ARCHAEOLOGICAL RESEARCH AT POUERUA, NORTHLAND, NEW ZEALAND; A FINAL INTERIM REPORT.

Douglas G. Sutton
Department of Anthropology
University of Auckland

Since 1982 the Anthropology Department of Auckland University has been running a major project of archaeological and historical research in Northland. The project is centred on Pouerua Pa, near Kaikohe in the inland Bay of Islands (Figure 1). The pa consists of strong pre-European and early historic fortifications on the rim of the Pouerua cone, and hundreds of terraces constructed on the flanks of the cone. These terraces are particularly concentrated on the northeast quarter of the cone's external slopes.

The pa is surrounded by approximately 3000 acres of lava-based volcanic friable loam soils. These were intensively cultivated in pre-European times by Maori gardeners who planted kumara (sweet potato), gourd, yam and possibly taro. The methods of cultivation used probably included plot tillage of kumara, scoria mound cultivation of gourds, and presumably both dryland and wetland cultivation of taro, with the latter concentrated in the streams and wet lowlands which mark the perimeter of the lava fields.

The soils around Pouerua make up an island of relatively easily cultivated friable warm and active loams in a vast area of gently rolling to steep clays and clay-loams (N.Z.M.S. 290, Sheet P04/05, Edition 1,1980). These soil types are harder, colder and damper than the friable loams. The effective growing season for the food plants imported from tropical Polynesia was therefore longer on the friable loams than elsewhere. These were thus optimum soils in which to grow these cultigens, which in New Zealand were near the southern latitudinal limits of their ranges. Moreover, the bracken fern, which grew almost anywhere after first forest clearance by Polynesians (McGlone 1983), put out networks of tough underground rhizomes. These had to be removed, or at least broken up, before kumara could be grown (Leach 1980). The rhizomes were very difficult to pull or dig out of the clays, but much more easily removed from the friable loams. For these reasons the pre-European Maori population of the Bay of Islands region lived in large part in sizeable concentrations at Pouerua and on each of the other lava-fields or quaternary cones which occur in the general area (Ballara 1973; Gorbey 1970; Shawcross 1966).

There are about a dozen of these favourable volcanic locations in the Bay of Islands. Each of them is fortified, with pa built either on the cones, or on hills at the edges of the friable soils, or on both. Evidence of intensive and recurrent prehistoric cultivation can be seen on the areas of friable soils. Several of

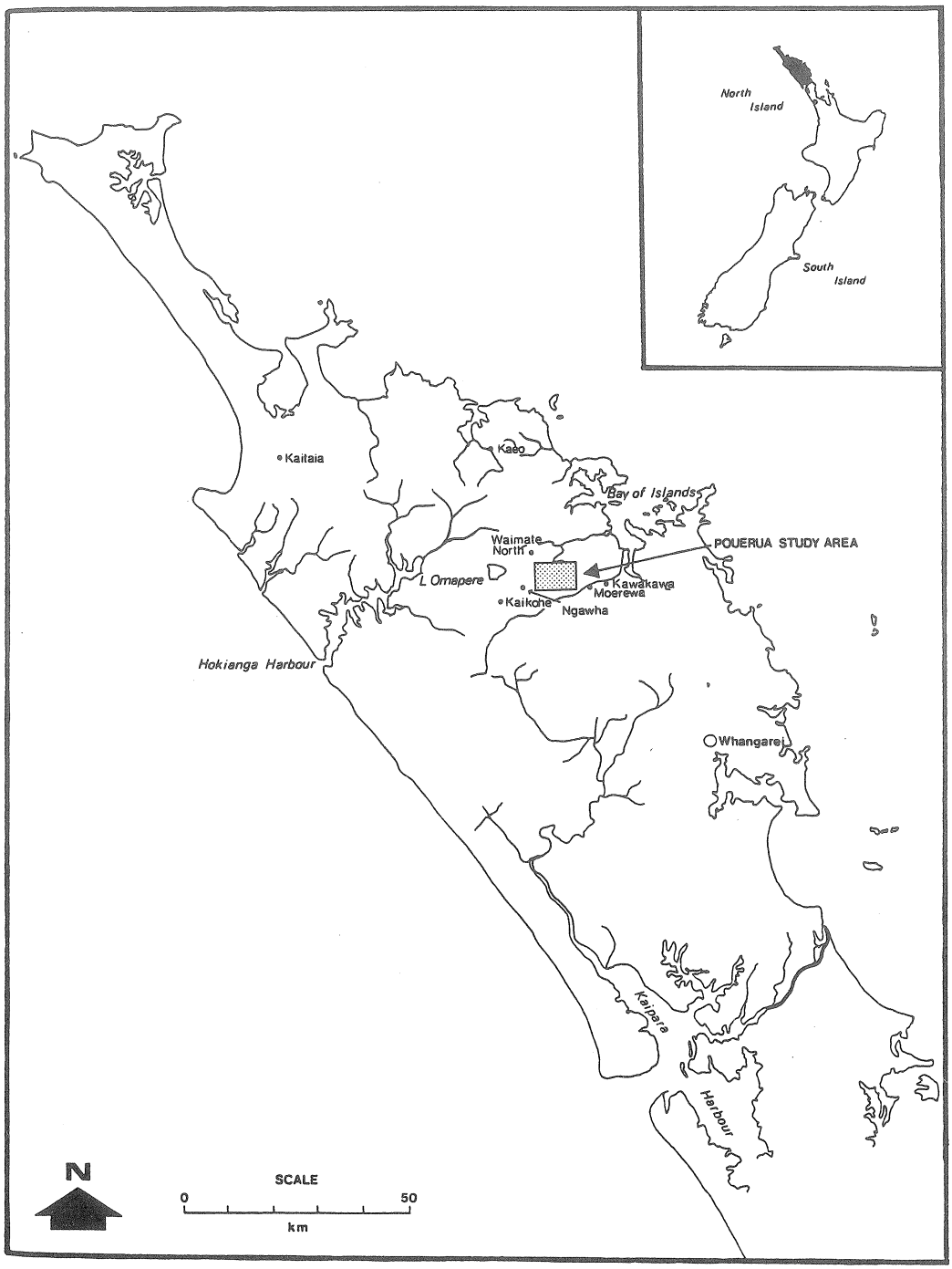
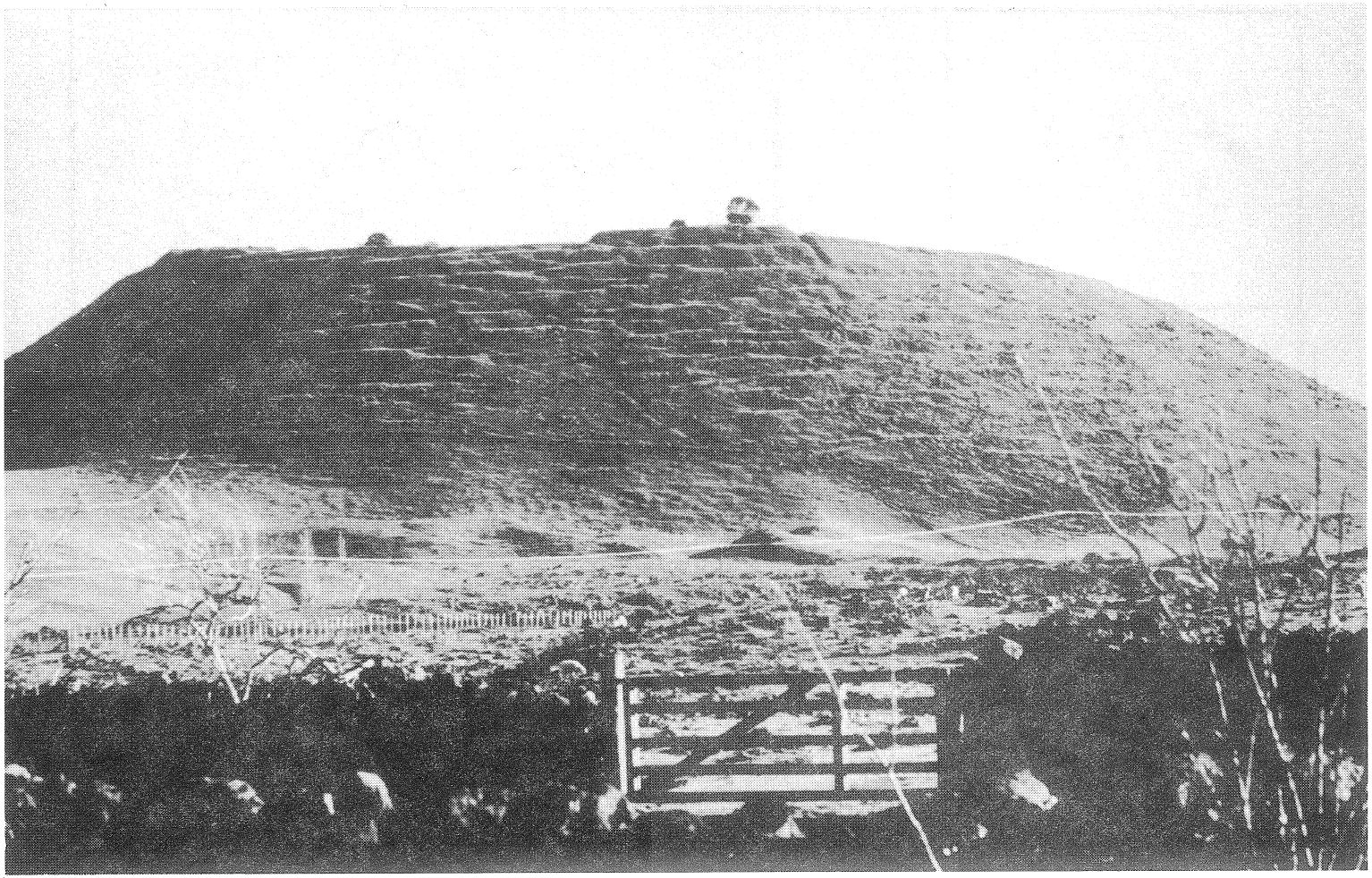


Figure 1. The location of Pouerua, from Brassey 1985 (Fig. 1).



Pouerua Pa from the north.

these field areas have been extensively damaged, largely since the First World War, but at Pouerua the landscape can be read as an almost intact record of 1000 years of changing land management practices. The modern farm at Pouerua was part of Archdeacon Henry Williams' Old Land Claim 54 bought in the 1830's and farmed by descendants of Te Wiremu ever since. It is the largest and most complete example of the islands of friable soil left in the Auckland-Northland region.

Pouerua was chosen as a subject for intensive study because of its size and completeness, and because it is located in the centre of the area within which the Nga Puhi tribe is believed to have originated. Pouerua was very important in the development of Nga Puhi power in pre-European times, and it records the story of Nga Puhi since the beginning of the nineteenth century as can very few other places.

The overall goal of the Pouerua project has been to document the prehistory of the middle section of the Northland peninsula. This area, ironically, is amongst the most sparsely studied regions of New Zealand in terms of archaeology (Davidson 1982). The questions to be examined by the project included:

- when did people first settle Northland?
- where did they come from?
- what changes in economy, settlement patterns and socio-political organisation occurred within the prehistoric period?
- what were the causes and nature of the transformation of Maori society between European arrival late in the eighteenth century and the signing of the Treaty of Waitangi in 1840?

The signing of the Treaty of Waitangi has been selected as a convenient endpoint for the project's period of interest. In order to understand the Treaty one needs to understand the events and attitudes of mind which led to its presentation and acceptance. The bulk of the published history of the Treaty is a Pakeha record in the English language, and there is a need to redress the imbalance by improving current understanding of Maori society at and before 1840. The Pouerua project may make a contribution in this area.

The project was set up to run over five years, from 1982 to 1987. Although initiated and organised by the author, it was also made possible by generous contributions of time, expertise and goodwill by a great many people, including residents of Tai Tokerau and members of Auckland University. The project consists of several sizeable pieces of primary research, which have been dovetailed together during the past four years as the logic of data collection has required and as opportunity has arisen. The research has involved:

- mapping all the archaeological evidence at Pouerua;
- excavation of a sample of sites, ranging from simple open settlements to the Pouerua Pa;
- analysis of Nga Puhi traditions to clarify their political history, particularly in the period 1814-1819;
- computer mapping of excavated houses, and their spatial organisation;
- analysis of the excavated stone artefacts according to techniques of manufacture, use, and long-distance trade and exchange;
- reconstruction of the pristine vegetation at Pouerua, and of the human-induced botanical changes which occurred there between initial Maori settlement and 1840.

The mapping was undertaken by Peter Morgan and Janet Leatherby(1). Over a period of two years from 1982 they mapped all the archaeological evidence on a large proportion of the Pouerua lava field, at a horizontal scale of 1:1000 with a one metre contour interval. The map which resulted must be published, so that more than a few specialists can appreciate the intricacies of old Maori gardening. The size of the area mapped, the detail and accuracy of the mapping, and the nature of the evidence itself all combine to make the map an outstanding contribution to the literature of Oceanic archaeology.

Excavations have taken place over three consecutive summers from 1982 to 1984(2). In the first excavation season five prehistoric Maori settlements were investigated (Sutton 1983). They were selected from hundreds of similar sites at Pouerua because they covered the ranges of variation in size and composition of this type of site. Each consisted of one or more houses, with cooking and storage pits or above-ground storage structures, and each is presumed to have served as the seasonal or perennial residence of an extended family group. The sites varied considerably in size, but their complete excavation has given very clear evidence for the organisation of space by the original inhabitants, for the range of activities which they carried out, and for details of house architecture and construction.

In the second excavation season we examined three small defended sites, each located less than 1.5 km from the Pouerua cone and on or at the edge of the lava-field (Sutton 1984). Ditch and bank, or stone-wall, defences were sectioned to date their initial construction, and their sequences of modification. Areal excavations were then undertaken on the main terraces within the perimeters of two of these small pa, to establish when they were constructed and what they were used for.

The third and final excavation season was spent on the top of the Pouerua cone. There we excavated a series of quadrants and trenches in four areas (Figure 2), which together provided two sections through the most elevated and strongly defended portions of

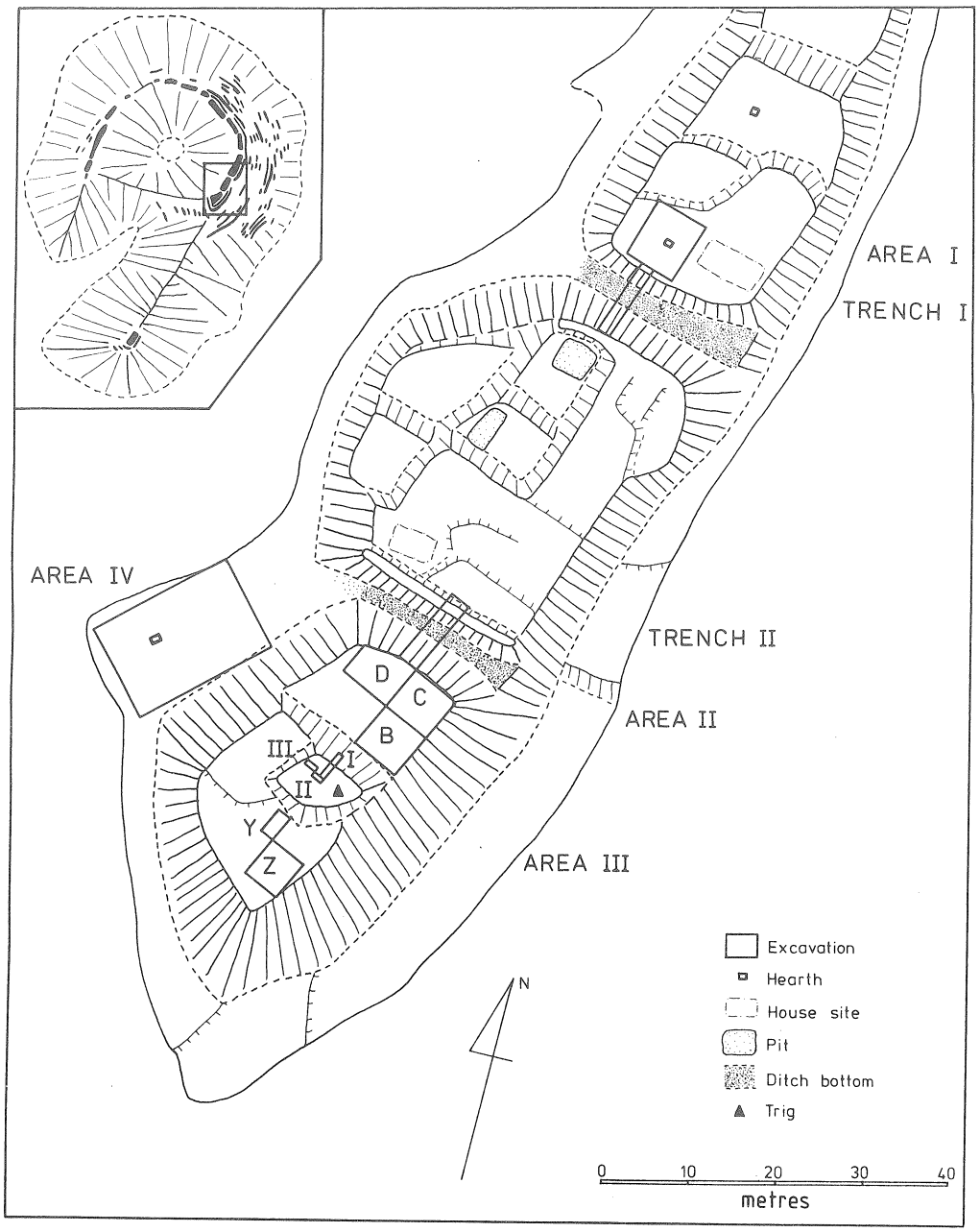


Figure 2. Excavation areas on the tihi of Pouerua, 1984-5.

the pa rim. One of these sections ran a discontinuous 100 metres northwards from the highest point or "tihi". Another was cut across the rim and ran down the outer slope for some 40 metres (Figure 2: outlying extensions of the transverse section are not here shown.) These two sections provided an approximate model of the original pre-human form of the rim of the Pouerua cone, and of its modification by human activity.

Excavations were also carried out on the terraces surrounding the tihi, and on one large (evidently late) prehistoric terrace near the base of the eastern flank of the cone (Marshall, n.d.;Green and Sutton, n.d.). We now believe that first settlement on the rim at Pouerua is likely to have occurred by A.D.1050, and that it may have been earlier. Full reports on the excavations are now in preparation.

The analysis of Nga Puhi traditions was undertaken by Jeff Sissons(3), in cooperation with Wiremu Wi Hongi and Pat Hohepa. Mr Wi Hongi brought forward his whakapapa (genealogy) for study, and guided Dr Sissons in its interpretation, and in its comparison with other archival and published sources. What emerges from this analysis (Sissons, Wi Hongi and Hohepa 1985) is a political history of the Nga Puhi hapu (subtribes) of Taiamai and Te Waimate, the conquerers of Ngati Pou and Ngati Miru. The analysis is an attempt to bring together traditional history and early European accounts in a way that respects the integrity of Nga Puhi tradition, while opening up possibilities for this and for European accounts to inform each other. The political history which has resulted will surprise many, particularly the contents of that section of the report which has been called "The Mana of Nga Puhi Unfolds".

The organisation of the large data base of the project has been made possible through the cooperation of Russel Fulton, Auckland Computer Centre, with each of the project research assistants. Russel wrote a software package called PLOTIT (Marshall and Fulton, n.d.), which stored the 4-dimensional coordinates recorded for every artefact found during the excavations. Geological sources and tentative functions were entered for over 15,000 artefacts in the field. Spatial distributions can thus be plotted in relation to hearths, walls (identified from lines of postholes, driplines, bedding trenches for slabs, etc), doorways and other relevant features. This facility has enabled us to search for and to find regularities in the spatial organisation of prehistoric Maori houses, by defining areas within these structures where particular types of tools were made, sharpened or recycled, areas where other domestic work was carried out, and areas where no work was undertaken.

As an example, the PLOTIT printout of artefact function for all artefacts found in the excavation of site N15/237 is shown in Figure 3. The outer lines mark the edges of the excavation area, and the rectangle of slightly oblique lines marks the positions and

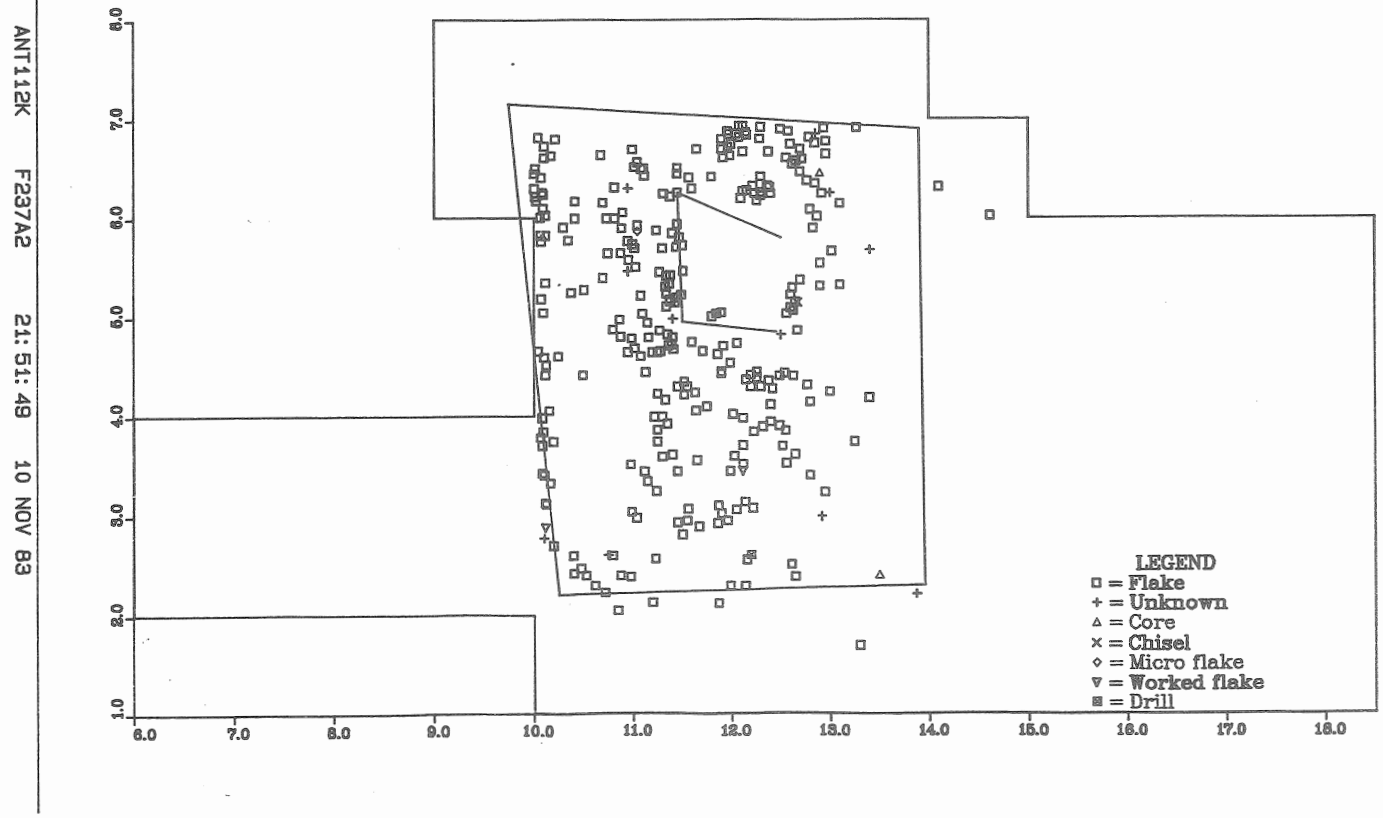


Figure 3. Artefact function for site 237 in Area 2, all layers combined.

alignments of the house walls. The three-sided stone-lined hearth within the house is also shown.

There is no, or very little, non-carbonised organic survival in the archaeological sites at Pouerua. For this reason a lot of our research since excavations were completed has concentrated on the stone artefacts.

The field identifications of materials and functions which were initially entered into PLOTIT have been checked by Rob Brassey (1985) for all artefacts recovered from the excavated open settlements. He has identified the geological materials which were utilised, and their source locations, and has also highlighted problems in the obsidian sourcing procedures developed at the University of Otago (Brassey and Seelenfreund 1984). In addition, Brassey has reconstructed methods of stone tool manufacture and re-use evident in these assemblages.

Neville Ritchie has described and sourced the greenstone artefacts found during the initial excavations (Ritchie 1984). They are particularly small, though highly stylised, and show careful curation of this highly-esteemed material far from its Westland and Lake Wakatipu sources.

Paul Cleghorn(4) is at present working on the reconstruction of the flaking techniques used in the manufacture of a range of flake tool types. He is also studying hammerstones, stone anvils, and the geometry of waste flakes and used flake tools (Cleghorn 1985). The assemblages being studied come from two of the open settlement sites, and from the large meeting house which was built near the top of Pouerua at or near the time of European arrival, and used until the 1820s. The study should reveal any functional distinctions which might have existed between ordinary dwelling structures and those use for ceremonial purposes. It is known, for instance, that meeting houses changed during the century after 1750, but there has not previously been an opportunity to establish what specific changes occurred, and why they occurred, on the basis of comparisons between sizeable samples of dwelling and other structures from within a single small area.

The final study to be mentioned here is being undertaken by Pam Chester (n.d.), with assistance from staff of the Geological Survey of the New Zealand Department of Scientific and Industrial Research. Pam has excavated and dated peat samples from lakes near Pouerua and from the coastal Waitangi State Forest. The analysis of the pollen, spore and charcoal content of these will show when, and in what ways, Polynesians first modified the vegetation in the Bay of Islands region, particularly at Pouerua. The results will provide a check for the archaeologically-based date of first settlement, and will allow reconstruction of processes of human-induced environmental change in the region. Recent research by members of the Geography Department of Auckland University has also shown strong evidence for

geomorphological change in Northland as a result of human action, at dates for which archaeologists working in Northland still have very little evidence (Anderson 1985).

The research described has been initiated in order to provide, by the end of the project's 5-year term, a detailed reconstruction of environmental and cultural change at Pouerua over the 1000 years of human occupation. The final section of this article provides an answer to each of the four questions listed near the beginning of this article. They are only interim answers, of the kinds which researchers tend to carry around in their heads and to spend time trying to improve or contradict. The first two questions concerned first occupation of the middle section of the Northland Peninsula:

> When. The first settlement of the inland Bay of Islands occurred at or before A.D. 1050. It could have occurred as early as A.D.700. A number of radio-carbon samples from Pouerua are to be dated soon. Readers who are particularly interested in the elusive date of first settlement of New Zealand should consider a recent critique by Kirch (n.d.) of the orthodox scenario for the settlement of East Polynesia.
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> Where from. The first people, and perhaps all the people ever to settle New Zealand during the prehistoric period, came from the Southern Cook Islands. Despite recent enthusiasm for multiple settlements of New Zealand from the tropics (see, for example, the New Zealand Herald 15.10.1985), there is no positive evidence for this yet. Colonisation from the Southern Cook Islands is, however, very strongly implied by linguistic data and by recent genetic studies (Trent and Mickleson et al. 1985), and is not positively contradicted by the worrisome, but not total, absence of early archaeological sites in the Southern Cooks (Bellwood 1978).

Concerning prehistoric changes in economy, settlement patterns and sociopolitical organisation in central Northland, a number of tentative conclusions may be offered. The initial settlers were few in number, and are assumed to have lived in small, dispersed, and to a degree mobile, coastal or inland communities. These communities are almost invisible in the archaeological, palynological and geomorphological records before the 11th century, by which time they were widespread, much more populous than before, and in the process of effecting considerable destruction of the native vegetation (McGlone 1983). This clearance produced vast areas of bracken "clears", because of which the mid-Northland population gardened increasingly, but never exclusively, on the relatively easily recultivated and friable volcanic loams.

The linguistic evidence suggests that the first people brought with them a chiefly form of political organisation which, by the end

of the prehistoric period, was complex and quite rigid on most of the islands from which New Zealand's first settlers are likely to have come (Kirch 1984). In these tropical situations, sectorial divisions of the island, the reef-lagoon and the ocean beyond became territorial bases for the quasi-autonomous political units of island life (Crocombe 1964; Finney 1966). In mid-Northland, however, after the concentration of cultivation and human population on islands of friable soil, the food resources required to fulfil the needs of a political group could not be found juxtaposed within such small and tightly circumscribed areas of sectorial or any other shape. Simply stated, the largest areas of best kumara soils were inland, while the resources of the sea were coastal or maritime.

Maori society, settlement patterns and political organisation, therefore, came to be centred on two spatially-separate but essential and complementary resource bases. Other resources of the rivers or the bush were insufficient to overcome this bipolarity. Therefore, no fixed, small, autonomous and strictly bounded political territories were developed. Furthermore, crops and some of the most strategic sea foods could fail in a particular year, or short series of years. Maori society in late prehistory, therefore, was not a world of fixed boundaries, of straight and absolute lines of demarcation or descent. It was instead a world of flexibility, where ambilateral descent enhanced the range of political, social and kin options for an individual and his or her descendants. It was also a world in which the concept of chieftainship meant something indigenous and markedly different from its meaning in, let us say, Rarotonga at A.D. 1750. More will be written on this topic in due course(5).

ON TRANSFORMATION

The arrival of Europeans (although that term might not have delighted post-Independence New World arrivals) lessened the uncertainties and spatial separations of production which underlay the structure of Maori society at the time of contact. The arrivals of white potatoes and pigs with iron and then steel tools and a suite of other domesticates means that food production could occur in many regions which had been almost uninhabitable earlier. Also, populations could live away from the ocean year round, and in larger groups than before (Sutton, n.d.) The concurrent introduction of commercial exchange, combined with undeniable and urgent market forces, such as the Northern Maori need to purchase weapons, brought opportunities for the accumulation of power and prestige to many of those who participated in these dramatic events. Just as chance, acumen and determination brought Archdeacon Williams power and prestige in the new land, so the manipulation of events and opportunity brought unprecedented power to some Northern Maori chiefs. This was a transitory phase, however, which is exemplified in the life of Hongi Hika, whose careful plans to monopolise trade with the Europeans can be seen as a partial basis for his later

power. By the time of his death in 1828, the power he had held was no longer attainable by any one individual in Tai Tokerau, and his successor-in-kind, Hone Heke, found himself struggling in a situation which might, albeit from an abstract viewpoint, be regarded as a return to the uncertainties of old.

Clearly the period from Hongi's death to Heke's death (1828-1850) saw changes in Maori chiefdomship which are still not understood. This is important, because influential reconstructions of prehistoric Maori society and sociopolitical organisation, such as those of Sahlins (1958:154-156) and Goldman (1970:29-54), are based on records from the middle of the nineteenth century and later, often much later (for example, Firth 1972; Te Rangi Hiroa 1966; Best 1924). These reconstructions, particularly those by Goldman (1970) and Te Rangi Hiroa (1966), also depend substantially on a comparative view of the idealised Polynesian societies of the nineteenth century. In effect, the New Zealand case is made to conform more closely to these views than it would if considered by itself, on its own terms (see also Kirch 1984). It is hoped that the Pouerua project will provide new data on the origin and operation of the Northern Maori chiefdom.

FOOTNOTES

(1) Supported by the Labour Department, Whangarei, the Auckland Research Committee, and the New Zealand Historic Places Trust.

(2) Funded by the Auckland Research Committee, the N.Z. University Grants Committee, the Skinner Fund, and the Anthropology Department, University of Auckland. Two volumes of excavation reports and analyses are in preparation.

(3) Funded by the Social Science Research Fund Committee, Wellington.

(4) Funded by a University of Auckland Post-Doctoral Research Fellowship, and by a grant-in-aid from the Auckland Research Committee.

(5) D.G. Sutton, Leave Proposal, 1986-1988.

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