then dried, and stored. When the time came for their use the kernels were boiled and then pounded, or else roasted on an open fire. We should note that the preparation by boiling represents a post-European innovation as this mode of food preparation was not known to the prehistoric Maoris.

DISCUSSION AND CONCLUSIONS

Two factors of importance to prehistorians arise from this brief account of the food preparation methods of the terminal prehistoric Maoris of Queen Charlotte Sound. In the first place it is apparent that in addition to the *haangi* the open fire was also used in cooking meat and vegetable products. This is a significant observation from an archaeological point of view because prehistorians are in the habit of associating all cooking activities with *haangi* or scoop hearths (see Bellwood, 1971: 86-87; Leach, 1972; Shawcross, 1968: 18). Food cooked over the open fire was roasted whereas the *haangi* and scoop hearth were used for steaming.

The second point of interest, that both the *haangi* and open fire were used for cooking plant foods, provides a gentle reminder that the prehistorian need not always expect to find bones and/or shells associated with Archaic Maori ovens. Middenless ovens and oven areas do occur, as I found out personally in September 1969 when carrying out a rescue excavation near Weka Pass. A single isolated 1.25 metre diameter oven (S61/2, at grid reference 120232, second edition) that was first discovered by chance during deep ploughing was sectioned to reveal the following stratigraphical sequence:

(i) ploughed turf and topsoil;

(ii) a stratum of angular fire-reddened limestone oven stones of local derivation, typically between 76 and 200 mm maximum dimension, extending down for 203 mm at the oven's centre;

(iii) below this tightly-packed stone fill a sterile deposit of charcoal-blackened soil-clay admixture, which was

(iv) sitting on a continuous layer of charcoal up to 38 mm thick;

(v) below this the old clay (loess-like) deposit into which the oven had been dug was fire-stained red and contained small pockets of charcoal. At its centre the oven reached a depth of 305 mm.

The absence of any faunal remains either within the oven itself or in the immediate vicinity suggests that what we are dealing with here is a temporary "camp" involving a single cooking episode in which plant food(s) from the Podocarp forest or adjacent swampy valley floor were prepared for human consumption. New Zealand prehistorians therefore need not always relate the absence of faunal remains in Maori oven areas to disintegration caused by soil acidity.

REFERENCES

ANDERSON, W. 1776-1777. A Journal of a Voyage made in His Majesty's Sloop Resolution. In Beaglehole, 1967, II: 723-986.

ASCHER, Robert 1961. Analogy in archaeological interpretation. *Southwestern Journal of Anthropology*, 17: 317-325.

BATHGATE, M. A. 1969 Maori river and ocean going craft in Southern New Zealand. *J. Polyn. Soc.*, 78: 344-378.

BAYLY, W. 1773 Extract from the journal kept by William Bayly, Astronomer, on H.M.S. Adventure ..." In McNab, 1914: 201-218.

BEAGLEHOLE, J. C. (ed.) 1961 *The Journals of Captain James Cook. II. The Voyage of the Resolution and Adventure 1772-1775.* Cambridge, University Press.

1963 *The Endeavour Journal of Joseph Banks 1768-1771.* Sydney. Angus and Robertson. Two volumes (second edition).

1967 *The Journals of Captain James Cook. III. The Voyage of the Resolution and Discovery 1776-1780.* Cambridge, University Press. Two parts.

BELLWOOD, Peter 1971 Fortifications and economy in prehistoric New Zealand. *Proc. Prehistoric Soc.*, 37: 56-95.

BEST, E. 1907 *Maori Forest Lore, Part 1.* Trans. N.Z. Inst. 40: 185-254.

BIGGS, Bruce 1960 *Maori Marriage.* Wellington, Polynesian Society (Maori Monograph No. 1).

BINFORD, Lewis R. 1966 Smudge pits and hide smoking: the role of analogy in archaeological reasoning. *American Antiquity*, 32: 1-12.

BURNEY, J. 1772-1774. Untitled log. journal. In Beaglehole, 1961: 746-752.

CHANG, K. C. 1967. Major aspects of the inter-relationship of archaeology and ethnology. *Current Anthropology*, 8: 227-243.

COLENSO, W. 1880 On the vegetable food of the ancient New Zealanders before Cook's visit. *Trans. N.Z. Inst.*, 13: 3-38.

COUTTS, P. J. F. 1969 Merger or takeover: a survey of the effects of contact between European and Maori in the Foveaux Strait region. *J. Polyn. Soc.*, 78: 495-516.

CRUISE, Richard 1957 *Journal of a Ten Months' Residence in New Zealand* (1820). Christchurch, Pegasus Press (facsimile edition).

DANIELSSON, Bengt 1958 *Love in the South Seas*. London, George Allen and Unwin.

DENING, Gregory 1966 Ethnohistory in Polynesia: the value of ethnohistorical evidence. *J. Pac. Hist.*, 1: 23-42.

EDGAR, T. 1776-1778 A log of the proceedings of His Majesty's Sloop Discovery ..." MS in Public Record Office (London); Photostat copy in the Mitchell Library (Sydney): A3430.

FORSTER, G. 1777 *A Voyage round the World in His Majesty's Britannic Sloop, Resolution* ... Dublin, Whitestone, Two volumes.

FURNEAUX, T. 1772-1774 Furneaux's Narrative. In Beaglehole, 1961: 729-745.

GROUBE, L. M. 1964 Settlement Patterns in Prehistoric New Zealand. Unpublished M.A. Thesis. Department of Anthropology, University of Auckland.

1965 *Settlement Patterns in New Zealand Prehistory.* Department of Anthropology, University of Otago. (Occasional Papers in Archaeology: 1)

GUNSON, Neil 1963 A note on the difficulties of ethno-historical writing, with special reference to Tahiti. *J. Polyn. Soc.*, 72: 415-419.

HEUER, Berys 1972 *Maori Women.* Wellington, Polynesian Society (Maori Monograph No. 3).

HOLE, Frank and HEIZER, Robert F. 1973 *An Introduction to Prehistoric Archaeology.* New York, Holt, Rinehart, and Winston (third edition).

KEHOE, T. F. 1958 Tipi rings: the "direct ethnological" approach applied to an archaeological problem. *American Anthropologist*, 60: 861-873.

KENT, J. R. 1823 Journal of the proceedings of His Majesty's cutter Mermaide ..." MS in the Mitchell Library (Sydney): A4037.

KING, J. 1776-1778 Untitled log. MS in the Public Record Office (London); Microfilm copy in the Mitchell Library (Sydney): 1593.

LEACH, Helen M. 1972 The hearth as an archaeological feature in New Zealand. *NZAA Newsletter*, 15: 59-75.

L'HORME, P. de 1769-1770 Extracts from the journal of Pottier De L'Horne (*sic.*), Lieutenant on the Saint Jean Baptiste ... In McNab, 1914: 315-447.

MAUDE, H. E. 1971 Pacific History - past, present and future. *J. Pac. Hist.*, 6: 3-24.

McNAB, R. 1914 *Historical Records of New Zealand* (Volume 2). Wellington, Government Printer.

MILLAR, David P. 1971 Whalers, flax traders and Maoris of the Cook Strait area. *Dom. Mus. Rec. in Ethnology*, 2 (6): 57-74.

MORRELL, W. P. 1958 *Sir Joseph Banks in New Zealand.* Wellington, Reed.

ORCHISTON, D. W. 1967 Preserved human heads of the New Zealand Maoris. *J. Polyn. Soc.*, 76: 297-329.

1971 Maori mummification in protohistoric New Zealand. *Anthropos*, 66: 753-766.

1972 Maori neck and ear ornaments of the 1770s: a study in protohistoric ethno-archaeology. *J. Roy. Soc. N.Z.*, 2: 91-107.

1974 Studies in South Island New Zealand Prehistory and Protohistory. Unpublished Ph.D. Thesis, Department of Anthropology, University of Sydney.

PARKINSON, S. 1773 *A Journal of a Voyage to the South Seas in His Majesty's Ship The Endeavour* ... London, Dilly and Phillips.

PETERSON, N. 1968 The pestle and mortar: an ethnographic analogy for archaeology in Arnhem Land. *Mankind*, 6: 567-570.

REED, A. H. and A. W. 1969 *Captain Cook in New Zealand.* Wellington, Reed.

SHAWCROSS, Kathleen	1967	Fern-root, and the total scheme of 18th century Maori food production in agricultural areas. *J. Poly. Soc.*, 76: 330-352.
SHAWCROSS, Wilfred	1968	The Ngaroto site. *NZAA Newsletter*, 11: 2-29.
SPARRMAN, Anders	1944	*A Voyage round the World with Captain James Cook in H.M.S. Resolution.* The Golden Cockerell Press.
STEWARD, Julian H.	1942	The direct historical approach in Archaeology. *American Antiquity*, 7, 337-343.
THOMPSON, R. H.	1956	The subjective element in archaeological inference. *Southwestern Journal of Anthropology*, 12: 327-332.
URLICH, D. U.	1970	The introduction and diffusion of firearms in New Zealand 1800-1840. *J. Polyn. Soc.*, 79: 399-410.
	1972	Migrations of the North Island Maoris 1800-1840: a systems view of migration. *N.Z. Geographer*, 28: 23-35.
VAYDA, A. P.	1960	*Maori Warfare.* Wellington, Polynesian Society (Maori Monograph No. 2).
	1970	Maoris and muskets in New Zealand: disruption of a war system. *Political Science Quarterly*, 85: 560-584.
WAKEFIELD, Edward Jerningham	1845	*Adventure in New Zealand from 1839 to 1844* ... London, Murray. Two volumes (Wilson and Horton facsimile edition).

WALES, W.	1772-1774	Journal of William Wales. In Beaglehole, 1961: 776-869.
WEDEL, W. R.	1938	The direct historical approach to Pawnee archaeology. *Smithsonian Miscellaneous Collections*, 97 (7).
WHITE, C. and PETERSON, N.	1969	Ethnographic interpretations of the prehistory of Western Arnhem Land. *Southwestern Journal of Anthropology*, 25: 45-67.
WHITE, J. Peter	1961	Tupia's voyages: a note on the MSS. *J. Polyn. Soc.*, 70: 472-474.
WILLIAMSON, J.	1776-1778	A Journal of a Voyage on Discoveries in His Majesty's Ship Resolution ... MS in the Public Record Office (London); Microfilm copy in the Mitchell Library (Sydney): 1593.