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Sites and Site Types in Rarotonga, Cook Islands

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ABSTRACT

Recent field survey on Rarotonga has recorded a number of sites. This fieldwork is briefly reported on and it is noted that structures such as *marae* and *paepae* can be characterised by variability. This variability develops out of the contingencies of history. A number of parameters by which these sites can be understood and classified are explored, particularly site variation, the role of typologies in suppressing variation and the role of structures like *marae* and *paepae* within the community. This is a 'micro scale' settlement pattern analysis, broadly conceived and extending beyond spatial analysis to encompass ethnographic concerns.

Keywords: RAROTONGA, *MARAE*, *PAEPAE*, VARIATION, CLASSIFICATION, CONTINGENCY.

INTRODUCTION

Rarotonga is, at roughly 11 x 6 km, the largest as well as most populous island in the Cook Islands, and is also the seat of government. It is a typical volcanic high island, with a mountainous interior (maximum elevation 635 m) cut by a radial pattern of deeply dissected valleys, surrounded by a coastal plain generally about 1 km in width, which is in turn surrounded by a lagoon up to 1 km in width and a fringing reef (Fig. 1).The *tapere* system of land holding develops out of this concentric resource pattern. Each *tapere* was based on a valley system, a pie-slice shaped territorial unit containing mountain, valley, plain, lagoon and reef resources. The *tapere* were also the basis for the political system. Each was governed by a chiefly *mata'iapo*, who was the (usually) senior (usually) male member of the *gnāti*, or local descent group. The inhabitants of the *tapere* constituted the *matakeinanga*, a corporate group with the *ngāti* at its core, but also including affines, permanent guests, refugees, etc. Another class of chief was the *ariki*, whose role is less clear. Despite their political ambitions in the late precontact and early historic periods, the *ariki* were not paramount chiefs. Their role was also ritual in nature, and in theory the *mata'iapo* were independent.

Previous archaeological work on Rarotonga includes the work of the Canterbury Museum led by Roger Duff (Trotter 1974) between 1962 and 1969, which concentrated mainly on the Ara Metua, the prehistoric paved road that circled the island along the coastal plain, and the work of Peter Bellwood (1978a) between 1968 and 1972, which concentrated mainly on the sites of the Maungaroa Valley (Fig. 1). Few excavations were undertaken by either

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Bellwood or the Canterbury Museum, so that most work to date has concentrated on surveying and recording visible surface structures.

Figure 1 shows all recorded sites on the island. There are some gaps evident in the site distribution, and various reasons can be advanced for this. The coastal plain on the north of the island is a major focus of modern habitation and here surface evidence is most likely to be disturbed. On the south of the island habitation in prehistory may have been sparser, as also indicated by the gaps in the modern Ara Metua where the road was less robustly constructed. The missionary Charles Pitman (1835 III: 127A) describes the *tapere* of Vaimaanga as "for ages back abandoned, being usually the seat of War", so sites may have been smaller and less common in these areas. On the other hand, the gaps could be an artefact of sampling. Many sites were located with the aid of local informants, so that cooperation of local families is important. Also, despite the relatively small size of the island, there has not yet been sufficient work done to constitute a full or comprehensive survey. Finally, site destruction continues, as is shown by the gap in site distribution in the Avana Valley, where a modern road has destroyed archaeological evidence.

In this paper I examine the range of site types present on Rarotonga from a number of perspectives, as well as taking the opportunity to present some of the results of a season of field survey, from which the current analysis arose. The common thread is settlement pattern archaeology, which I conceive of as spatial archaeology together with relevant concepts and types of information that support or enhance the settlement analysis. In practice, relevant supporting concepts will differ from project to project. This paper is concerned with spatial analysis at the scale of the site, in particular with site types and their role in the community. The supporting concepts that I draw on are typology and ethnohistory.

Ethnohistory supports the spatial and typological analysis in particular because it presents concrete examples of sites at work within the community, and the relationships between sites and the different, status-derived, levels of the community. Community as an analytical concept in Cook Islands archaeology was developed by Walter (1993), and is derived from Murdock (1949). Ethnohistories are often the records of the elite more than of the community, and they require careful reading and techniques of analysis derived from historiography (Campbell 2001).

TYPOLOGY

I examine the influence of typologies from elsewhere in tropical East Polynesia on analyses of Rarotongan sites, and also the typologies used in these analyses and their relevance and usefulness to the present project. Emory (1933), and more recently Descantes (1990) and Wallin (1993), noted the regularity of *marae* morphology in the Society Islands, and used this regularity to construct typologies. These typologies are clear cut, and order the data in seemingly meaningful ways. In Rarotonga, however, distinguishing *marae* from *paepae*, and then subdividing each type into further types leads to a number of situations that are counterproductive. Typologies tend to be constructed in order to minimise evidence of variation, abstracting only those features that are common to each type and can be compared between types. I will demonstrate that Rarotongan *marae* are characterised by their morphological diversity, for which formal typologies may not be appropriate. Any class that has a membership of only one or two is not a true type at all. Typologies are designed by researchers to answer specific research questions, so that there is no one correct typology for any assemblage. They are not ends in themselves, but serve explanatory purposes (Adams

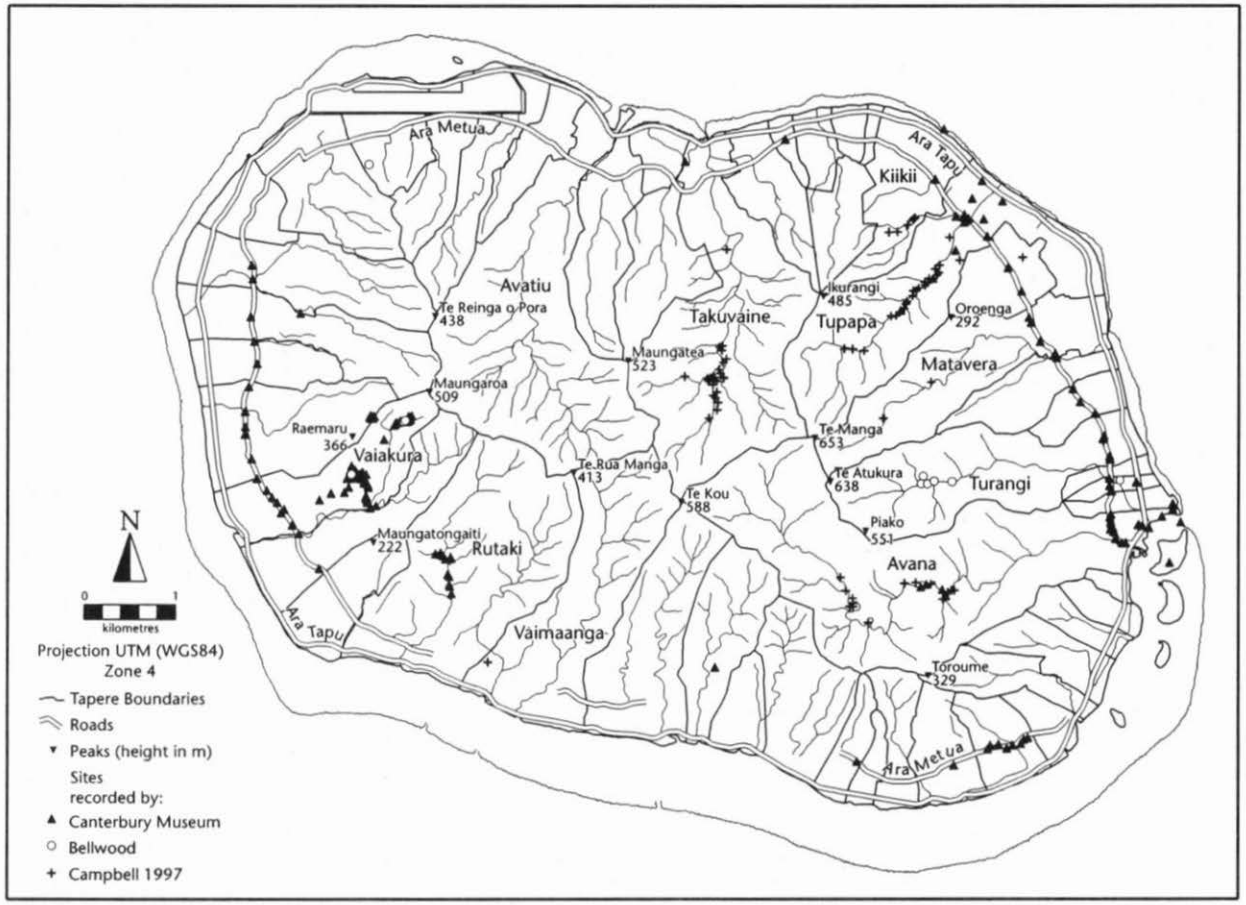

Figure 1: Rarotonga, showing *tapere* (from the modern cadastre), physiography and major archaeological investigations.

and Adams 1991: 226). They invariably leave out more information than they include, and often this information is evidence of variation.

By applying typologies to sites as if they were functionally and culturally equivalent to portable artefacts, some of the more interesting aspects of sites as permanent infrastructural installations and as cultural statements are obscured. As an example, Yamaguchi (2000: 142) has re-examined RAR105, Marae Piako, and noted that it is located on a hill in the Turangi Valley with clear views of two mountains "depicted as sacred features in ethnographic accounts." It also has a narrow view of the sea, as well as a physical connection provided by the coral blocks incorporated into its construction. When viewed from the perspective of its place in the cultural and natural landscape, fitting Piako into a formal typology may not be particularly useful.

Another problem with this type of typology is that such distinctions may not have had so great a relevance in prehistory as archaeologists attach to them. The distinction between *marae* and *paepae* is a subtle one. It implies a culturally functional difference between two activities as much as it implies a difference between kinds of place, but these two activities tend to blur into each other. There was no separation of church and state in prehistoric Rarotonga, religious rituals *were* political, and vice versa. It is only a difference in emphasis that separates the two, a difference that may be archaeologically invisible. As archaeologists we need to make these distinctions of site type so that we can order our data in meaningful ways, but if inappropriate distinctions are made the meanings found in this ordering will be faulty.

A reanalysis of sites in the Maungaroa Valley is presented as a case study for an exploratory reappraisal of Rarotongan site typology. Bellwood's (1978b) typology of the structures in Maungaroa, though relevant to his research concerns, does not advance the understanding of sites within the community, and so a new typology is proposed. This paper does not necessarily formulate an adequate replacement typology for Rarotongan sites, rather it explores the parameters by which this might be done.

SITE TYPES ON RAROTONGA

Settlement archaeology has been around a long time. Most archaeological data have a strong spatial component and spatial analyses have been in use since the late nineteenth century. The specific settlement approach to archaeology began with Willey's (1953) work in the Virú valley of Peru. Settlement archaeology was subsequently codified by, among others, Chang (1968) and Trigger (1968) in the United States. In Britain, Clarke (1977) developed a spatial archaeology that acknowledged landscape and geography as conditioning factors, part of a British tradition going back to the work of Fox in the 1920s (Daniel 1952: 306).

A central aspect of settlement studies is the scale of resolution. Clarke (1977: 9) refers to "the micro ... semi-micro and macro scales of aggregation", which are similar to Trigger's (1968: 151) "the individual structure, the settlement and settlement distributions", although the British school included all activity spaces, while the American concentrated on structures and habitations. There are methodological problems associated with integrating these levels of analysis. This paper examines settlement patterns only at the micro scale of the individual structure. This examination of site morphology and typology and the social role of different

types of site may then inform examination of macro scale settlement, though in a less direct way than an integrated approach would allow.

Three main structural types, excluding *repotaro* (irrigated taro terraces), are commonly recorded in the Southern Cooks — *marae*, *paepae* and house sites.

MARAE

Marae are one of the most commonly recorded sites on Rarotonga. Savage (1980: 142) describes the *marae* as

> a sacred place which served both religious and social purposes... an area of land inclosed by four almost straight sides ... The material used in inclosing the marae was stones which were often specially selected as to suitability, and also coral slabs which suited the purpose. At the rear end of the inclosure, there was usually erected a stone or coral slab platform ... at the rear end of this inclosure higher upright pillars were erected.

This description accords well with the archaeologist's understanding of the physical form of a *marae*. However the early missionaries record that upon the acceptance of Christianity the *marae* were all burned and destroyed (Williams 1837: 177). What was visible when Savage compiled his dictionary early in the twentieth century is what remains visible to the archaeologist. Earlier records of *marae* tend to describe a building or house. Pitman's informants led him to describe a building. For instance, "to set fire to houses appears to be a common practice among them in their heathen state; especially their Marae's (houses of their gods)" (1829 I: 119). Or, at the sign of the displeasure of the gods "the prophets would open the door of their sacred places (Maraes), & sweep away the dust, cobwebs &c. from the floor where their god was placed & from their deity also" (1833 II: 208). They might "often times erect a new Marae in order that his anger might be appeased" (1834 III: 106).

Pitman's informant on the second of these occasions, the convert Tupe, had previously been one of these prophets. Although Pitman never saw an undisturbed *marae* and his evidence is only second hand, it is clear that he understood Tupe to be describing a structure in which the god image was housed rather than the wider precinct that forms the modern archaeologist's conception of a *marae*. While the wider precinct may also have gone by the name of *marae*, the *'are atua* ("a house (full) of gods" Savage 1980: 40) would at least have been the *marae* proper, the *marae* that the early missionaries so triumphantly describe as being burnt.

Savage (1980: 53) records that *au* were "the stone slabs or wooden posts used to enclose a *marae*." This word is cognate with *ahu* (Savage omits the glottal stop), which in Tahiti describes the platform or altar of the *marae* (Emory 1970: 73) or, on Easter Island, a "ceremonial structure as a place of worship" (Van Tilburg 1994: 175). However, the "altar of the ancient Maori, erected on a *marae*" (Savage 1980: 48) on Rarotonga was an *ata*, not an *a'u*. The word *marae* has been reconstructed for Proto Oceanic as **malaqe* — village, village green (Biggs and Clark) and has cognates throughout East Polynesia, where it is commonly glossed as something like a meeting ground or sacred space. The prehistoric meanings of the term on Rarotonga remain ambiguous. The *a'u* demarcated the sacred space, and the *marae* was a structure — the god house — within that precinct, thus indicating something of a semantic reversal for the two terms. But which term applied to the precinct as a whole is not clear.

Another source of this confusion is that terms, concepts and site types have been imported wholesale into Rarotonga from elsewhere in East Polynesia. Formative archaeological investigation of *marae* was carried out in the middle of the twentieth century by Emory (1933, 1970) mainly in the Society Islands, where *marae* are far more regular in their construction, and their function better understood, at least by the archaeologist. A reading of Trotter (1974) and Bellwood (1978a) demonstrates an expectation that the *marae* of Rarotonga will be just like the well known *marae* of the Societies. As I intend to demonstrate in this paper, this is not the case.

KOUTU

A site type related to the *marae* was the *kōutu*. Savage (1980: 119) describes *kōutu* as "the seat or the royal court of a reigning ariki or high chief... [where] the ariki usually, or mainly, resided ...certain koutus had one or more maraes formed or laid out within its confines." The *kōutu*, it would seem, had a far more political ritual than religious ritual significance, but was closely connected with the *marae*. Duff (1974: 28) stresses the role of the *kōutu* in the investiture of *ariki*, and that they and their families resided there. One of the most famous *kōutu* is 'Arai te Tonga (site RAR19) which has been "erroneously described by recorders as a marae" (Savage 1980: 38). The three *marae* Pureora (RAR33), Murivai (RAR20) and Koroa (RAR26) were constructed within the confines of the *kōutu* (Savage 1980: 38), so that the site recorded as 'Arai te Tonga is only the central part of the much larger *kōutu* complex, although Duff (1974) went on to describe only this central part as though it were the whole. The nature of *kōutu* remains poorly understood, at least from an archaeological point of view.

PAEPAE

Hiroa (1927: 38) gives the standard definition of what is generally understood by the term *paepae* — "the rectangular space in front of the houses of men of rank was completely cobbled and formed the *paepae*", but Savage's (1980: 218) definition for Rarotonga covers a wider range of site forms — "a court. The open space around the dwelling house of ... persons of note, often defined by setting stones in the ground at a certain distance from the dwelling, or a raised platform of stones or coral erected round the house, according to the nature of the dwelling... a stone foundation of a house." Hiroa reports that in the Marquesas a *paepae* was an "elaborate raised platform that carried the house", a definition equivalent to only the last of Savage's definitions. Although Hiroa's definition has influenced previous researchers on Rarotonga (Endicott 2000: 217), there is little archaeological evidence that Rarotongan *paepae* were foundations of the Marquesan kind. *Paepae* were adjuncts to the house, as Bellwood's (1978a: 46) excavation of RAR51/6 shows, and mark houses of high status persons.

One site type, or subtype, that is clearly distinguishable is the T-shaped *paepae*, which consists of a paved path — the stem of the "T" — leading up to a paved rectangle behind which the house was located (Hiroa 1927: 38). Sometimes there were stone seats on the rectangular head of the "T", which served as a forecourt and meeting place. A number of these sites have been recorded, particularly along the Ara Metua, where the stem of the "T" led from the road to the house. These sites are the only standardised formal class of structure that can, in my opinion, be confidently identified on Rarotonga from surface remains alone.

HOUSE SITES

The descriptions given of *paepae* make it clear that the paved area of the *paepae* was connected to, but not equivalent to, the house site. Clearly, a *paepae* implies an adjacent house site, although not all house sites imply a *paepae*. House sites may be ephemeral and only remain as patterns of subsurface postholes. Others would leave evidence of patches of *kirikiri*. Bellwood (1978a) described a number of simple earth or stone-faced terraces in the Maungaroa Valley which he took to be house terraces, but on level ground such evidence would be lacking. Rarotongan houses, and Southern Cook Islands houses in general, were rectangular wooden structures (e.g., Bellwood 1978a: 48; Hiroa 1927: 4).

MISCELLANEOUS SITE TYPES

A number of other sites have been recorded on Rarotonga, such as stone seats, boundary stones and *umu* (earth ovens). The identification of such sites would seem to be largely unproblematic. On the other hand their relationships, both physical and social, to each other and to the major structural site types might require close examination.

RECENT FIELDWORK

Between July and November 1997 I recorded a range of sites on Rarotonga, concentrating survey efforts on the Takuvaine, Tupapa and Avana Valleys (Fig. 2). The valleys were chosen as a study area for two main reasons. Firstly, it was felt that although postcontact settlement on the coastal plain has obscured or destroyed most surface archaeological remains, more might survive inland. The second attraction was that these valleys were known to contain irrigated taro terraces (*repotaro*), a site type not systematically recorded before on Rarotonga. A total of 72 new sites were recorded, including 38 taro terraces (Fig. 2). A full list of these sites is given in Appendix 1 and 2.

Of the 67 sites recorded in the main study area (including sites in the Kiikii Valley) during the 1997 field season, 9 were classified as *marae*, 7 as *paepae* and 7 as house sites. Most of the *marae* are in rather poor condition. RAR166, Marae Anikitau Nui in the Takuvaine Valley, for instance, was only visible as some poorly preserved or obscured terraces and two seats. Four of the other *marae* in Takuvaine are in even worse condition and only RAR165, Marae Ra'overa, is in good condition. No *marae* were recorded in the Tupapa Valley and the two sites in the Avana Valley are barely visible. The *marae* in the Kiikii Valley, RAR157, is well preserved but is partly obscured by slopewash. All six sites in Takuvaine were pointed out to me as *marae*. I would otherwise have been inclined to classify some of them as *paepae* or house sites. The site in Kiikii is clearly a *marae*, as all my informants agreed, but they knew nothing of the history of the site. The land court records indicate a *marae* called Toronae in Kiikii (Pakitoa 1908 M.B. V: 20; Te Ura Uritaua 1912 M.B. V: 141), and this is probably, but not certainly, the same site. The two sites in Avana were classified as *marae* because they are on sloping ground unsuitable for building houses. Four *marae* were recorded outside the main study area. Of these two are destroyed, one is recently reconstructed and the other is a very unusual structure with an ovoid layout, which may be an early historic period site.

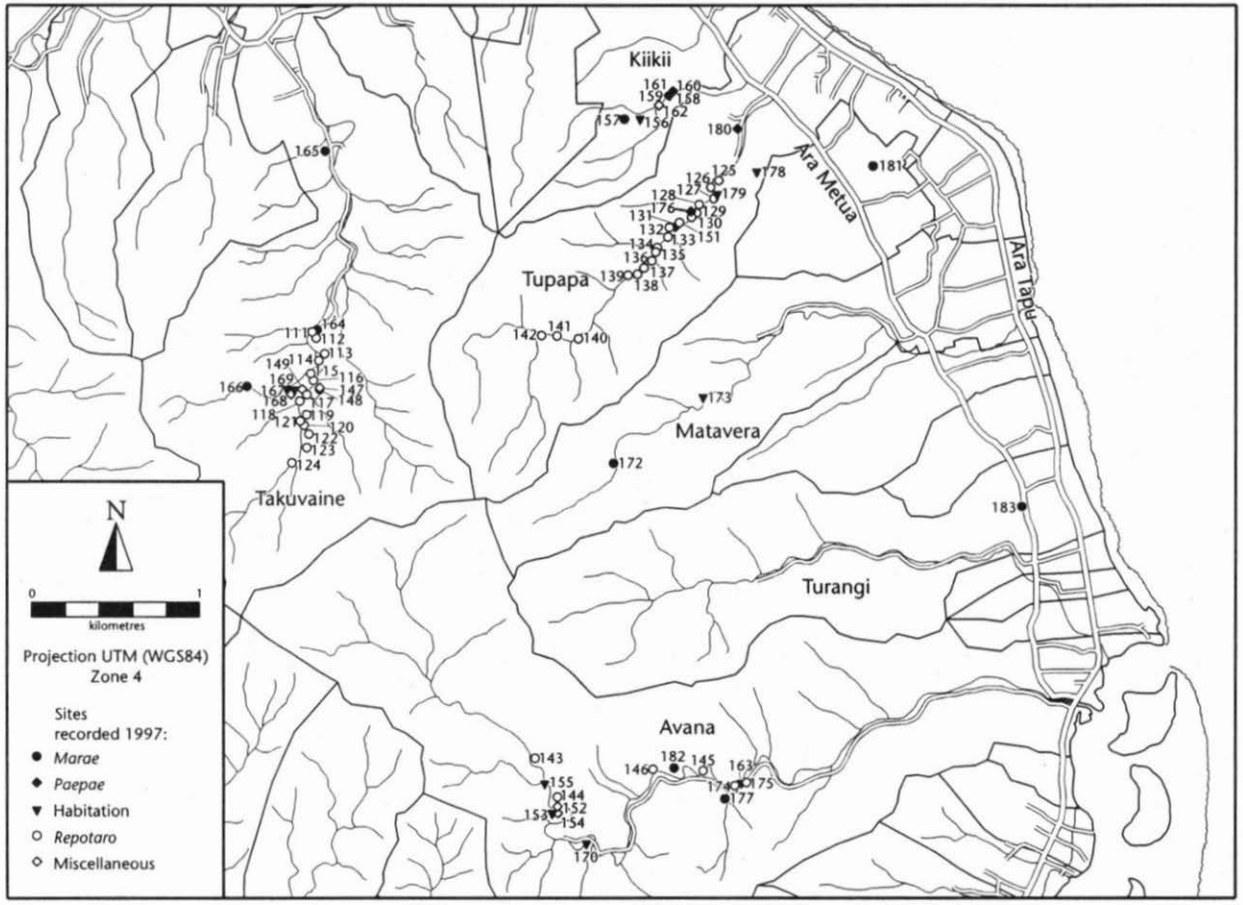

Figure 2: Sites recorded in 1997. Marae Vaevaeroaroa o Karika in Rutaki Tapere is not shown.

Only two of the *marae* are sufficiently intact to describe their morphology adequately. These two sites are very different from each other, in fact compared to *marae* morphology in other island groups of East Polynesia, Rarotongan *marae* may be characterised by variability. RAR165, Marae Raovera (Fig. 3), is a fairly simple site, although some of it may have been destroyed by a historic period graveyard and much of the terrace facings have slumped. It consists of three stone-faced terraces on the sloping toe of a ridge. None of the terraces are level. They may have been paved with a coarse basalt gravel. RAR157, on the other hand, is quite a complex site (Fig. 4). It also consists of three terraces, or

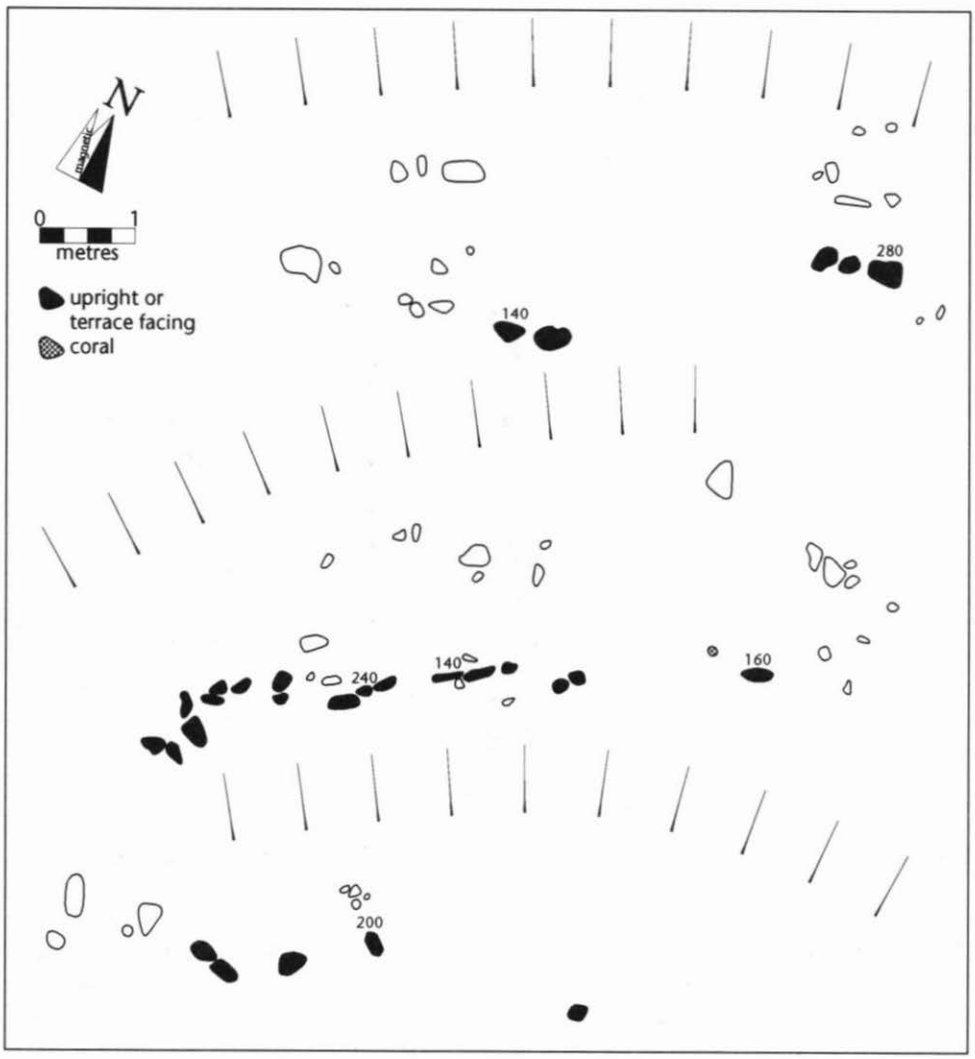

Figure 3: RAR165, Marae Raovera in Takuvaine Valley. Heights of uprights in mm.

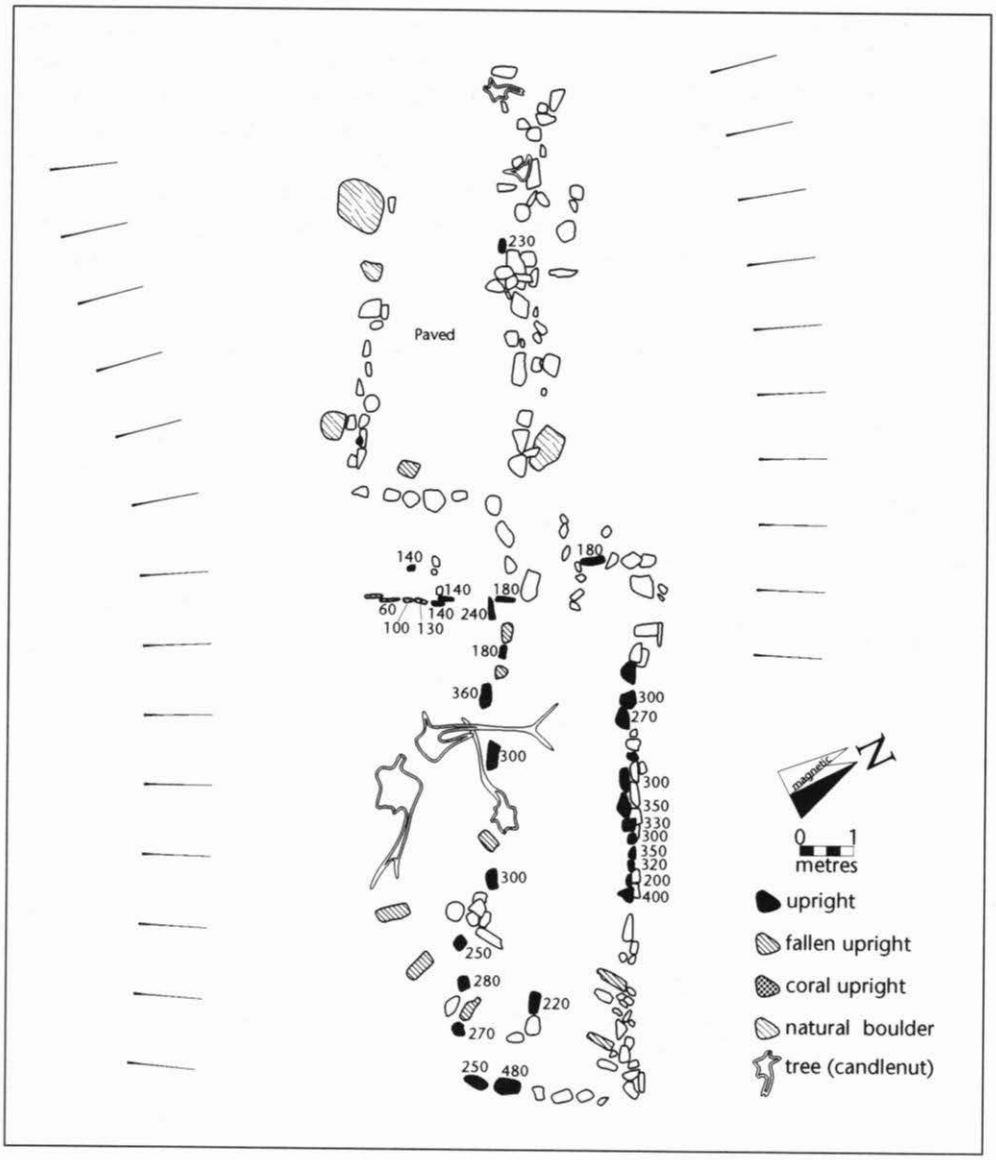

Figure 4: RAR157, a *marae*, possibly Toronae, in Kiikii Valley. Heights of uprights in mm.

perhaps two terraces of which one has two distinct components, but each of these is quite different from the others in construction, material and form. The northwest terrace is a paved platform measuring approximately 9 x 3 m. It is disturbed in places and its exact construction technique is not clear, but it seems to be faced with piled basalt stones to a height of 250 mm. The central terrace, which may be an unpaved extension of the first terrace, measures 2 x 3 m and is defined by a series of small uprights, of which four are shaped coral. The southeast terrace is also 9 x 3 m, but is of a different construction. Here the terrace is faced with firmly set uprights of irregular prismatic basalt. A 5 m length of this is in very good condition and shows a line of stones set at ground level directly in front

of the uprights, where they would appear to act as footings. A number of fallen uprights are visible on and above the top edge of this terrace. It would seem probable that this site extends further under the layer of slope wash. Thus at least three very different components of this *marae* are visible, and possibly represent three different internal or ritual functions, or perhaps three separate kin groups.

Paepae on Rarotonga may vary in their size and internal complexity almost as much as *marae*. RAR180, Paepae Te Rua o te Tavake, in the Tupapa Valley, is a classic T-shaped *paepae*, of which much of the crosspiece of the "T" is disturbed by historic period graves (Fig. 5). The two other *paepae* in Tupapa are also disturbed. RAR176, consisting of three remnant terraces, is almost destroyed, though a well preserved part of RAR151 is visible. It is an unusual site of irregular plan, roughly square in shape, measuring 3 x 3.5 m. At its southwest corner it is adjoined by another small paved rectangle one metre square, and to the east a lower unpaved terrace extends the main platform by a metre. Further parts of the structure have been buried by recent road construction (Bobby Turua pers. comm.). It was probably part of a high status residence, though its internal complexity may even indicate that it was a *marae*. Its situation on the level surface of a knoll about 5 m high overlooking two sets of *repotaro* may indicate a defensive, or at least lookout, role, though Yamaguchi (2000: 138) notes the frequent association of *marae* and taro cultivation, probably related to first fruits ceremonies.

Two sites in the Kiikii Valley exposed by a recent bulldozer track were classified as *paepae*. Both are quite disturbed. RAR159 seems rather extensive, perhaps 25 m in length, but is only visible intermittently beneath heavy bush. It seems to consist of a paved path, without the cross piece that characterises T-shaped *paepae*, but which may, perhaps, have been destroyed by the bulldozer. RAR161 is less extensive, consisting of only a small paved area.

Two sites in the Avana Valley were recorded as *paepae*, RAR153 and RAR155. These sites lack the extensive cobbled paving that is normally associated with *paepae*, and are defined by stones that were once set in the ground with only very small areas of paving attached (Figs 6 and 7). This latter component fits the usual archaeological definition of the basis of the *kirikiri* infill. Fine *kirikiri* is an important indicator of habitation, indicating the house — the sleeping floor — within the rectangular alignment. All *paepae*, by definition, are house sites, but rarely is the actual site of the structure so clearly indicated.

A stone-faced platform infilled with *kirikiri* also defines RAR158 in Kiikii, a site that has been exposed and partly destroyed by the bulldozer track. The other house site recorded in Kiikii, RAR156, is a large site measuring around 10 x 12 m, whose actual function is not clear. Informants used the term settlement to describe the site, which is poorly preserved, but seems to have consisted of two stone-faced terraces with very little intact paving and one small upright. A large *i'i* tree (*Inocarpus fagifer*, Polynesian chestnut) grows on the top terrace, and the site may have been a *marae* or had some function which is no longer clear. RAR179 in Tupapa is a small rectangular alignment measuring 3.5 x 4 metres just above the *repotaro* RAR127. It may have been a simple garden shelter, and need not necessarily be prehistoric. The three remaining sites, RAR163 and RAR170 in Avana and RAR169 in Takuvaine are only visible as remnant terraces.

Marae, *paepae* and house sites are characterised by being invariably rectangular where enough of them survives to assess their form. This is generally true of most East Polynesian structures (Bellwood 1979: 310). The only unambiguous *marae* and *paepae* are either those described as such by informants or the distinctive T-shaped *paepae*. Other features, such as

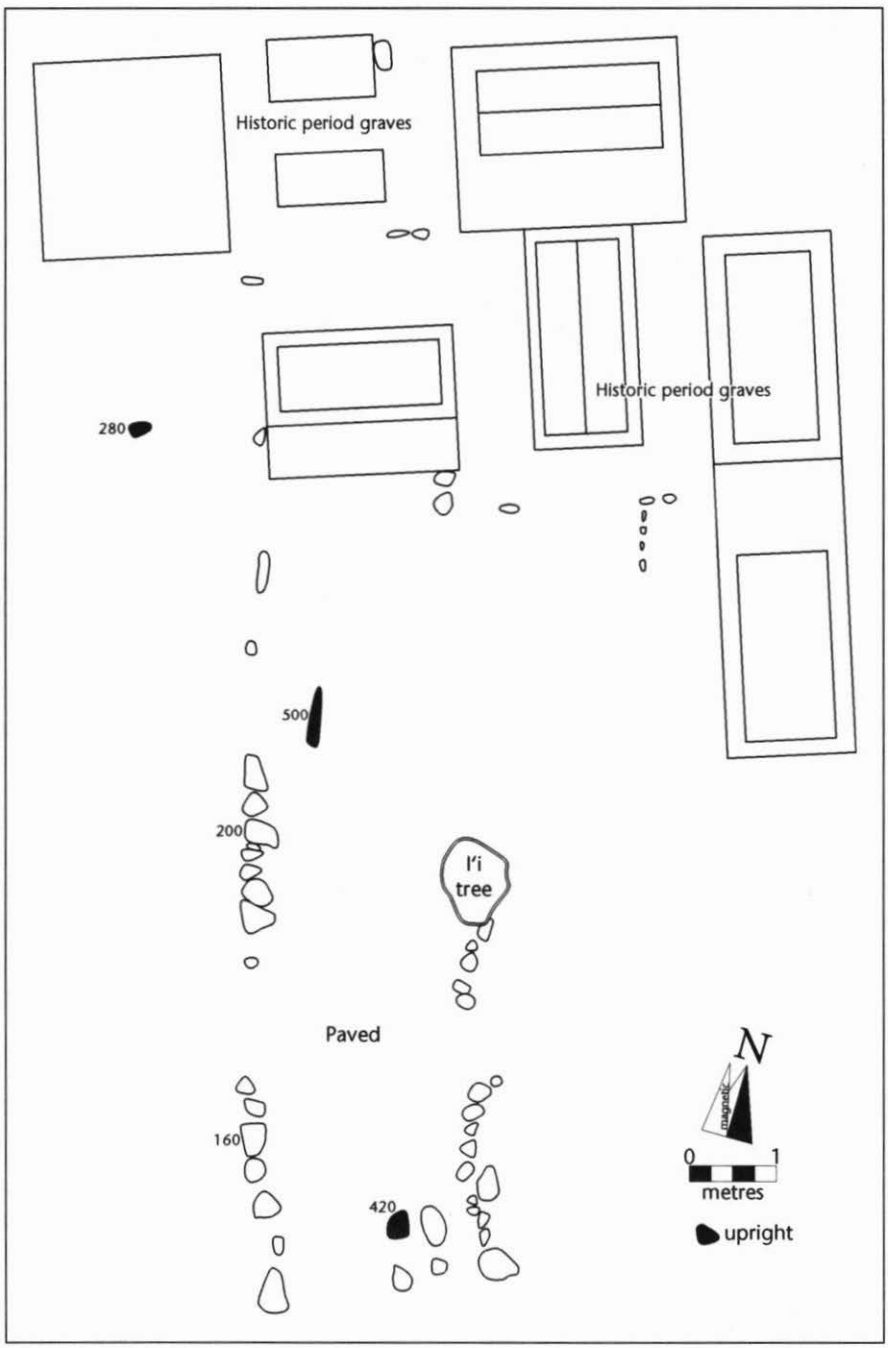

Figure 5: RAR180, Paepae Te Rua o te Tavake in Tupapa Valley. Heights of uprights in mm.

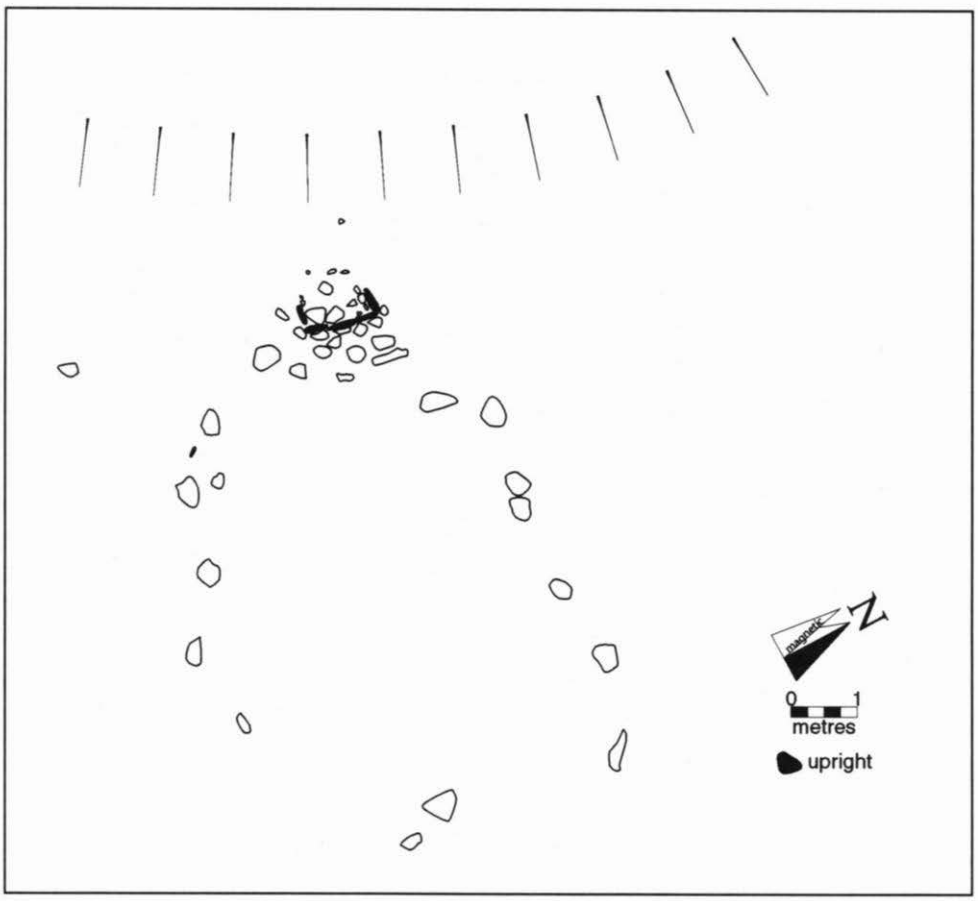

Figure 6: RAR153, a *paepae* in Avana Valley.

topography, the presence or absence of uprights or seats, internal complexity or the size of the *kirikiri* on the site may also be used to distinguish *marae* from house sites. If there is no clear cut distinction between *marae* and *paepae* in practice, there is even less where only fragmentary surface remains are visible to the archaeologist in the field, a problem also noted by Bellwood (1978a: 10). A number of features in combination were used in deciding which type to assign each structure to during field work. Put simply, *marae* may be characterised by isolated uprights (not seat backs) and coarse *kirikiri* coral gravel (often fist-sized pieces or larger); *paepae* may be characterised by extensive paving and seats. Such distinctions are not always useful and in practice two simpler criteria were used for distinguishing *marae* from other sites. Firstly, many of these sites were known to local informants, and when they were described to me as a *marae* or *paepae* then that was the term used to record them. Secondly, *paepae* are associated with dwellings — in fact they are best seen as a high status subtype of house site — so that they are usually found on level ground, whereas *marae* can be, but are not always, found on sloping ground, where the

Figure 7: Paved area attached to RAR155, a *paepae* in Avana Valley. Scale is 0.5 m.

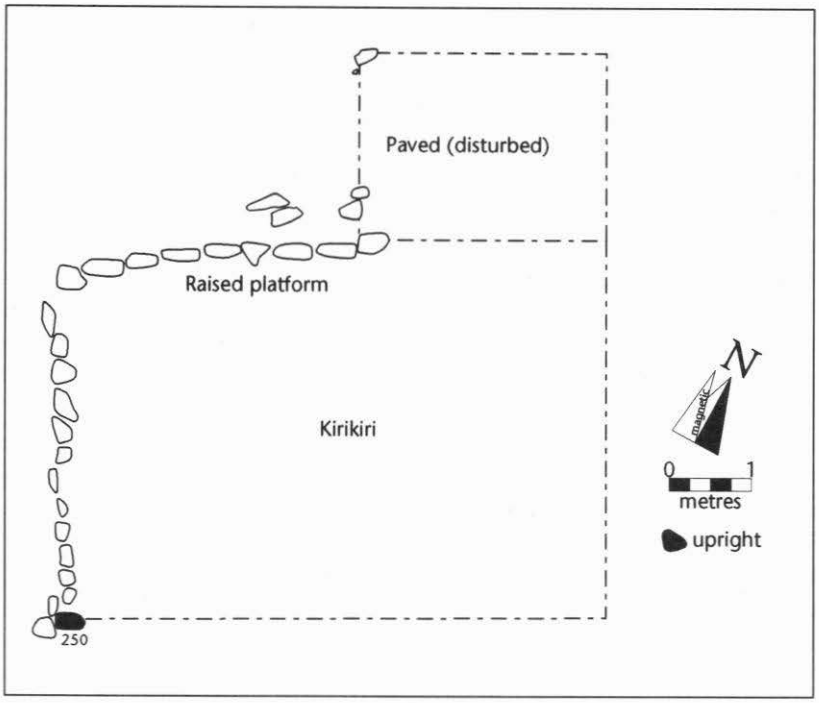

Figure 8: RAR178, a house site in Tupapa Valley. Height of upright in mm.

construction of house sites would not be practical. Fine *kirikiri* may be associated with *paepae*, and with house sites generally. *Kirikiri* provided drainage when laid inside a raised house floor, and is also a comfortable sleeping surface.

Only one radiocarbon determination was obtained during field work in 1997, from the undisturbed portion of an exposed *umu* in Takuvaine Valley, RAR147. The material was charcoal, identified by Rod Wallace of Auckland University as short lived species, *Tournfortia argentea*, *Guettardia speciosa*, and *Morinda citrifolia*. The $\delta^{13}C$ value was -26.9 ± 0.2 and the CRA was 350 ± 50 BP, giving a calibrated age range of 491–305 cal B.P. at one sigma (using Calib 3.0, Stuiver and Reimer 1993) (Wk-6494). This places the *umu,* and by inference occupation of the vicinity, in the late prehistoric period. It suggests, but by no means demonstrates, that the adjacent *marae* (RAR148) may also have been in use at this time. Apart from RAR147 there are no absolute dates available for any of the sites surveyed, and in fact there are very few dates from Rarotonga altogether. Even so it seems safe to assume that the surveyed sites were in use pretty much contemporaneously, dating to the late period of prehistory just prior to European contact. At this time *marae* were abandoned and destroyed with the conversion of the populace to Christianity. With the drastic reduction in population due to introduced disease, a process that began with approximately 1000 deaths in 1830, 4 years after the establishment of the mission (Pitman 1831 I: 275), and the establishment of coastal villages under direct missionary supervision, inland sites were abandoned and agriculture and settlement were focused on the coastal plain. The sites

surveyed in the valleys can with some confidence be dated to no later than the first few years of the historic period, and some may be considerably older.

STRUCTURES IN THE MAUNGAROA VALLEY

Because there has been a 25 year hiatus in major research projects on Rarotonga, the contrast between the concerns of early researchers and the present project are particularly clear. Duff and Bellwood were concerned with discovery, description and sequence building, whereas the present project, influenced by intervening theoretical developments as well as research elsewhere in the Cook Islands and Polynesia, has a different focus. With this in mind, Bellwood's (1978a) analysis of structures in the Maungaroa Valley is revisited.

In Maungaroa an unusually high concentration of structures can be observed on the surface. In the last few years before missionary contact Tinomana Ariki, and for a while Makea Ariki, were besieged on the slopes of Maungaroa by the alliance of Kainuku Ariki and Pa Ariki. The land court records indicate that in the three or four generations before this, Maungaroa was the base for the political expansion of the Tinomana family (Campbell 2001), although radiocarbon dates as old as ad 1300 have been obtained from sites in the valley (Bellwood 1978a: 206). Bellwood (1978a: 11) classified *marae* and *paepae* in Maungaroa by the number of upright stones and terraces each contained. Table 1 reproduces his typological scheme.

TABLE 1
Types of Structure in Maungaroa Valley (Bellwood 1978a: 11)

Paepae	Type A1	T-Shaped pavements
	Type A2	Square, rectangular or L-shaped pavements
	Type A3	Simple stone-faced earthen terraces
	Type A4	Stone-faced earthen terraces with verandas
Marae	Type B1	Terraced with four steps
	Type B2	Terraced with 2 steps
	Type B3	Rectangular pavement with a single upright
	Type B4	Rectangular pavement with single stone platform
	Type B5	Coral gravel pavement with several uprights and stone platforms
	Type B6	Stone-faced earthen terrace with multiple uprights

This is largely a formal, descriptive typology, dependent on concepts derived from Emory (1933) and Hiroa (1927). The discussion of site types above has emphasised variability, particularly of *marae*, and the suppression of variability in typologies of this type. This typology was designed to report on and describe the sites, for which it is perfectly adequate, but it is unable to provide an explanatory framework for the types of analysis with which this paper is concerned — in particular site variability and the role of sites within the community.

Figure 9 charts the area of paved surface of several of the more common site types defined by Bellwood (data from Bellwood 1978a). All of the four largest sites, and the next three largest A2 paepae, have a complex layout that sets them apart from other sites of the same type. RAR51/1 (shown in Fig.10), for instance, is characterised by the use of coral blocks

alongside the predominant basalt, by paved hollows within the lower terrace and by four stone-faced earth mounds in the upper terrace. The B1 classification – "terraced with four steps" – fails to describe this site adequately. On the other hand, the two smaller B1 sites are no larger than 30 m^2, smaller than many of the A4 paepae, and are simply no more than "terraced with four steps." They are really no different from the simple paved areas of most A2 and A4 sites, except that they are built on sloping ground, and so are terraced.

These seven large, complex sites, along with the two very large B4 *marae*, may be reclassified as either *marae* or large *paepae*. The single B5 *marae* is classified as a *kōutu*, as in fact Bellwood (1978a: 16) described it. Bellwood's ten types can be reduced considerably in a tentative classification (which further fieldwork would undoubtedly modify or refine) that more accurately reflects status divisions and the role of these sites within the community. *Marae* are defined as 'large and variable', and their number is reduced from 15 to 4, with one *kōutu*, while the remaining 63 are residential sites, many of which have attached *paepae*, but only 14 of these are considered to be major *paepae*, and ten of these are T-shaped. This classification (I avoid the technical term 'typology' when defining it) is

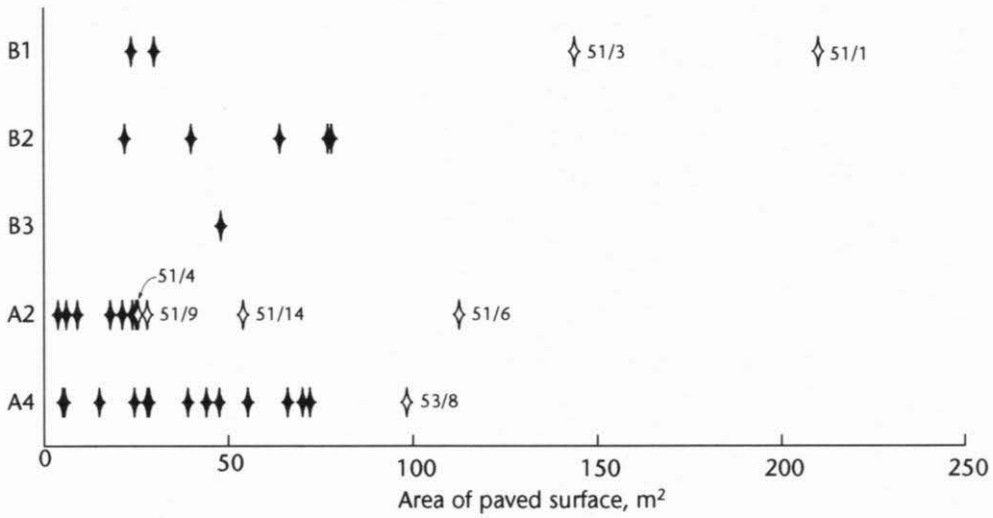

Figure 9: Areas of paved surfaces of some Bellwood types in the Maungaroa Valley. Open symbols refer to large, complex sites reclassified as *marae* or major *paepae* (numbering as in Bellwood 1978a), black symbols to sites reclassified as simple *paepae* or house sites.

still dependent on a conception of *marae* and *paepae* as culturally separate things. This conception is an artefact of our own view of church and state as separate things. If they were not separate in prehistoric Rarotonga, then any new classification should reflect this. I hope that the kind of classification I am proposing gives enough room for manoeuvre so that a range of contingent roles can be encompassed. *Marae* and *paepae* are culturally dependent terms. The alternative of functionally neutral terms is either a formal description (A1, B2, etc.) that tends to avoid social explanation, or a general term (i.e., ritual/status sites) that risks being so vague as to lack any explanatory power.

Figure 10: RAR51/1, a large and complex *marae* in the Maungaroa Valley.

The Maungaroa site complexes are atypical in terms of their concentration and elaboration. The beseiged Tinomana Ariki and his people were in circumstances of considerable social and economic stress. The latter is demonstrated by the extensive fernlands, derived from degraded swidden gardens, in the vicinity, indicating that the land was being forced to produce beyond its long term capacity (Campbell 2001). A social reaction to these stresses is demonstrated in the elaboration of stonework at Maungaroa. An increase in ritual and construction of *marae* and *paepae* both requires and reinforces social cohesion in the face of external threats. The atypical nature of the Maungaroa sites is historically conditioned, and history is a major factor in site variability throughout Rarotonga. Variation is dependent on contingent factors, as individuals and groups react in unique ways to unique historical situations. A classification that encompasses variability must also encompass the contingent nature of history.

SITES IN THE COMMUNITY

Of the 252 sites recorded on Rarotonga to date, 162 are what might be termed status sites, emblematic of status and power (*marae*, *paepae*, boundary markers, seats, reef passages, etc.) Only 72 are domestic sites (house sites, *repotaro*, *umu*, etc.). Fifteen sites are classified as roads or tracks, mostly paving or kerbing of the Ara Metua, the pre-eminent status site on the island. The status associations of *marae* and *paepae* are also an important attraction for the archaeologists who record them. An elaborate *marae* construction is more interesting and informative than a nondescript house terrace. For researchers interested in formal descriptions and cross-cultural comparisons, unexcavated domestic structures and domestic refuse are of little interest. Rather, *marae* and adzes, status sites and artefacts, are the focus of research.

Biases in recording methodology are not the only reason for domestic sites — the sites associated with commoners — being so heavily outnumbered by the status sites associated with the chiefly minority. Domestic sites are generally ephemeral and commonplace, easily destroyed or obscured by later development and habitation. Status sites are constructed of stone — in fact the method of construction is an indicator of status — and so status correlates with persistence in the archaeological record. This is particularly the case on the coastal plain of Rarotonga, where virtually all the current population live. Despite William's testimony (1837: 205) that the majority of the people at contact lived along the Ara Metua, *umu*, middens and house sites have not survived on the surface, so that only status sites can be recorded.

The 1997 field work was almost exclusively survey based, previous field work in the 1960s and 70s was largely survey, and what excavation was undertaken was on status structures. A real bias certainly exists in the differential preservation of site types recorded by surface survey, but this is exaggerated when these site types, because they are large, complex and visible, are interpreted as being exclusively associated with elites. As a result, commoners remain largely invisible in Rarotongan prehistory.

The problem has been compounded by the use of an elite-oriented language in the analysis and reporting of Polynesian archaeology. But it is not inevitable to talk about chiefs exclusively. Chiefs do not exist in a vacuum, elites are only conceptualised in relation to, or in articulation with, commoners. Rather than talk about chiefs, chiefdoms, *marae* and *paepae*, I want to discuss them in terms of community and community structures. The use of an

inclusive term like community structures facilitates an examination of the wider role of *marae* and *paepae*. Community implies a complete view of all levels of society, and the mutual obligations of one level to another. Community and community structure are functionally neutral terms, valid across a wide range of cultures. They are not status neutral. The community includes all status levels, but whereas terms like *marae* and *paepae* imply high status, community structure is status independent.

The community is a social unit intermediate between the family or household, and the polity. Murdock (1949: 79) defines it as "the maximal group of persons who normally reside together in face-to-face association." The members of a community will interact on a regular basis, to a greater degree than they will with members of another community. For the purposes of this discussion, the community on Rarotonga can be considered to be the *matakeinanga*, a group united by kinship and common residence within a *tapere*. The community on Rarotonga defined as *matakeinanga* may be somewhat wider than Murdock's definition, as it may be larger than the *maximal* size of the group that resides "together in face-to-face association", but given the small size of even the largest *tapere* and the ease of mobility within *tapere,* most if not all members of the *matakeinanga* would have been members of the same community.

Another important aspect of the *matakeinanga* is that it is also a corporate group. The corporate group is one that acts together as a single legal entity (Ballara 1998: 31; Keesing 1975: 10). The *matakeinanga* is primarily territorial — it is composed of the residents of the *tapere*. Many of the residents are members of the same *ngāti*, but many are not.

SITE DIVERSITY

If variation characterises *marae* on Rarotonga, in contrast to the regularity of form observed in the Society Islands, then what is the source of this variation? An analysis of the ethnohistoric records of the land courts on Rarotonga showed that diversity also characterises the Rarotongan social system. Negotiation and renegotiation of social relationships at all levels was a major theme observed in the records (Campbell 2001). Does fluidity of social structures, then, correlate with variation in architectural structures? Does variety arise as an expression of the individual and contingent political needs of different communities? Given that the social and political structures of the Society Islands were considerably less diverse and more unified than those of Rarotonga, the correlation seems to hold true. However Hawaiian social and political structures were as unified as those of the Societies, but *heiau* morphology was far more diverse (Stokes 1991). It seems that in Hawai'i the increasing genealogical separation of the *ali'i* from the commoners resulted in the exclusion of commoners from *heiau* ritual. Variation in *heiau* design reflects chiefly competition (Kolb 1994). Clearly, variability in *marae* is dependent on many factors, of which the degree of political variability and of social integration are two.

If church and state were not separate entities, then ritual and cosmological factors will also effect variation in *marae* morphology. Yamaguchi (2000: 178) demonstrates that Mangaian *marae* are very homogeneous in their morphology and topographical location, which he sees as correlated with the highly unified and formalised political and religious system on the island in late prehistory. On the other hand, *marae* on Tongareva, in the Northern Cook group, are also homogeneous in their morphology, even though the atoll lacked a unified political system. Tongarevan *marae* functioned as territorial markers, and

so they shared a uniform system of territorial signs expressed by a uniform morphology (Yamaguchi 2000: 224). Rarotongan *marae* were more cosmological in nature, and Yamaguchi (2000: 225) proposes that the variation in morphology reflects variation in ritual space. This implies that there are numerous aspects of variation in the political and religious function of *marae* between societies, and *marae* morphology must be examined along multiple axes.

MARAE AND *PAEPAE*

Although the early missionaries to Rarotonga were not particularly interested in ethnographic recording, a few relevant observations can be found in Pitman's journal. Only once does he use the word *paepae*, when he is visited by a prophetess ("foolish woman") who "said Don't you two (addressing herself to me & Mrs. P—) think that you will die because I am come to your paepae (the pathway)" (Pitman 1833 II: 165). His translation of *paepae* as pathway indicates that he equated the term with the T-shaped *paepae*, a class of site particularly associated with elites. The use of the term by his visitor shows that she sees Pitman's house functioning analogously to a *paepae*. Pitman frequently notes that the people visited his house in the evenings for discussions on various subjects, that is, his *paepae* was a space where people could freely meet and talk with chiefs and priests (of which he was one), just as would have been the case for a pre-gospel *paepae* (Pitman's fellow missionary, Aaron Buzacott [1985: 74] also mentions how freely the people came and went from his house). The degree to which *paepae* were as open to all members of the community, as Pitman seems to have made his house, is not clear. Indeed those who met were, in his terms "enquirers after truth", and as such would have been part of the new elite. Also most early converts were themselves from elite families, so the openness of the *paepae* may have been limited in practice. This may also have been the case in prehistory, where free access may have been limited to kinsfolk and household heads, and more particularly for such sites as the T-shaped *paepae* with their ceremonial pathways. But it is quite likely that sites such as RAR153 or RAR155 in the Avana Valley, where the *paepae* were unpaved stone enclosures adjacent to the presumed residences of local elites (Figs 6 and 7), were open to all who lived in the vicinity.

Most of Pitman's references to *marae* are to the burning of them in the earliest days of the mission, but occasionally he records information about their pre-Christian usage given to him in conversation.

> About 3 O Clock I was called up by a Watchmen to see an eclipse of the Moon. It appeared to be a total eclipse. In their heathen state they told me it would have excited much fear, & most of the Chiefs would carry food to their Marae. (Pitman 1830 I: 188)
>
> At night in conversation with Tupe & others, on their ancient superstitions &c. Was not aware that they had so many Maraes (Heathen temples). The ui ariki the ui mataiapo tutara, the ui mataiapo komono's, all had their respective Marae's. Large & Small temples must have been numerous. In every district there were several of these Maraes. (Pitman 1833 II: 207)
>
> It appears that Tagnaroa their god often left them & went over to their foes. Which while it caused great grief to one party it produced the most lively joy to the other. This was known to be the case in their non-success in War, or the illness of some great chief. A great quantity of food was instantly collected, with pigs &c. & taken to the Marae to invite his return, which when he saw he would sometimes return. (Pitman 1834 III: 106)

Of note in these journal excerpts is the taking of food offerings (*'ātinga*) to the *marae* by the chiefs.

Marae are more frequently mentioned in the land court records, but when using the records to examine the role of *marae* some caution must be used. Attitudes to *marae* would have been strongly altered by the introduction of Christianity. The *marae* were destroyed even before Pitman landed in 1827, so that no one who gave evidence in the land courts (established in 1903) would have seen an undamaged *marae* or had first hand knowledge of ancient religious practice. Fortunately the relationships of individual *marae* to particular communities and chiefly titles seem to be well remembered, but knowledge of their function in the religious life of the community had been suppressed. It is likely that at the start of the twentieth century, *marae* sites were abandoned, overgrown and shunned by the Christianised population.

A few statements made in the court make clear the identification between *marae*, land and chiefly title. For instance, Akanoa (1907 M.B. III: 251) says "Taiaruru is the marae and belongs to Akanoa. Kuruai is ours. It is the head of Akanoa's land", that is, the land Kuruai and the *marae* Taiaruru are the central focus of Akanoa's title. Without *marae* and land the title is empty. Tiikura had *marae* on two sections "Tiikura owned Taangamanu and Parera. He was mataiapo over both these lands. His marae was on Taangamanu (Katunui), on Parera his marae was Katuiti. N'Tiikura lived on these lands" (Te Ariki Papio 1906 MB III: 92). The *marae* legitimised their occupation of the land. Many communities had occupied the same land since they were placed on it by the voyager and founding ancestor Tangi'ia. The association of land, community and *marae* can be traced back to the earliest period of traditional history — "Concerning this land of Pokoinu it was given to the first Tamarua by Tangiia when the land was first divided... This lot and their descendants lived there up to the time of Tamarua Angai... His marae was Kura a Koanga" (Tamarua 1905 M.B. II: 52). This was the ultimate legitimisation of occupation.

These various examples of the role of *marae* and *paepae* indicate two quite different sets of functions. On the one hand there is the view that sees them as monumental structures, reinforcing the position and authority of chiefs in society. The association between monumental structures and elites is commonly made and easily demonstrated. Monuments were a display of power, a stage for ritual and an affirmation of *mana*. Thus *marae* reinforce hierarchy and authority over the community.

On the other hand there is every reason to view *marae* as structures that served the purposes of the community. Although we have little evidence of their religious function in this sense, the records of the land court indicate that *marae* had a social function in the community in anchoring the corporate group to the land and legitimising their occupation. Elites were heads and representatives of the corporate group, and the association between corporate head and *marae* mirrored the association between corporate group and *marae*.

These two points of view are not mutually exclusive. Certainly the *marae* and chiefly titles had a role in the community, but this was not necessarily a constraint on the actions of title holders. On the contrary, as community leaders they were able to harness the community to their own ambitions, and their service to the community was often secondary to this. Status rivalry between elites easily translates into rivalry between communities, and community support for elite activities can easily be channelled into support for elite aggrandisement. *Marae* may serve the community by acting as a unifying focus, but they also unite the community behind the central authority figure, and ritually sanction that authority.

THE ROLE OF CHIEFS

Outlining the relationship between chiefs and community structures, and between communities and community structures begs the question — what was the role of chiefs within the community? The records of the land courts make it clear that this role was changing in the late precontact period, as the *ariki* fought a series of expansive wars, aggrandising their political power at the expense of the previously independent *mata'iapo* (Campbell 2001). This process accelerated between the coming of the gospel and the establishment of the land courts, in 1903. While the land court records present a picture of Rarotonga as a dynamic society in precontact times, they largely reflect the political situation as it was in the early twentieth century, the end point of this process, rather than the pre-gospel situation. Chiefly relations to land and community, and the rights dependent upon these relations, had changed markedly in the nineteenth century. It is often only in the incidental detail of witness evidence rather than the central issues of the case in hand that credible historic evidence is to be found. The role of chiefs and the function of such practices as *'ātinga* were highly contested subjects in the courts, and any evidence regarding these must be treated very carefully. The missionary records are of no help either, since their misunderstanding of Rarotongan social relations and their desire to deal with centralised power structures were a major contributing factor in the nineteenth century aggrandisement of chiefly power. Despite these problems, some aspects of the role of chiefs can be found in the ethnographic record, though the interpretations are necessarily more tentative than many others.

The role of chiefs in Polynesian society is clearly an important one. Polynesian oral histories, such as the records of the land court, are chiefly histories, and Western scholars have also regarded chiefs in a special light. In their role as heads of the corporate group they embodied the needs and aspirations, as well as the origins and identity, of the *ngāti* and *matakeinanga*, but at the same time they could frequently act on their own behalf in ways that may not have been in the best interests of the community. An example can be found in their economic role in the distribution and redistribution of surplus production. Surplus goods in Polynesia frequently entered a redistributive network under the control of chiefs, as ceremonial offerings such as *'ātinga* made their way from household to chief, and back to households at community events and feasts (Kirch 1984: 39). In the Marquesas, for instance, surplus breadfruit was preserved as *ma* in large pits under chiefly control and distributed to the populace in times of scarcity and drought (Kirch 1984: 135). However, at the same time that chiefs ensured the welfare of the people, they also used their control of surplus to enhance their own power and status. Chiefly redistribution becomes chiefly appropriation. A more subtle reading of redistribution is that surplus production and chiefs are mutually dependent concepts. Surpluses support chiefs, who in turn generate and appropriate surpluses (Kirch 1984: 161). Or to put it another way, the *mana* of the chief was supported by the surplus, and the efficacy of his *mana* in turn ensured the surplus.

Some of this can be read in the ethnographic record of Rarotonga. In precontact times *ariki* converted their special status, as heads of cross-*tapere* alliances and mediators with the gods, into political power. In missionary times the process accelerated as their rights to control the redistributive network, and particularly things of foreign origin, was converted into control of trade, land and the cash economy.

It is in the role of divine mediators that precontact chiefs, the *ariki* in particular, had a role in the community. The land court records make it fairly clear that the *mata'iapo* had only

personal and community gods, whereas the *ariki's* gods were the great gods of Polynesia. The *ariki* had the *tapu* and the *mana* to channel and control the power of the gods in order to ensure the fertility of the land and its fitness for habitation. The obligations of the community were to provide *'ātinga*. The precontact form of *'ātinga* is not particularly clear. Since different *'ātinga* attached to different lands, and in fact some lands were held free of *'ātinga*, then it often looks much like rent. Indeed in historic times it came to be seen as rent pure and simple, another example of the *ariki* aggrandisement of power. However in its purest precontact form, *'ātinga* was the food of the gods. Thus community, chiefs and gods were bound together in mutual obligation and mutual rights. As I have said, this interpretation is somewhat tentative for Rarotonga — this mutual dependence was one of the first aspects of society to change with the introduction of Christianity, and the remains of the system were highly contested in the land courts — but the interpretation is strengthened by our general knowledge of Polynesian cosmology (Campbell 2001).

Sites like *marae* and T-shaped *paepae*, along with the island-encircling Ara Metua, were the spatial focus of this ritual system, in fact they inscribe Rarotongan cosmology on the landscape. It is probable that cosmological relations were equally varied and complex in ways that we can no longer recover, but this variation is reflected in the variation in *marae* morphology that is still visible today.

SETTLEMENT AT THE MICRO SCALE

Spatial analysis at the micro scale, the scale of the individual structure, is dependent on a classification of the structures being analysed. These classifications are in turn dependent on the questions to be asked of them by the researcher. Bellwood's (1978) classification of the Maungaroa sites reflected his concern with description and reportage. The concerns of this paper are with the social and ritual function of sites within the community, and so micro scale spatial analysis has involved exploring the parameters under which sites on Rarotonga might be classified and understood. This exploration has become an end in itself, and the analysis has covered a considerably wider range than spatial patterns alone. The resulting classification is not really a true typology but a loose framework whose uncertainty reflects the variation in site morphology and our uncertainty about various aspects of precontact society. This may be considered inadequate, but I maintain that the fuzziness of the classifications is an adequate representation of the fuzziness of social structures (reflected archaeologically in architectural structures). This is not to say that this classification could not be improved, and I hope that this paper presents an adequate base from which to do so.

CONCLUSION

Walter, summarising settlement archaeology in the Southern Cook Islands, concluded that "Cook Islands settlement pattern archaeology is underdeveloped, both substantively and theoretically" (1996: 64). He outlined three issues for Cook Islands settlement under the headings of "settlement subsistence systems", "settlement pattern variation" and "historical processes". This paper has examined the latter two at only one scale of resolution — the micro scale, the scale of the individual site, activity space or structure, and its internal

organisation and morphology. Settlement subsistence systems, particularly the conjunction of agricultural and settlement systems, were a major focus of the 1997 field season, but are treated separately elsewhere (Campbell 2001).

There is a lack of excavated data on Rarotonga, a problem that has hindered all levels of analysis. The 1997 field season was almost exclusively survey based, as previous major investigations have been (Bellwood 1978a, Trotter 1974). This leaves us in the unfortunate position of having a highly biased sample. Stone structures associated with status abound in the record, while the archaeological record of commoners — middens, posthole patterns and domestic activity areas — is negligible. In order to overcome this, in part at least, the record has been examined with reference to the community. By carefully framing the concepts around which questions are asked, different and interesting answers and insights may be obtained. This has been a successful strategy, although there remain a number of questions about the domestic aspects of Rarotongan economy and society that only subsurface investigation can answer.

In the examination of site types an initial problem encountered was the classifications applied by earlier researchers. Two points arise from this: firstly, there is a danger in using terms imported uncritically from elsewhere in Polynesia; and secondly, typologies, by their nature, mask site variability, whereas sites on Rarotonga are characterised by variability, and this variability was a focus of research. Archaeologists must order their data if they want to interpret them meaningfully, but the ordering scheme chosen can mask what, to another researcher, seems most interesting about an assemblage. This problem was examined by reclassifying the sites in the Maungaroa Valley according to a functional rather than formal scheme, which reflected variation in status and the role of structures within the community. Under this scheme *marae* were classified simply as "large and variable."

Of the sites surveyed in 1997, most *marae* were in poor condition, with only two complete enough for adequate description. These two displayed considerable variation. If *marae* are characterised and identified only by size and complexity, identification of *paepae* faces similar problems. All *paepae*, by default, are house sites, and it seems best to regard *marae* and *paepae* as multifunctional. In the end it was concluded that *marae* and *paepae* are difficult to distinguish both conceptually and in practice. There was no separation of church and state in prehistoric Rarotonga — religious ritual was political ritual, and vice versa — and site types reflect this.

Site variability has implications for history, the third of Walter's headings, and the underlying conception for all these analyses. Variability arises from historical processes, the play of contingency on each unique situation. Variability in a historical context leads to fluidity and flexibility, offering a range of options and responses in any situation. Variability is a strategy for coping with the contingent and unexpected. Flexibility in social structures and variation in architectural (community) structures are, therefore, historically conditioned.

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APPENDIX 1

Repotaro recorded in 1997

Site	Easting WGS84 UTM zone 4	Northing	No. of terraces[a]	Total area (m^2)[b]	Condition (1997)
Takuvaine Tapere					
RAR111	419737	7652546	30	42230	Good
RAR112	419761	7652509	20	27981	Good
RAR113	419812	7652416	6	18229	Good
RAR114	419777	7652376	9	10870	Good
RAR115	419728	7652298	27	20096	Good
RAR116	419744	7652257	51	42003	Good
RAR117	419706	7652173	13	5190	Good
RAR118	419664	7652134	15	8084	Partly overgrown
RAR119	419704	7652054	12	15788	Good
RAR120	419689	7651991	9	527	Good
RAR121	419666	7652016	26	2287	Good
RAR122	419718	7651939	17	32723	Good
RAR123	419706	7651858	19	15443	Good
RAR124	419618	7651768	12	19237	Good
Tupapa Tapere					
RAR125	422157	7653444	17	9828	Abandoned, partly ovegrown
RAR126	422108	7653403	16	6137	Good
RAR127	422127	7653336	7	6756	Good
RAR128	422039	7653300	6	—	Abandoned, partly ovegrown
RAR129	422025	7653250	9	11111	Good
RAR130	421994	7653225	16	14891	Good
RAR131	421922	7653193	13	5480	Good
RAR132	421863	7653163	14	9545	Good
RAR133	421855	7653107	5	9028	Good
RAR134	421793	7653044	2	2493	Good
RAR135	421784	7653018	3	8146	Good
RAR136	421760	7652967	5	2002	Good
RAR137	421714	7652925	10	13214	Good
RAR138	421675	7652889	4	1380	Good
RAR139	421619	7652883	3	260	Abandoned, good
RAR140	421324	7652506	3	92	Good
RAR141	421197	7652523	15	10382	Abandoned, overgrown
RAR142	421104	7652525	4	153	Abandoned, partly destroyed
Avana Tapere					
RAR143	421067	7650015	11	472	Abandoned, good
RAR144	421201	7649786	12	581	Abandoned, good
RAR145	422066	7649942	1	—	Abandoned, mostly destroyed
RAR146	421771	7649950	9	283	Good
RAR174	422257	7649852	3	352	Abandoned, partly destroyed
RAR175	422326	7649871	3	—	Abandoned, mostly destroyed

Notes [a] *Repotaro* were mapped with DGPS, not all terraces were visible to the GPS, some, but not all were completed with tape and compass [b] Includes only those terraces that were mapped as closed polygons

APPENDIX 2

Sites, other than *repotaro*, recorded in 1997

Site	Easting WGS84 UTM zone 4	Northing	Site type	Name	Comment (and condition 1997)
Takuvaine Tapere					
RAR147	419782	7652213	*Umu*	-	Dated to 491–305 cal. B.P. at one sigma. (disturbed)
RAR148	419781	7652203	*Marae*	-	1 stone alignment, remainder overgrown.
RAR150	419670	7652229	*Marae*	Anikitau iti	1 intact terrace, incorporates RAR38 (disturbed)
RAR164	419767	7652559	*Marae*	-	1 seat (disturbed)
RAR165	419814	7653619	*Marae*	Ra'overa	3 terraces, lower part disturbed by historic graves (good)
RAR166	419350	7652222	*Marae*	Anikitau nui	2 seats and terrace, resting place of the canoe Anikitau (overgrown)
RAR167	419599	7652201	*Marae*	-	Jumbled paving and terraces (disturbed)
RAR168	419612	7652175	*Umu*	-	Reported by informant (overgrown)
RAR169	419633	7652206	House Site	-	2 x 1.5 m terraces 3 m apart (disturbed)
Kiikii Tapere					
RAR156	421689	7653812	House Site	-	1 stone faced terrace and partial terraces. (disturbed)
RAR157	421596	7653808	*Marae*	-	Possibly Marae Toronae (good)
RAR158	421865	7653952	House Site	-	Kirikiri, stone alignment exposed by roadworks (partly overgrown)
RAR159	421858	7653946	*Paepae*	-	Jumbled paving (overgrown)
RAR160	421883	7653971	*Umu*	-	Exposed by roadworks (disturbed)
RAR161	421876	7653966	*Paepae*	-	Jumbled paving (disturbed)
RAR162	421801	7653889	*Umu*	-	Exposed by roadworks (disturbed)
Tupapa Tapere					
RAR151	421897	7653166	*Paepae*	-	Partly buried by roadworks (good)
RAR176	421990	7653258	*Paepae*	-	(disturbed)
RAR178	422381	7653500	House Site	-	(good)
RAR179	422147	7653365	House Site	-	4 x 3.5 m stone alignment (good)
RAR180	422268	7653751	*Paepae*	Te Rua o te Tavake	T-shaped paepae, crosspiece disturbed by historic graves (good)
Matavera Tapere					
RAR172	421535	7651766	*Marae*	Te Uru Atua o Angaroa	Stone seats, ovoid layout, may be early historic (good)
RAR173	422064	7652161	House Site	-	Umu and terracing visible (good)
RAR181	423077	7653531	*Marae*	Anga Takurua	Some coral rubble remaining (destroyed)
Turangi Tapere					
RAR183	423963	7651511	*Marae*	Pokata	Recently rebuilt, previously recorded with RAR25, Paepae Pokata.

Avana Tapere

RAR152	421202	7649730	Boundary Stone	-	Basalt prism 50cm high (good)
RAR153	421170	7649695	*Paepae*	-	Small raised paved area attached. (good)
RAR154	421205	7649691	*Umu*	-	Surface remains only. Other umu stones in general vicinity. (disturbed)
RAR155	421126	7649869	*Paepae*	-	Small paved area attached (good)
RAR163	422295	7649873	House Site	-	1 stone alignment visible (disturbed)
RAR170	421374	7649516	House Site	-	Ephemeral
RAR177	422198	7649775	*Marae*	-	Ephemeral
RAR182	421895	7649958	*Marae*	-	1 terrace visible (fair)

Rutaki Tapere

RAR171	417167	7649080	*Marae*	Vaevaeroaroa o KarikaReported by informant (destroyed)

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