

Residential Landscapes and House Societies of the Late Prehistoric Society Islands

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ABSTRACT

We extend the ‘house society’ perspective to one of the most complex Eastern Polynesian chiefdoms, the Society Islands. Employing a landscape approach, we argue that competing elites used the flexibility of the ‘house society’ structure and its landed estates to promulgate and manipulate status differences. Our study documents how the social hierarchy and its ideological underpinnings were materialised in archaeologically visible ways, including investments in residential landscapes, site proxemics, and construction sequences. While communal investments in the landed material estate were staged over a few centuries, investments in the house’s ideology and corporate identity were established early on. Differences in house rank afforded some houses greater access to essential resources and facilitated their abilities to maintain and extend their corporate group, while affording them greater access to labor and continued wealth production over time. Our case study exemplifies the significant role that small-scale relations – quotidian interactions within neighborhoods – played as sources of social power.

Keywords: Society Islands, House societies, household archaeology, monumental temples, ideology

INTRODUCTION: HOUSE SOCIETIES, HIERARCHY, AND CHIEFSHIP

In ranked societies, where the institutionalisation of authority had not reached the level seen in states, sources of power were ultimately rooted in localised domestic relations, whether through the control of household surplus production, patronage of craft specialisation, the ability to call on a broader labor force, or the legitimacy of authority based on ideologies of ancestry and descent. This is in keeping with theoretical models and archaeological case studies that demonstrate substantial variability within chiefdom-level social organisations, offering a productive avenue for approaching fundamental issues of long-term historical change within complex societies (Cobb 1996, 2003; Curet 2003; Drennan and Petersen 2006; Earle 1997; Junker *et al.* 1994; Kristiansen 1991; Roosevelt 1999; Redmond *et al.* 1999). Competition among domestic units organising resource ownership and procurement is theorised to play a critical role in promoting social change (Drennan and Peterson 2006; Read 2002). In order to study such fluid socio-political situations, in which new

forms of emergent power and the organisation of social groups were actively shifting, archaeologists have adopted models of domestic relations that are more flexible than those based on traditional assumptions about kinship. One productive model is that of the ‘house society’ (‘societies à maison’), originally defined by Lévi-Strauss (1979) in opposition to lineage or descent-based kinship structures. Ethnographers of Austronesian-speaking societies quickly recognised the utility of the ‘house society’ concept (Carsten and Hugh-Jones, eds. 1995; Fox, ed. 1993; Macdonald 1987; McKinnon 1991, 1995; Reuter 2002; Waterson 1990). Archaeologists have likewise applied the ‘house society’ model to explain processes of social change in complex societies both in Oceania (Anderson 2001; Chiu 2005; Kahn 2005a, 2007; Kahn and Kirch 2003; Kirch 2000a; Kirch and Green 2001; Walter 2004) and elsewhere (Beck ed. 2007; Chesson 2003; Gillespie 2000a; González-Ruibal 2006; Hodder and Cessford 2004; Hutson 2004; Joyce and Gillespie eds. 2000; Marshall 2000).

Here we extend the ‘house society’ perspective to one of the most complex of Eastern Polynesian chiefdoms, the Society Islands, employing a landscape approach in order to analyze emerging socio-political complexity within late prehistoric Ma’ohi society. Our goal is to explore and define the local-scale sociopolitical and economic foundations through which one of Polynesia’s most stratified and economically specialised chiefdoms emerged in the Society Islands. We theorise that competing and emergent social and ritual elites used the flexibility of the ‘house society’ social structure and its landed estates to promul-

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gate and manipulate status differences. These actions were materialised in ways that are archaeologically visible as investments in residential landscapes, including the material remains of dwellings, temples, and associated agricultural features. We further explore the linkage between domestic production and community social organisation through an investigation of site proxemics, site construction sequences, and site function within two residential landscapes in the Amehiti sector of the 'Opunohu Valley, Mo'orea, Society Islands.

Lévi-Strauss's concept of the 'house', as elaborated by Gillespie (2000b: 1–2) includes the following key features: 'houses' are 'corporate bodies, sometimes quite large, organised by their shared residence, subsistence, means of production, origin, and ritual actions or metaphysical essence.' Henceforth, when we use the term *house* or *houses*, we refer to this corporate social body and its associated estate; when using *residential site*, *residence*, or *domestic site* we are referring to the physical structures whose remains are archaeologically attested. Houses are socially reproduced through the actions of their members and are not predetermined by kinship relations. The model highlights archaeologically visible forms of affiliation, such as shared labor and ritual practice, and postulates that social and economic investments in the house estate allow for certain houses to grow and prosper vis à vis others. How investments in the house estate were materialised through time (in constructing and rebuilding dwellings and ancestral temples, or through exchange, access to specialist labor, etc.), forms the archaeological basis for the investigation of house societies and the long-term development of status difference (Gillespie 2000b, Joyce 2000a).

HOUSE SOCIETY IN THE PROTOHISTORIC SOCIETY ISLANDS

Ethnographers and prehistorians regard the Society Islands, along with Tonga and Hawai'i, as among the most highly stratified of Polynesian chiefdoms (Cordy 1981, 1985; Goldman 1970; Kirch 1984, 1990a; Peebles and Kus 1977; Sahlins 1958). As such, the Society Islands offer a key case study for understanding the emergence of hierarchical and stratified complex chiefdoms out of smaller-scale heterarchical chiefdoms. Based on an analysis of the ethnohistoric literature, Ma'ohi polities were highly stratified yet retained some of the social fluidity seen in less complex Polynesian chiefdoms. Protohistoric Ma'ohi society was organised around houses, corporate groups maintained both through kinship and other socially integrative mechanisms (marriage and other forms of alliance, fictive and client-patron relationships) (Kahn 2005a, 2007; Kahn and Kirch 2004). Several aspects of social hierarchy and ideology contributed to internal variation within and between Ma'ohi houses. Well-elaborated cultural rules also differentiated protohistoric Ma'ohi society by gender and rank, but while the society had a hierarchical socio-political

formation similar to those found in Tonga and Hawai'i, there was considerable fluidity to social status. For example, Ma'ohi ritual specialists were usually junior ranking kin of the ruling elites, but other 'lay' temple attendants serving these priests were derived from the general population (Henry 1928: 151; Oliver 1974: 874). Members of the fertility cult known as the 'arioi were drawn from all of the social classes; membership in the 'arioi was highly prized, as it bestowed high rank (Henry 1928: 230). Thus, at least in some elements of Ma'ohi society, social rank was related to achievement and ability rather than inherited social status.

How can we conceptualise house estates in traditional Ma'ohi society? Ma'ohi ethnohistoric accounts and emic information gleaned from the Tahitian lexicon indicate that the basic social-residential unit in the Society Islands was the household ('*utuafare*'). Typically composed of between five to twenty persons, these individuals lived together in a single domestic cluster which included sleeping, working, and cooking structures, and cooperated in domestic production including food procurement and clothing fabrication (Davies 1851; Kahn 2005a; Oliver 1974, 1988). The Ma'ohi term '*utuafare*' refers both to the social grouping of the house and to the physical structure, and is derived from the Proto-Polynesian root for dwelling structure, *fare*. Lexical data establish that Ma'ohi houses were recognised emically as both physical structures and social groups with links to a material or landed estate (Kahn 2007).

Ethnohistoric reconstructions for contact era Ma'ohi society argue for a fluid and contextual nature to kinship reckoning. Members of '*utuafare*' were not exclusively related by consanguinity (Oliver 1988: 42–43). Affinal and other non-blood related members (servants, attendants, specialists) were attached to houses, particularly high-ranking houses, through varied social mechanisms, including patron-client relationships and the creation of fictive-kin (Oliver 1974: 966–967). Affiliated members of high ranking houses could enjoy 'family-like privileges' (Henry 1928: 299), indicative not only of social fluidity, but of the substantial benefits of attaching oneself to a ranked house (see Kahn 2007).

We hypothesise that the dynamic nature of Ma'ohi house social relations was actively manipulated by competing groups so as to acquire access to resources, wealth, and power, and to promulgate social difference, thereby leading to formalised material expressions of hierarchy and inequality. In house societies, embedded landscapes replete with physical dwelling structures, surrounding ancillary structures, and ancestral temples and lands form the main loci for the corporate actions of house members. These are the material embodiments of the efforts of individual houses to compete with and establish prominence over others (Gillespie 2000c; Joyce 2000b). Thus, through analysis of architectonic manifestations of Ma'ohi domestic sites and temples ('holy houses', Kirch 2000a) one may analyse the material correlates of mechanisms used by

competing houses to ensure their continuity and growth through time: common investments in landed estates, moveable property, and intangible resources (use-rights, resources, access to ancestors, etc.).

Ranking in Ma'ohi society was expressed along a continuum, with commoners and servants comprising the lowest class, land managers and low chiefs comprising the middle class, and high chiefs, high priests, and the *'arioi* making up the upper class. Aspects of this continuum can be seen both in the size, form, and elaboration of particular domestic structures, and in the layout of residential/ritual landscapes. Archaeological surveys in the Society Islands have demonstrated a common pattern of groups of residential sites clustered together with *marae* (temples) (Cauchois 2010; Garanger 1964; Green 1961; Kahn 2005b; Maric 2010; Orliac 1989; Sinoto 1996). We reason that such clusters are the material correlates of the landed estates of houses (Kirch and Green 2001:204). Rectangular and oval-ended residential structures, grouped on land whose inheritance from the ancestors we contend was validated by use of shared ritual spaces (*marae*, shrines), are inferred to represent house estates which exhibit material evidence for internal social ranking (Kahn 2005a, 2007; Kahn and Kirch 2004). Archaeological and ethnohistoric data illustrate that small rectangular shaped residential structures served as sleeping locales for lower status households and as specialised craft activity areas, while small to medium size round-ended structures served as sleeping locales for the elites, and larger elaborate round-ended structures had specialised functions, and were also used by members of the elite classes (Kahn 2005a; Oakes 1994; Orliac 1982, 2000).

Drawing from the house society model (Chesson 2003; Gonzalez-Ruibal 2006; Henderson and Ostler 2005; Kirch 2000a; Joyce 2000a, 2000b), and in particular, ethnographies of Austronesian house societies in Oceania and Island Southeast Asia (McKinnon 1991; Reuter 2002; Waterson 2000; Weiner 1992) we argue that common investments in landed house estates through time should produce material patterns for investigating shifts in social organisation at the local scale. For our Ma'ohi case study, these may include: (1) *Definable landed estates*, associated with residences occupied over several generations, and dwelling clusters with complex site use-lives (multiple building and re-building episodes). (2) *Common investments in the landed estate*, necessary for its perpetuity, including regular production of material goods (adzes, barkcloth, etc.) and of foodstuffs for domestic consumption, for gift exchange, and for tribute to the chiefs. (3) *Common investments in the ritual estate*, symbolic of its ancestral claims, including *marae* construction, use, and re-building episodes, emplacement of burials and ritual attractors (i.e., stone uprights, stone god-figures) on ancestral temples and lands. (4) *Communal participation in ritual and feasting*, including familial rites at simple *marae*, and community rites at elaborate temples linked to high-

ranking houses; the latter we infer were performed almost exclusively by the social and ritual elites (Kahn and Kirch 2011). We now turn to the archaeological data to test our model of Ma'ohi house societies, developed from the ethnohistoric literature and more generally from Austronesian house society ethnographies. The goal is to determine whether the material remains of Ma'ohi residential groups provide evidence for internal social ranking at the local scale, and whether this leads to more formalised expressions of hierarchy through time within the broader scale of the community.

THE 'OPUNOHU VALLEY STUDY AREA

We investigated material patterns of the Ma'ohi house society using archaeological data from two adjacent residential landscapes situated on two ridges in the Amehiti sector of the 'Opunohu Valley. The 'Opunohu is the largest valley on Mo'orea Island, which along with its neighbor Tahiti, comprise the Windward Islands of the Society archipelago (Figure 1). At the time of early European contact the valley was divided into two socio-political districts, Tupauruuru in the east and Amehiti in the west (Green 1961; Lepofsky and Kahn 2011). These two districts vary substantially in topographic configuration, soils (Jamet 2000), productive capacities for wetland and dryland agriculture (Hamilton and Kahn 2007; Lepofsky 1994), and in the types and frequencies of archaeological structures situated on their landscapes (Green 1961; Green and Descantes 1989).

Green pioneered a settlement pattern approach in the 'Opunohu (1961; Green *et al.* 1967), mapping and describing over 396 residential sites, ritual structures (*marae*, shrines), and agricultural complexes (Green and Descantes 1989). Lepofsky (1994; Lepofsky *et al.* 1996) amplified Green's survey by comprehensively mapping the spatial context of agricultural features, while Kahn (2003, 2005a, 2007; Kahn and Kirch 2004) carried out extensive excavations at domestic structures of varying size and elaboration in the Tupauruuru sector, adding to our understanding of the residential pattern. In 2007 we commenced a comparative analysis of the Tupauruuru and Amehiti districts in order to study the emergence of hierarchy and specialisation in Society Islands chiefdoms, employing the house society model described above. Here we present the results of our 2007 mapping and excavation program in Amehiti, where we focused on landscape scale analyses of residential sites and associated temple and agricultural complexes.

METHODS

We applied a multi-scalar approach incorporating data (1) from the micro-scale of the domestic unit, (2) the macro-level of residential landscapes and their spatial distribution, and (3) integrating the two datasets to model larger landscape scale social relations at the community level (Kolb and Snead 1997; Yaeger and Canuto 2000).

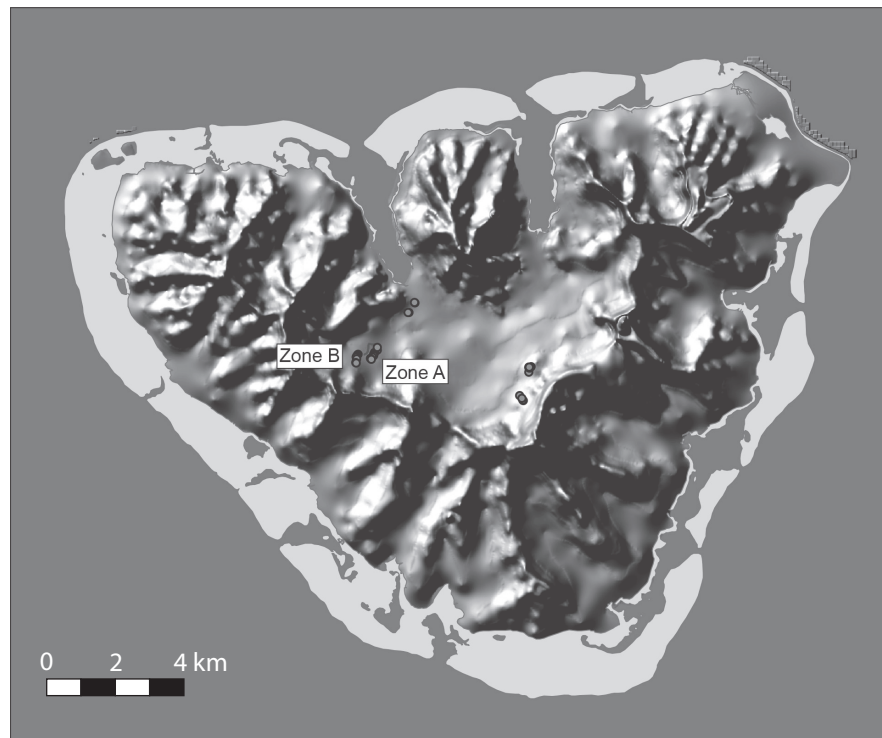


Figure 1. Hillshade figure of Mo'orea Island with the 'Opunohu Valley, and Zones A and B delineated

Site Selection/Sampling: We selected two adjacent residential landscapes in Amehiti, each of which was arguably occupied by a community of related houses in the past. By 'residential landscape' we mean the integrated clusters of dwelling terraces and domestic structure foundations, along with the closely associated ritual structures (*marae* and shrines), and agricultural terraces that comprised the settlement pattern of the interior 'Opunohu Valley. Each residential landscape occupies a discrete ridge, separated by a narrow valley with intermittent streams. All surface architecture on each ridge (designated Zones A and B) was mapped in detail with plane table and telescopic alidade. Figures 2 and 3 provide plan views of surface architecture in Zones A and B; structure function is designated in each landscape map with symbols.

We used a settlement pattern hierarchy for describing different analytical levels of the residential landscapes following Weisler and Kirch (1985). Individual architectural components, such as stone alignments, stacked walls, pavements, stone uprights, etc. form the basic analytical unit. These include sub-surface architectural components such as postholes, hearths, and earth ovens. Spatially bounded clusters of architectural components form features (residential features, ritual features, etc.). Groups of features form aggregates which we define as complexes, clusters of features which are spatially clustered with respect to other features on the landscape. Within the two residential landscapes that we studied in Amehiti, 11 complexes encompassing the range of variability in residential features,

ritual features, and ancillary structures (cookhouses, activity areas) were excavated; these are labelled with numbers (i.e. 287, 288) on Figures 2 and 3. Both zones incorporate integrated sets of domestic structures including both round-ended and rectangular forms, ritual features (temples and shrines), and agricultural features.

Residential features were selected for excavation according to criteria developed by Kahn (2005a) in a study which identified axes of variability based on surface remains: (1) type (round-ended, rectangular, artificial flat lacking curbstones); (2) size (small <37 m²; medium 38–70 m²; large 71 to > 100 m²); (3) degree of elaboration (situated on well-elevated terrace versus living flat, presence and nature of pavement, presence of uprights); and, (4) site proxemics (where placed on the landscape vis à vis local topography and surrounding features) (Table 1). Both archaeological and ethnohistoric data (Green 1996; Kahn 2005a; Orliac 1982) indicate that Ma'ohi residential features varied in size and elaboration, from small living flats lacking a formal curbstone outline, to small rectangular curbstone-defined residences (*fare haupape*), up to larger, and usually more elaborate, round-ended curbstone-defined residences (*fare pote'e*). Residential feature morphology correlates not only with social status but with site function. Both round-ended and rectangular structures could have one of two functions; they were either used as sleeping houses or they were used for specialised activities including craft production, community meetings, or housing high-status occupational specialists such as the

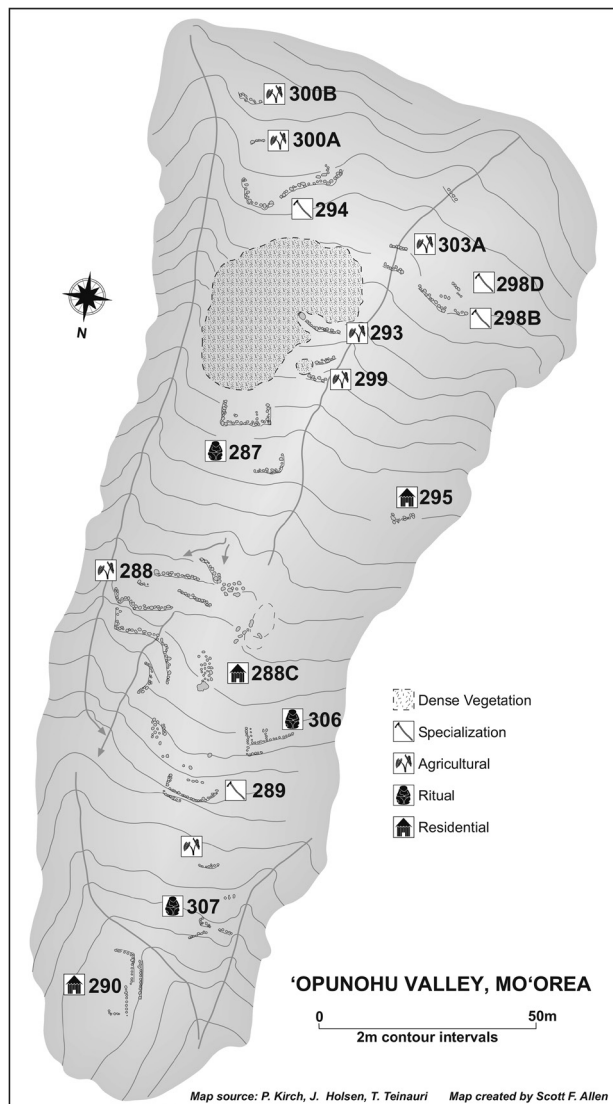


Figure 2. Plan view of surface structures in the Zone A residential landscape

fare 'arioi. Accordingly, we sampled residential features of the full range of form and size in our study.

Excavation Methodology: Residential features were excavated with a combination of skip trench and block excavation strategy to uncover sub-surface features and their relation to surface architecture. The goal was to document the function of features by identifying activity areas and the use of interior and exterior space. Limited test pits were excavated at ancillary structures and temples to recover materials suitable for radiocarbon dating. A total of 128 m² was excavated in Zones A and B (Table 1).

Dating Methods: Fifteen wood charcoal samples from nine of the excavated sub-surface architectural components were submitted to Beta Analytic for AMS ¹⁴C dating (Table

2, Figure 4). Each charcoal sample was first identified to botanical taxon in order to select samples from short-lived species. Two samples consist of coconut (*Cocos nucifera*) endocarp fragments which lack any notable in-built age. Nine samples were fragments of *Hibiscus tiliaceus* wood, a relatively short-lived weedy shrub with a maximum in-built age of several decades. In four samples where we lacked short-lived species, we submitted wood charcoal of *Artocarpus atilis* (Breadfruit) or *Inocarpus fagiferus* (Tahitian Chestnut) for dating. These samples could have some in-built age of up to several decades to a century. However, in one case (ScMo-287) we dated a short-lived species from the same context for comparison; this suggests that at least the *Artocarpus* samples did not have any significant in-built age.

THE AMEHITI RESIDENTIAL LANDSCAPES

Zone A:

Surface Architecture, Site Proxemics, and Landscape Analysis

The residential landscape of Zone A occupies a broad gently-sloping ridge flanked by permanent streams, a prime locale for irrigated agriculture (Figure 2). Situated at the topographic highpoint of the zone is ScMo-294, a complex with elaborate architecture, including a massive terrace with retaining walls 1.2 m in height and a large round-ended curbstone outline (Tables 1, 3). ScMo-298, another substantial residential complex situated on an elevated terrace (0.45 m in ht.) with a well-constructed pavement, flanks the western stream at a topographic highpoint on the ridge.

Zone A has the highest density of ritual features in the middle Amehiti sector, with three structures found on the ridge flanks. ScMo-287, a *marae* constructed on two terraces with impressive stone-faced walls (1.4 m in ht.), is located between the two streams at the ridge midline and overlooks ScMo-288, a complex of irrigated taro terraces (Figure 5). Two other ritual complexes overlook the western watercourse towards the bottom of the ridge, and include ScMo-306, a temple with simple architecture (walls 0.60 m ht.) and ScMo-307, a disturbed temple. Residential complex ScMo-289 is situated at an elevated point and lies between these two ritual features. It includes a round-ended structure found on an elevated terrace of only moderate height (0.70 m) and size (45 m²), situated on an elevated point at the base of the ridge. This structure overlooks ScMo-290, a simple habitation with a small rectangular alignment located on an artificial flat rather than a raised terrace (Figure 6). Agricultural features are interspersed throughout Zone A and include small barrage complexes, substantial terraces for irrigated taro, and terraces flanking waterways; these are not depicted in Figure 1 but are but located downslope of ScMo-290.

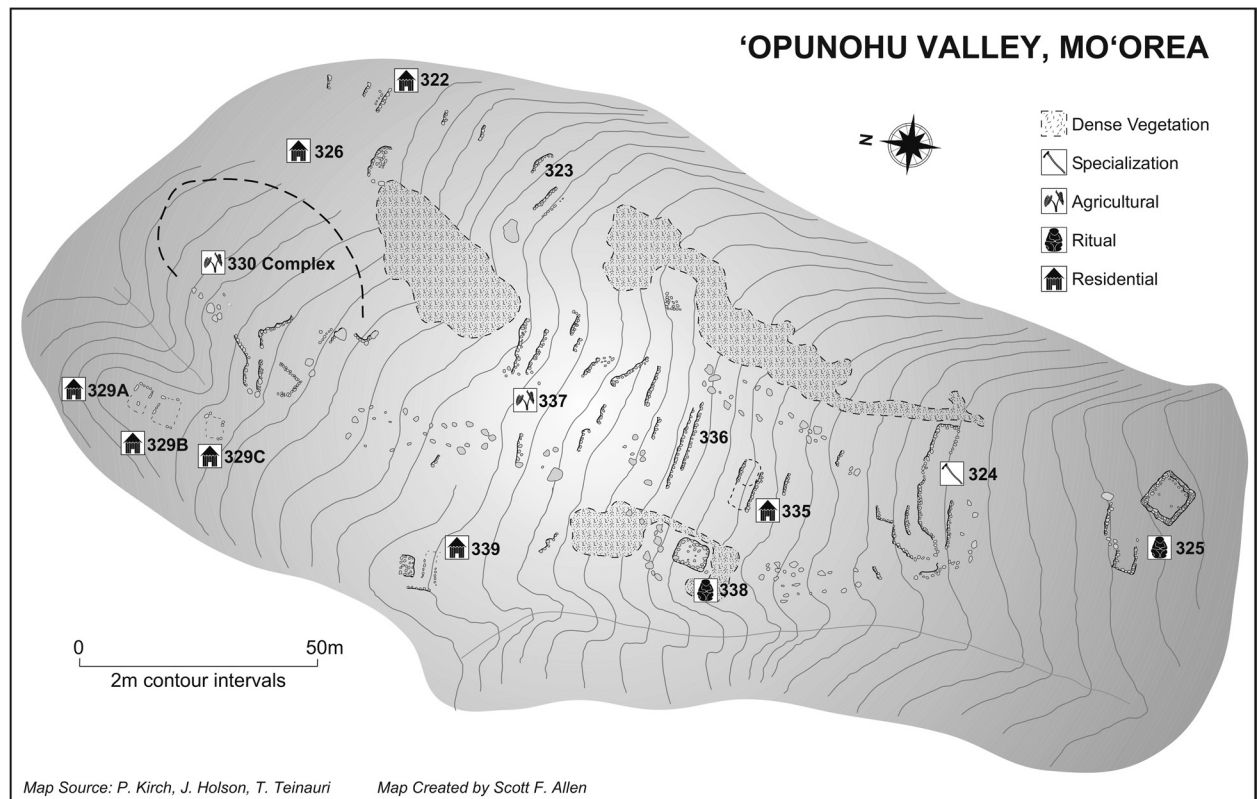


Figure 3: Plan view of surface structures in the Zone B residential landscape

Table 1. Description of the Residential and Temple Complexes Excavated in the Amehiti Sector. High status = high chiefs, high priests, 'arioi; moderate status = low chiefs, landowners; low status = commoners, servants.

Complex #	Type	Size (m)	Area Excavated	Function/Status of Complex
ZONE A				
294	Terrace complex, round-ended dwelling	Dwelling: 102 m ² Complex: 403 m ²	Dwelling: 21.56 m ² Overall Complex: 25.06 m ²	Specialised – high status
298	Terrace complex, pavement, possible round-ended dwelling	Dwelling: ? Overall Complex: 312 m ²	Dwelling: 15 m ² Overall Complex: 22 m ²	Specialised – high status
287	Marae, terrace complex	Temple: 130 m ²	Temple: 3 m ²	Ritual
306	Marae enclosure, Type III I, terraces	Temple: 97.5 m ² Overall Complex: 288 m ²	Temple: 3 m ²	Ritual
289	Terrace complex, round-ended dwelling	House: 45.00 m ² Overall Complex: 84 m ²	Dwelling: 13.22 m ² Overall Complex: 15.22 m ²	Sleeping – high status
290	Terrace complex, rectangular dwelling	Dwelling: ~32 m ² Overall Complex: 162 m ²	Dwelling: 21.81 m ²	Sleeping – low status
ZONE B				
325F	Marae enclosure, Type III I, terraces	Temple Enclosure: 99.75 m ² Overall Complex: 572 m ²	Temple: 2.0 m ² Overall Complex: 2.9 m ²	Specialised – high status
326H	Terrace complex, possible round-ended house	Dwelling: ? Overall Complex: 20.8 m ²	Overall Complex : 15.75 m ²	Cook house – moderate status
324	Terrace Complex, areas with paving but lacks curbstone outline	Overall Complex: 682.5 m ²	Overall Complex: 19.24 m ²	Ritual
322E	Terrace complex, rectangular house	Dwelling: ? Overall Complex: 204 m ²	Dwelling: 12 m ² Overall Complex: 14 m ²	Cook house – moderate status

Table 2. Radiocarbon age determinations for the excavated features

Lab No.	Site (ScMo)	Provenience	Material Dated	Convent. ¹⁴ C Age Years BP	δ ¹³ C ‰	Calibrated Age at 2σ	Calibrated Age at 1σ
Beta-244601	-289	N100 E104, C2. Dates construction fill of upper house terrace.	<i>Cocos nucifera</i> endocarp	530 ± 40	-23.1	A.D. 1310–1360 (29.2%) A.D. 1386–1444 (66.2%)	A.D. 1328–1341 (12.2%) A.D. 1395–1435 (56.0%)
Beta-244600	-289	Sub-surface architectural component 13, scoop hearth within house structure. Dates main cultural deposit associated with the house occupation.	<i>Hibiscus tiliaceus</i> wood charcoal	400 ± 40	-25.9	A.D. 1432–1526 (66.6%) A.D. 1556–1633 (28.8%)	A.D. 1442–1512 (57.4%) A.D. 1600–1616 (10.8%)
Beta-244593	-287	TP1, C5, taken from deep in construction fill, 123.5 cmbd. Dates construction of upper terrace.	<i>Artocarpus altilis</i> wood charcoal	630 ± 40	-24.1	A.D. 1285–1401 (95.4%)	A.D. 1294–1320 (26.4%) A.D. 1350–1390 (41.8%)
Beta-244594	-287	TP3, C1, taken from construction fill, dates lower terrace.	<i>Hibiscus tiliaceus</i> wood charcoal	470 ± 40	-25.0	A.D. 1330–1339 (1.0%) A.D. 1396–1489 (94.0%) A.D. 1604–1608 (0.5%)	A.D. 1415–1450 (68.2%)
Beta-244591	-306	TP3, Layer C5, taken from deep in construction fill. Dates construction of shrine situated on <i>marae</i> enclosure.	<i>Cocos nucifera</i> endocarp fragments	550 ± 40	-23.5	A.D. 1304–1364 (44.6%) A.D. 1384–1438 (50.8%)	A.D. 1320–1350 (28.8%) A.D. 1391–1426 (39.4%)
Beta-244596	-290	Sub-surface architectural component 3, N100.70 E97.46 227 cmbd. Combustion pit; abutts base of rectangular house curbstones. Dates cultural deposit associated with the house occupation.	<i>Hibiscus tiliaceus</i> wood charcoal	310 ± 40	-25.3	A.D. 1460–1660 (95.4%)	A.D. 1516–1598 (51.6%) A.D. 1618–1644 (16.6%)
Beta-244597	-290	N95 E99m, C2, dates construction fill of house terrace.	<i>Hibiscus tiliaceus</i> wood charcoal	280 ± 40	-26.0	A.D. 1482–1669 (90.3%) A.D. 1780–1798 (4.5%) A.D. 1946–1952 (0.6%)	A.D. 1521–1575 (36.8%) A.D. 1582–1590 (3.7%) A.D. 1623–1662 (27.7%)
Beta-244598	-324	N93 E101, Sub-surface architectural component 6, N93.00 E101.28 95 cmbd. Dates earth oven associated with main cultural deposit on upper terrace.	<i>Hibiscus tiliaceus</i> wood charcoal	270 ± 40	-26.6	A.D. 1486–1676 (85.4%) A.D. 1777–1800 (7.9%) A.D. 1941–1954 (2.1%)	A.D. 1522–1572 (31.7%) A.D. 1630–1666 (31.0%) A.D. 1784–1795 (5.5%)
Beta-244603	-294	N99 E98, C1, in-situ burn. Dates initial slash and burn for site clearance.	<i>Hibiscus tiliaceus</i> wood charcoal	190 ± 40	-23.9	A.D. 1644–1706 (22.4%) A.D. 1720–1818 (48.3%) A.D. 1832–1880 (6.9%) A.D. 1915–1954 (17.8%)	A.D. 1662–1683 (13.4%) A.D. 1735–1805 (41.7%) A.D. 1930–1952 (13.1%)
Beta-244602	-298A	Sub-surface architectural component 2, N109.29 E100.22 240 cmbd, lower terrace. Dates earth oven associated with main cultural deposit.	<i>Hibiscus tiliaceus</i> wood charcoal	200 ± 40	-25.1	A.D. 1641–1698 (25.3%) A.D. 1724–1815 (48.0%) A.D. 1834–1878 (4.7%) A.D. 1916–1954 (17.4%)	A.D. 1654–1682 (18.3%) A.D. 1738–1756 (9.9%) A.D. 1762–1802 (29.0%) A.D. 1937–1952 (11.0%)
Beta-244595	-322E	Sub-surface architectural component 1, N101 E101, 235 cmbd. Earth oven is cut from bottom of cultural deposit (B) into construction fill (C), dates cultural deposit.	<i>Artocarpus</i> wood charcoal	400 ± 40	-25.4	A.D. 1432–1526 (66.6%) A.D. 1556–1633 (28.8%)	A.D. 1442–1512 (57.4%) A.D. 1600–1616 (10.8%)
Beta-244599	-324	N96 E99, C8, taken from deep in construction fill. Dates construction of upper terrace.	<i>Hibiscus tiliaceus</i> wood charcoal	350 ± 40	-26.2	A.D. 1455–1637 (95.4%)	A.D. 1475–1524 (29.2%) A.D. 1558–1564 (3.0%) A.D. 1570–1630 (36.0%)
Beta-244604	-326	Sub-surface architectural component 20, earth oven, N99 E017 183 cmbd. Dates cultural deposit associated with house occupation.	<i>Inocarpus fagiferus</i> wood charcoal	350 ± 40	-25.7	A.D. 1455–1637 (95.4%)	A.D. 1475–1524 (29.2%) A.D. 1558–1564 (3.0%) A.D. 1570–1630 (36.0%)
Beta-244605	-326	104 E99, C2, construction fill. Dates construction fill of upper house terrace.	<i>Hibiscus tiliaceus</i> wood charcoal	250 ± 40	-26.1	A.D. 1512–1600 (24.2%) A.D. 1616–1684 (41.5%) A.D. 1735–1805 (23.3%) A.D. 1933–1954 (6.4%)	A.D. 1526–1555 (13.3%) A.D. 1632–1670 (35.7%) A.D. 1780–1798 (15.1%) A.D. 1944–1952 (4.1%)
Beta-244592	-325	N100 E98 C6, taken from deep in construction fill.	<i>Inocarpus fagiferus</i> wood charcoal	310 ± 40	-26.0	A.D. 1470–1654 (95.4%)	A.D. 1516–1598 (51.6%) A.D. 1618–1644 (16.6%)

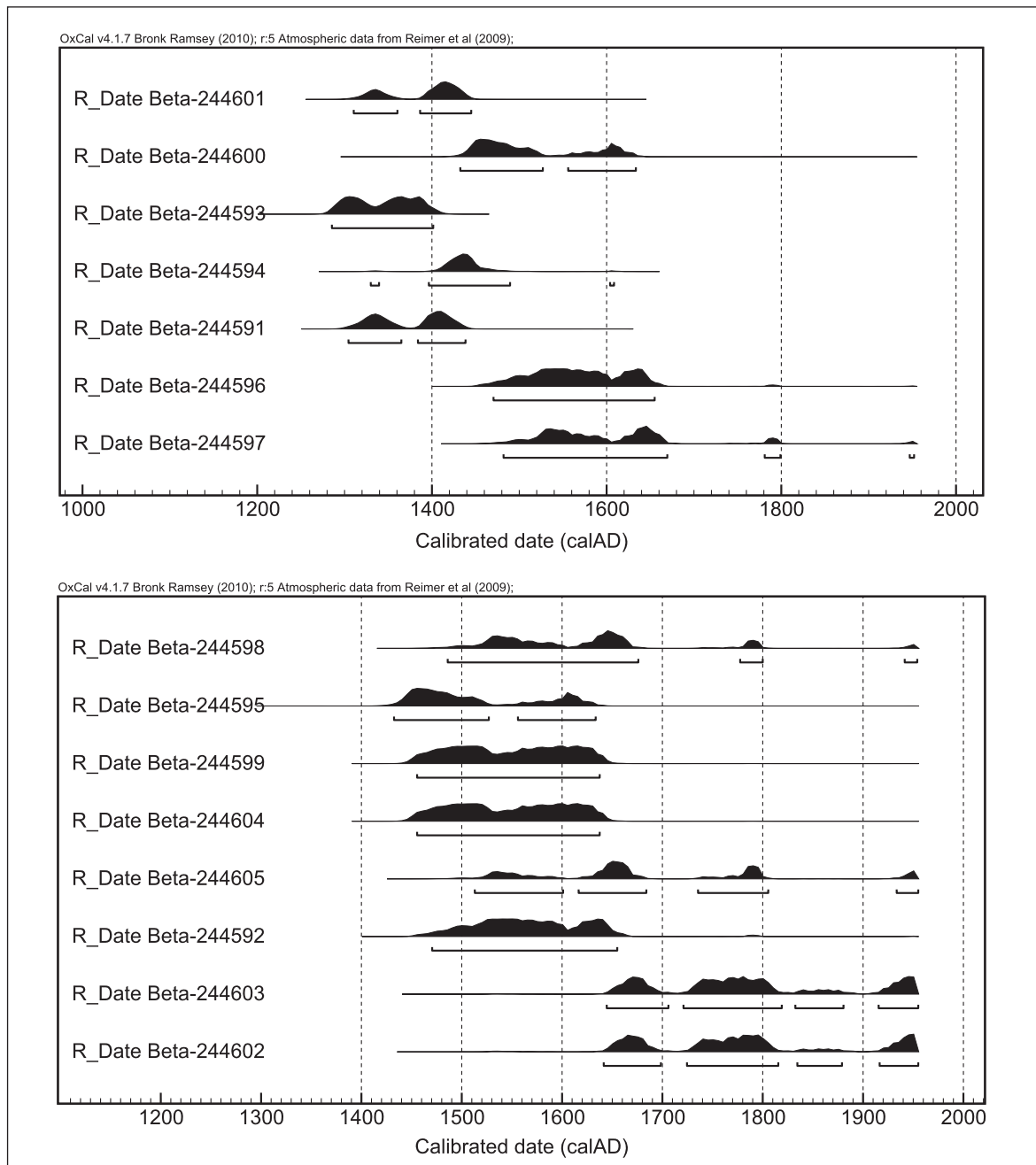


Figure 4: Oxcal plots of radiocarbon dates from excavated features, top with Zone A, bottom with Zone B

Excavation: Sub-Surface Architectural Components, Artefacts, and Site Function

The high rainfall and acidic soils of the 'Opunohu Valley limit artefact recovery to durable inorganic remains (stone tools) and charred organics. These artefacts, along with the size and spatial patterning sub-surface architectural components such as postholes, pits, and earth ovens, and the location and degree of elaboration in surface architectural provide the data with which to interpret site function (see Table 3).

Within Zone A we identified three functional types of residential features: rectangular and round-ended sleeping structures and round-ended specialised structures (Table 1, 3). ScMo-290, a simple rectangular structure built on an artificially levelled flat is situated at the bottom of the ridge, near a stream bank and in association with simple agricultural terraces. It has all the hallmarks of a low-status sleeping structure (Green 1996; Kahn 2005a), notably its non-elaborate architecture, represented by its placement on an artificial earthen flat rather than an elevated terrace, and the small size of its cooking facilities (Figure 6). In

Table 3. Attributes of Zone A and Zone B Residential and Temple Complexes

ZONE A Attributes	Site Complex					
	290	289	298	294	287	306
Pit	–	–	1	2	1	–
Pickhole	1	2	–	–	–	2
Posthole	9	10	–	10	8	–
Scoop Hearth	1 (I)	1 (I)	–	–	–	–
Cooking Hearth	2 (E)	1 (I)	–	–	–	–
Earth Oven	–	–	1 (Ext)	–	–	–
¹ Tools (density per m ²)	0.6	0.3	0.04	1.5	² 6.7	0.7
³ Lithics (density per m ²)	6.1	2.0	0.6	21.2	9.7	4.3
Curbstone Outline	×	×	×	×	–	–
Elevated Terrace	–	×	×	×	×	×
Pavement	–	–	×	–	×	×
Uprights	–	–	–	–	×	×
Backrest	–	–	–	–	×	–
Ti'i figure	–	–	–	–	×	–

ZONE B Attributes	Site Complex			
	324	326	325	322
Pit	1	1	?	–
Pickhole	–	6	–	–
Posthole	2	6	3	5
Scoop Hearth	–	–	–	–
Cooking Hearth	2	5 (I)	?	1 (Int)
Earth Oven	1	1 (E)	2 (E)	3 (Int)
Tools (density per m ²)	0.1	0.6	0.5	1.3
Lithics (density per m ²)	2.3	1.7	1.0	8.9
Curbstone Outline	–	×	–	×
Elevated Terrace	×	×	×	–
Pavement	×	–	–	–
Uprights	–	–	×	–
Backrest	–	–	–	–
Ti'i figure	–	–	–	–

1. Our tool category refers to any worked stone artifact and includes: retouched and utilized flakes, adzes, adze fragments, adze flakes, hammerstones, poi pounders, etc.
2. This total includes adzes/adze fragments recovered from the stream adjacent to ScMo-287.
3. Totals for lithics include all debitage (defined here as flakes, flake fragments, and shatter).
I = interior of house; E = exterior of house

the structure's interior we found numerous postholes and a small shallow scoop hearth (0.3 m diameter) likely used for warmth and light. Two cooking hearths (each 0.3 m in diameter) with fire cracked rock in their fill were located on the exterior flat in association with a moderate density of lithic debitage and tools, including an adze fragment, polished adze flakes, and flaked prismatic basalt slabs. The latter were sometimes used as raw materials in local adze production (Kahn 2005a:407).

The spatial separation of a clean interior versus an exterior which was used for cooking in addition to other

activities is indicative of a sleeping structure (Kahn 2005a; Orliac 2000). In precontact Ma'ohi society, food preparation, eating, and sleeping were segregated because of social rules dictating the separation of the sacred from the profane (Oliver 1974:182, 1988:85; Shore 1989), although the degree of separation was determined by social rank. Based on archaeological evidence, low-status residences sometimes have an exterior cook shed directly attached to the domestic structure, while high status residences have cook sheds that are more formally segregated, usually on separate terraces. The small size of the -290 structure, its

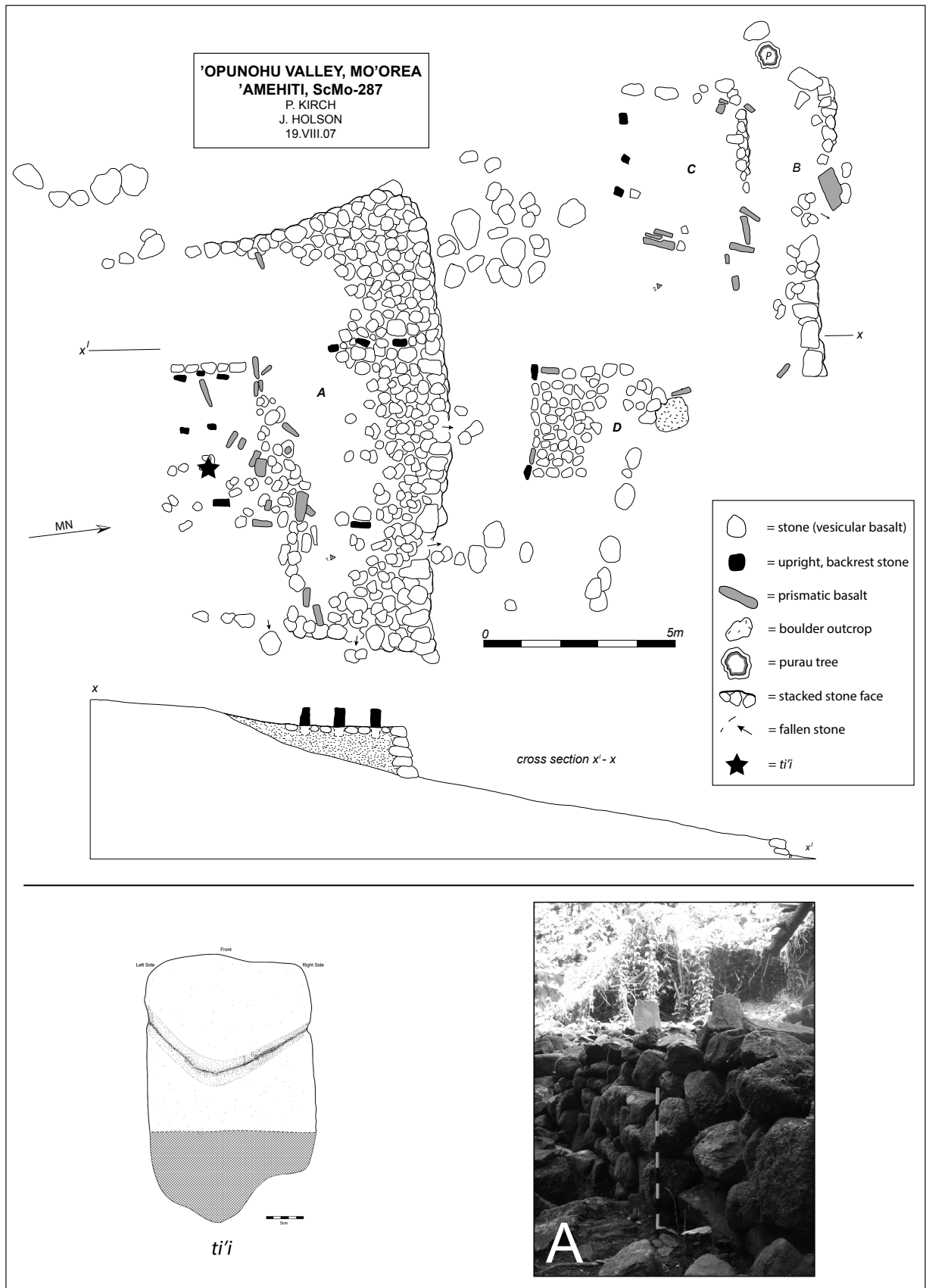


Figure 5: Plan view of ScMo-287 *marae*, with inset drawing of the *ti'i* (god figure) and photo of the front face of the upper terrace A.

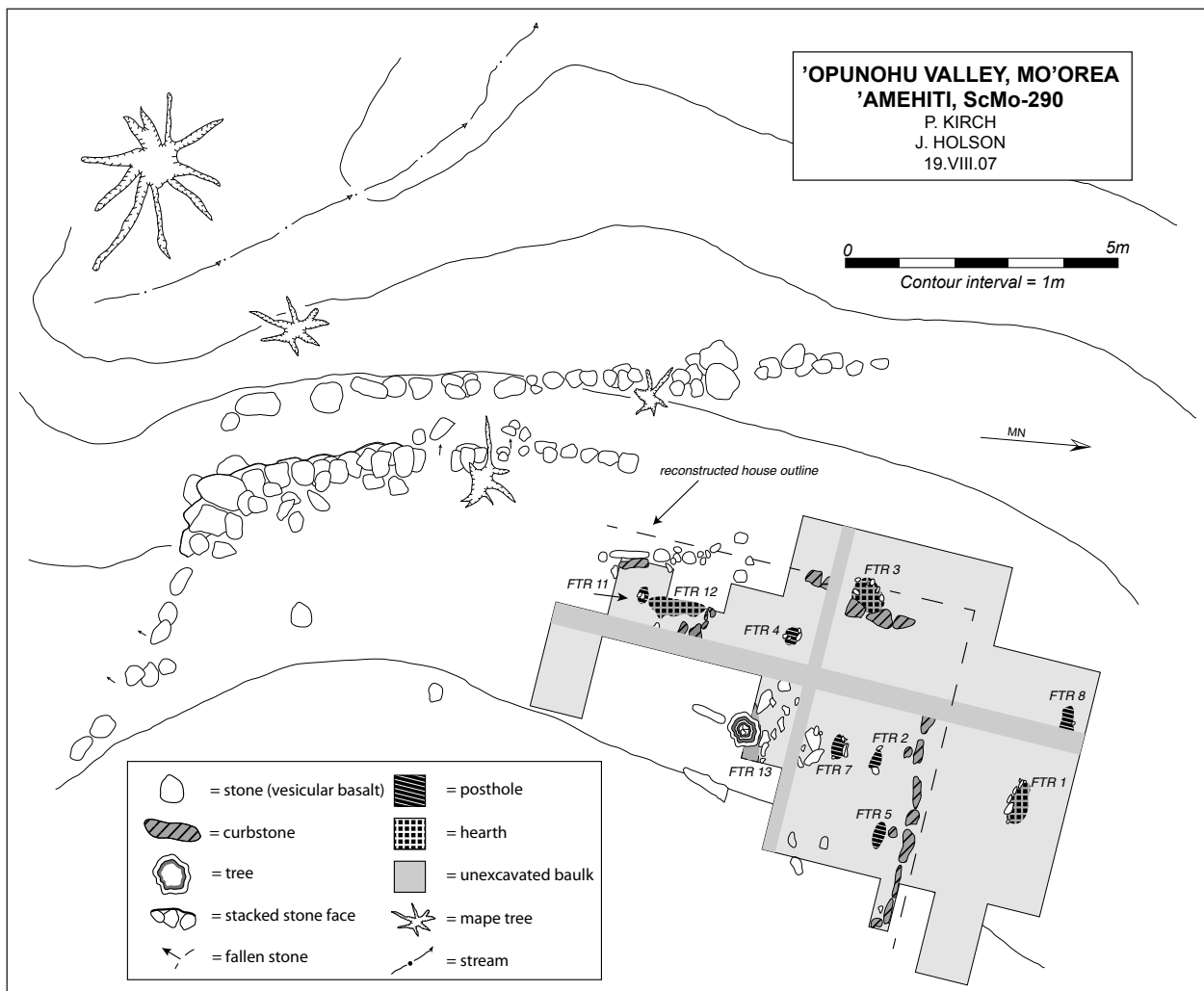


Figure 6: Plan view of ScMo-290 rectangular house with extent of the excavations and recovered sub-surface architectural components

non-elaborate architecture, small cooking hearths (0.3 m in size), and lack of formal use of space indicate it was used as a low-status sleeping structure. Dated charcoal samples from an exterior cooking hearth, and from the construction fill of the main terrace (Table 2) indicate that this rectangular structure was inhabited sometime between the late 15th–17th centuries.

We also excavated several large residential sites which were prominently located at the most elevated points on the Zone A ridge. An example is ScMo-289, a round-ended structure of moderate size built on an elaborate stepped terrace platform upslope from ScMo-290. Excavations revealed that the structure's interior was exceptionally clean, virtually devoid of artefacts or sub-surface architectural components other than postholes. A small scoop hearth (0.3 m diameter) was situated at one end of the terrace and likely served as a source of light and warmth. Tools, including adze flakes and a polishing stone fragment, and lithic debris were present in low concentrations. Given the elaborate site architecture and the formal use of space, we

believe this structure most likely served as an elite sleeping structure. Charcoal samples from an interior scoop hearth associated with the round-ended structure occupation, and from the construction fill of the terrace underlying the structure (Table 2) overlap at two standard deviations. These dates indicate the structure was most likely inhabited during the mid-15th to mid-16th centuries.

A second period of site occupation occurred at -290 when a small rectangular residence was built within the original round-ended structure, using stone robbed from the earlier site. This second phase of occupation was associated with cooking (evidenced by an earth oven) in the structure's interior, signalling a shift in site function. Such re-use of domestic sites has been documented in other parts of the valley and appears to be associated with the early post-contact period (Green *et al.* 1967; Kahn 2003).

Another prominent round-ended residence, ScMo-294, is situated upslope of the *marae* complex -287. This site has a substantial and elaborate terrace with a round-ended curbstone outline along its interior. The round-

ended structure is large, at 17 m long by 6 m wide, and the surface area, 102 m², is well-above the mean average of 51 m² for round-ended structures found in the 'Opunohu Valley. While a number of postholes and a pit were found in the interior, hearths and earth ovens were not recovered within or outside the structure or in excavations on the adjacent terraces. ScMo-294 has the highest density of stone tools and debitage of any of the residential features excavated. Notably, the tool assemblages are dominated by small polished adze flakes indicative of adze use and resharping, while the debitage assemblage and the presence of an adze preform suggest that the final stages of adze production were also completed at this locale. The site's size, and its elaborate architecture, lack of cooking activities, and evidence for specialised activities (adze finishing, use, resharping) indicate that the structure had a specialised function, perhaps serving as an elite meeting structure (*fare manihini*) or a *fare 'arioi*. The latter were built to house members of the exclusive and highly privileged fertility cult (Kahn 2005a:164–166). A charcoal sample from an in-situ burn underlying the terrace and likely relating to slash-burn for site clearance immediately pre-dating site construction was dated to the 18th–19th centuries (Table 2).

Nearby, at the same high elevation, a second elaborate round-ended structure, (ScMo-298D) sits on the most elevated terrace of a three terrace complex. The site was bounded by an impressive pavement made from prismatic basalt slabs, which was uncovered in near entirety (Figure 7); the domestic structure itself could not be excavated due to tree growth. Few lithic artefacts or charcoal were recovered during our excavations on the upper terrace and pavement. A cooking area with a large earth oven 1.1 m in diameter, suggestive of feasting, was found in excavations on the lower terrace. Tool and debitage recovery across the site were low. This site may have served as an elite residence, but the data suggest it was more likely used as a locale for public entertainment. Given that members of the 'arioi sect were renowned for putting on public festivals which included dancing, pantomime, music, wrestling, theatre, and fertility rites (Babadzan 1993; Orliac 2000), it is possible that complex ScMo-298 served as a place for public entertainment when local and visiting 'arioi members resided at ScMo-294. A charcoal sample from the large earth oven on the lower terrace was dated to the 18th–19th centuries (Table 2).

Ritual complexes excavated in Zone A include ScMo-287, an impressive *marae* immediately downslope of



Figure 7: View of ScMo-298 with the prismatic basalt pavement bounding the house site exposed

ScMo-294, the large *fare pote'e* interpreted as a specialised meeting area or a *fare 'arioi*, structures built to house traveling members of this exclusive fertility cult (Figure 2). ScMo-287 is also situated just upslope of a substantial terrace complex for irrigated agriculture, one of the largest and most prominent in the Amehiti sector (ScMo- 288) (Figure 2). The -287 temple, formed of two well-constructed terraces, lacks typical *marae* features such as an enclosing wall or an *ahu* (altar) (Figure 5). The massive retaining wall of the upper terrace has six courses reaching a maximum height of 1.5 m. Two shrines are situated on the upper terrace each with rows of uprights and a backrest stone oriented E-W. A *ti'i* (sculpted god figure) was located between the uprights and backrest stone on one of these shrines. Such god figures were addressed with prayers by priests in order to access the spirit realm (Oliver 1974:71–74). The lower terrace has two shrines flanked by stone uprights, which are oriented N-S and look out onto the agricultural complex which lies immediately downslope from the *marae*.

At ScMo-287, test excavations on the upper terrace recovered an adze along with a high density of debitage and stone tools including adze flakes, utilised flakes, a hammerstone, and a broken food pounder. Two human teeth were found in the terrace construction fill. On the lower terrace a pit and numerous postholes were revealed, in addition to stone tool fragments and debitage. Postholes found adjacent to the upper terrace retaining wall and on the terrace flat closer to the lower retaining wall may represent the remains of *unu* – elongate wooden boards which were elaborately carved and set up in *marae* (Babadzan 1989: 41; Eddowes 1991:73–84) or posts supporting tables or platforms where offerings were placed for the gods (Corney 1914(11): 209–210; Eddowes 1991: 86–90; Henry 1928: 135). Given this *marae's* location on the landscape and its unique form, we suggest that it was used in agricultural rites and fertility ceremonies. Two wood charcoal samples from ScMo-287 were dated, one from the construction fill on the upper terrace, the other from the construction fill on the lower terrace.

ScMo-306 is one of two *marae* in the lower section of Zone A. This *marae* is comprised of two long, rectangular terraces defined by stone facing walls of only moderate height (maximum of 0.60 m), lacking a well-defined enclosure or *ahu*. At the southeastern corner of the uppermost terrace a simple paved area has a row of six prismatic basalt uprights. Four other probable uprights are found along the western limit of this paved area. On the lower terrace another partially paved shrine is delineated by small walls, alignments, and uprights. In our excavations at ScMo-306 we recovered a moderate amount of stone tools and debitage. The form and size of the temple suggests it served as an ancestral family *marae* (*marae tupuna*). A charcoal sample from the construction fill underlying the shrine on the upper terrace produced a date calibrating to the late 14th to mid 15th centuries.

Phases of Site Construction and Use

Our dating program emphasised broad coverage of the features on landscape, rather than intensively dating sequences within each complex. Based on the sequence of AMS ¹⁴C dates (Table 2, Figure 4) the earliest phase of construction in Zone A occurred between AD 1350–1450. The oldest features include ScMo-289, the moderately elaborate sleeping structure and two inland *marae* (ScMo-287, 306) adjacent to wetland taro complexes and important water sources. During this phase of expansion into the 'Opunohu Valley, houses probably competed in territorial marking of the landscape through the construction of temples, claiming rights to important resources. During the 15th–17th centuries, smaller agricultural complexes and a low-status rectangular sleeping structure (-290) were constructed at the bottom of the ridge. This trend of filling in the landscape during this period parallels other data from the 'Opunohu Valley, suggestive of population increases fuelling further movement inland. During the final phase of construction (18th–19th centuries) two elaborate round-ended structures, both of specialised function, were built (-294, -298). We interpret these as elite meeting structures or *fare 'arioi*, places where guests and members of the high status fertility cult were housed and entertained. In sum, the elaboration of the social landscape in Zone A was a phased phenomenon linked to the influx of higher status individuals into this important subsistence zone, the growth of house groups over time, and the incorporation of occupational specialists such as the *'arioi*.

Synthesis of Zone A Residential Landscape

Based on the surface remains alone, the Zone A settlement layout appears correlated to the natural landscape. Each *marae* overlooks, or is adjacent to, permanent water sources suggesting their function as territorial symbols or resource markers. However, applying the house society perspective and drawing upon the excavation and chronological data reveals a deeper social structuring of the landscape. At Zone A, we argue that the clustering of a familial temple, agricultural temple, residential features, and agricultural features corresponds to an affiliated house. Residents of ScMo-289 first established themselves as the origin house of this social group through construction of a principal dwelling, which likely served as the residence of the group's headman (see Kahn 2007). Construction of two ancestral temples (-287, 306) legitimated the social group's rank and property holdings, notably land and water resources. A smaller, low status residence (-290) with less elaborate surface architecture was then constructed downslope of the principal residence (-289). Residents of this structure were likely members of a junior line affiliated to those occupying the higher ranked ScMo-289 house (Kahn 2005a, 2007). This conforms to evidence for lesser ranked (untitled or unnamed) houses attached or affiliated

to a principal house. This evidence suggests the continued growth of the -289 house, which ensured the long-term growth and longevity of this social group.

The residential landscape of Zone A also shares some similarities with *'utuafare* clusters previously studied in the Tupaururu sector (Kahn 2005a, 2007), in particular the correspondence between high status structures and higher elevation, and between low status structures and lower elevation. The spatial correlation between high status specialised structures (-294, 298), major *marae* (-287), and elevated promontories, is not surprising given that height, or its landscape equivalent, elevation, was closely correlated with status and rank throughout Polynesia (Van Gilder and Kirch 1997: 54, see Buck 1930; Handy and Handy 1924: 11, 66; Malo 1957: 86). In Zone A it is not surprising that the higher status principal dwelling (-289) would be positioned at a higher point on the landscape than lower status residences (-290). Ma'ohi *tapu* restrictions, a set of ideological beliefs which governed daily interactions between individuals of differing rank (men-women, elites-commoners), held that commoners could not sit or stand at higher elevations than a chief or pass something above their heads (Oliver 1974: 792, 794). The

placement of elite structures at high, ritualised points on the landscape materialised these *tapu* restrictions, in effect structuring the everyday lives of the residents of Zone A. In this way, the placement of both domestic and ritual structures legitimated social status by embodying and further codifying ideological beliefs. These process helped to promote increased hierarchy over time in Ma'ohi social groups.

Zone B:

Surface Architecture, Site Proxemics, and Landscape Analysis

Zone B occupies a higher ridge than Zone A, with more expansive, gentle slopes upon which dryland gardening could have been carried out. This ridge is bounded by steep slopes and along its northern limit by a deeply incised permanently-flowing watercourse (Figure 3). The highest complex on the ridge is ScMo-325, a temple enclosure lacking an *ahu* but with a row of six uprights situated on a well-constructed terrace with walls up to 1.5 m high (Figure 8). This isolated *marae* overlooks the entire



Figure 8: View of completed excavations at the ScMo-325 temple enclosure

residential landscape of Zone B. Indeed, when the vegetation was more open, it would have commanded a superb view out over the upper Amehiti Valley. Downslope from the *marae* is a major terrace complex with expansive artificially flattened areas (ScMo-324) faced with well-constructed walls about 1 m high. A small shrine (ScMo-338) with uprights and a backrest stone sits astride the western flank of the ridge, while small alignments suggestive of either dryland planting areas or low status residences are interspersed along the ridge mid-line (ScMo-335, 337, 339). At this point the ridge branches into two arms; the western arm is dominated by an extensive irrigated-dryland agricultural complex (ScMo-330). Three rectangular structures constructed on simple artificially levelled flats overlook this agricultural complex. ScMo-326 is found along the eastern ridge flank; the curbstone outline of this structure was constructed on a poorly made terrace with a stacked rather than faced retaining wall of moderate height (0.7 m). ScMo-323 is an elevated habitation terrace with stacked walls reaching 0.8 m located near the bottom of the eastern ridge. The surface of this terrace has a rectangular curbstone associated with a stone pavement. Unfortunately, this site could not be excavated because of substantial tree disturbance. ScMo-322E, located immediately downslope at the bottom of the eastern ridge, is a partial rectangular curbstone outline on an artificially levelled flat.

Excavation Data: Sub-Surface Architectural Components, Artefacts, and Site Function

Zone B incorporates ritual complexes along with rounded curbstone-defined residences, artificially flattened areas, and rectangular curbstone-defined residences (Table 1). ScMo-325, a small but well-constructed *marae*, sits at the highpoint on the ridge (Figure 8, Table 3). In test pits excavated on the *marae* court and the adjacent terraces we recovered low frequencies of tools and basalt debitage. A substantial earth oven (0.70 m in diameter) was associated with two postholes on the lower terrace fronting the *marae*, along with a second earth oven which we left unexcavated due to time constraints. The excavated earth oven exhibited at least three episodes of use. Given the earth oven's association with other postholes and cooking activities, and a deposit replete with oven rake out, charcoal, and fire-cracked rock, it is likely that the lower terrace fronting the *marae* functioned as a feasting area. We interpret ScMo-325 as a family or ancestral *marae*, which typically are comprised of simple walled enclosures with stone uprights representing deceased members of the house (Henry 1928:141; Kahn 2005a). A wood charcoal sample recovered from our test excavation that penetrated the construction fill of the *marae* enclosure was submitted for dating.

ScMo-324, the largest and most architecturally elaborate terrace complex in Zone B, lies just downslope of the

marae. The complex is comprised of several substantial terraces with stacked retaining walls 3–4 courses high with a maximum of 1.2 m in height; portions of the interior soil flats are paved. The size of the terrace flats, the height of the terrace retaining walls, the presence of paving, and the overall layout of the complex suggest that it had a residential or ritual purpose rather than an agricultural function. Excavations on the uppermost terrace revealed the presence of a large earth oven *ca.* 1.3 m in diameter, in association with other smaller cooking facilities, postholes, and a pit. The morphology of the pit suggests it may have been used for storing fermented breadfruit paste (*mahi*), a mainstay in the Ma'ohi diet and an important feasting food (Oliver 1974). The lower terrace excavations at -324 revealed deposits devoid of charcoal and with few tools or lithic debris. The lower terrace deposits lacked postholes or cooking remains other than a small hearth located at the corner of a terrace. Overall, these data are inconsistent with domestic use. Not only were postholes lacking, but in a typical residential complex, the cooking area would be positioned downwind of the habitation flat supporting the domestic structure. The situation is reversed at -324, suggesting that the complex had a specialised function. The dense cooking remains found on the upper terrace, and the large size of the earth oven, are suggestive of feasting. Two wood charcoal samples were submitted from -324 for radiocarbon dating, one from the construction fill of the upper terrace, the other from the earth oven found on the upper terrace.

ScMo-326, on the lower eastern flank of the ridge, comprises a series of single course boulder alignments of moderate height (maximum 0.70 m) arranged to form terrace flats of varying shapes (rectangular, C-shaped, etc.). Many of the alignments incorporate natural boulder outcrops. In the upper-most portion of the complex lies a terrace with a poorly made retaining wall comprised of 4–5 courses of stacked cobbles. Portions of a disturbed alignment are found in the interior soil flat of this upper terrace, adjacent to a pavement. This alignment may represent a portion of a curbstone outline that was robbed. Excavations on the upper soil flat, behind the disturbed alignment, uncovered numerous sub-surface architectural components, including three aligned postholes suggestive of a wood-and-thatch super-structure. At both the northern and southern ends of this structure cooking facilities, including a moderately sized earth oven (0.50 m in diameter) and two smaller hearths (0.3 m in diameter) were found along with sub-surface pits. In the excavations at the southern end of the soil flat, and probably outside of any wood-and-thatch structure, we exposed a large earth oven, over 1.0 m in diameter. Overall, the feature has a low density of basalt tools and a moderate amount of debitage.

Determining the precise function of complex ScMo-326 is challenging. The architectural remains are not as elaborate as in the specialised complex (-324) upslope. The numerous sub-surface architectural components linked

to domestic cooking activities and food storage (hearths, pits, earth oven), in association with a posthole alignment, indicate the presence of a pole and thatch super-structure. We believe that -326 may have served as a cookhouse, possibly for another residence of moderate status located upslope, where several stone faced terraces are situated. Wood charcoal samples from the construction fill of the upper terrace and from a large earth oven found on the upper terrace were submitted for radiocarbon dating.

ScMo-322E lies at the bottom of the Zone B ridge. It is found downslope of ScMo-323, a residential structure with surface architecture suggesting it functioned as a sleeping structure for persons of moderate status. ScMo-322E is comprised of an artificially level soil flat bounded by low retaining walls (0.55 m in height). A partial rectangular house curbstone outline occupies the flattened area (Figure 9). Sub-surface architectural components encountered in the excavations indicate that a rectangular pole and thatch structure stood at the site. In its interior three cooking facilities were exposed, including a large earth oven (1.0 m in diameter) with evidence for multiple use-episodes and a moderate sized hearth (0.6 m diameter) (Figure 9). A moderate number of basalt tools were recov-

ered, including a reworked adze, two adze fragments, and numerous adze flakes, in addition to moderate frequencies of basalt debitage. Given the frequency of cooking facilities and the high frequency of oven rake out, charcoal, and fire-cracked rock in the cultural deposits, we interpret -322E as a cook house that served the residents of -323 upslope. A wood charcoal sample was submitted from the earth oven for radiocarbon dating.

Taken as a whole, archaeological data from Zone B are consistent with a model of multiple households of varying rank that in aggregate formed a corporate house. Members of this community would have made offerings to ancestors together at the *marae* (-325) and shrine (-338) which overlooked their residential landscape, would have feasted together at specialised locales within the complex (such as -324), and would have planted and tended the extensive dryland gardens between their residences.

Phases of Site Construction and Use in Zone B

The sequence of AMS ^{14}C dates from Zone B (Table 2, Figure 4) calibrate to a period between AD 1430–1680. We infer that Zone B, and the community which inhab-

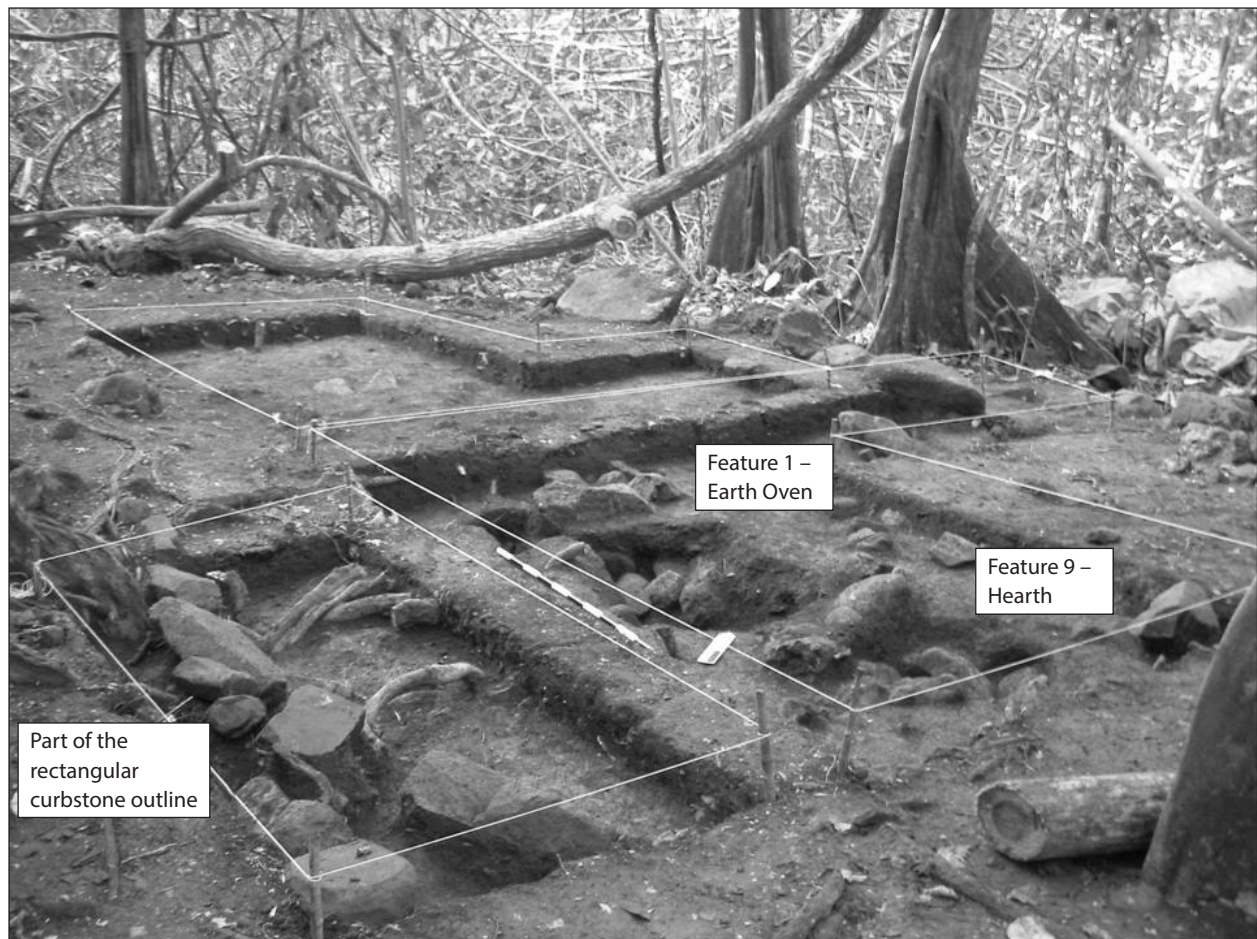


Figure 9: View of completed excavations at ScMo-322E

ited it, contemporaneously occupied and constructed this residential landscape during the 15th–17th centuries. This therefore represents a slightly later expansion deeper into the Amehiti branch of the ‘Opunohu Valley than that represented by the initial occupation at Zone A. The radiocarbon dates demonstrate that Zones A and B were simultaneously occupied for a period of two centuries, however a notable contrast is the lack of continuity in occupation at Zone B into the 17th–18th centuries. This may represent a sampling issue as more structures were excavated in Zone A than in Zone B. Alternatively it could represent population loss that was characteristic of the post-contact period (Hamilton and Kahn 2007). A third possibility is that this pattern may represent the inability of the Zone B house to expand and perpetuate through time. This is an expected hallmark of lower status houses that lacked the widespread access to goods, resources, and labor afforded to the members of principal or highly ranked houses (Kahn 2005a, 2007).

Synthesis of Zone B

The status of the Zone B house is more difficult to interpret, as there is less variation between elaborate structures and less elaborate, lower-status structures, in contrast to the situation at Zone A. The degree of architectural elaboration within Zone B is indicative of ritual and domestic complexes of moderate status. Zone B residential complexes do not conform to expectations for low-status households, where rectangular structures lack a formalised use of exterior domestic space and typically have cooking areas directly attached to a wall or are situated close by on the living flat (as with ScMo-290 in Zone A, see also descriptions for -171B in Kahn 2007). In contrast, at Zone B numerous moderately elaborated terraces dot the ridge, likely representing households of intermediate status. That the residents of these structures used formalised cooking structures such as -325 and -322 which were segregated from their residences suggests that they followed *tapu* prohibitions regarding the separation of things profane, such as cooking, from those sacred (Shore 1989). Ethno-historic accounts indicate that elites, including the *ra‘atira* (landowners) and the chiefs, closely adhered to this prescribed separation of cooking and eating areas whereas commoners frequently ignored them (Kahn 2005a; Oliver 1974, 1988).

Various lines of evidence suggest internal ranking within the house at Zone B, with household rank decreasing from upslope to downslope along the ridgeline. The proxemic relationships of the Zone B sites form a classic house society pattern as outlined by Kahn and Kirch (Kahn 2005a, 2007; Kahn and Kirch 2003, 2004). In this model, ritual complexes occupy the highest elevations (-325), elaborate round-ended structures of either a specialised or residential nature are situated immediately downslope from the *marae* (-324), and less elaborate resi-

dences and auxiliary structures such as cookhouses occupy the lowest elevations (-326, -323, -322). The overall correspondence is one of up-slope is to down-slope, as sacred is to profane, and in architectural terms as elaborate architecture is to simple architecture.

The placement of the house group’s *marae* (-325) at the most elevated portion of the complex signified both the sanctification of household activities and ritually validated land claims of the house. Ceremonies and ritual feasting carried out at this temple would have been led by the house leader and would have served to unify the occupants of this residential landscape. In much the same way, communal feasting at the downslope -324 complex would have served to unify house members, while at the same time signalling subtle distinctions in rank to both members of the house and others in the surrounding community.

TEMPORAL DYNAMICS OF HOUSE COMPETITION

Our archaeological case study affirms that varied processes helped to promote internal variation and differentiation between Ma‘ohi house groups over time. Our model put forth four strategies that competing houses may have used to garner increasing power at the local level. While our case study successfully defined landed estates, most notably concentrated dwelling clusters, fine-grained evidence for multiple construction episodes at particular structures was difficult to identify in the archaeological record. Only a single structure, -290, had clear material evidence for multiple occupation episodes, when the original oval-ended house was converted into a rectangular house in the historic period. The lack of multiple construction events in our site assemblage likely reflects the difficulty of working in the humid tropics, where aspects of micro-stratigraphy are not well preserved, rather than the static nature of these dwellings. Our dating program does suggest real variability in house groups’ abilities to add to their residential clusters through time, which we suggest translates into a reflection of their social power and continuity.

Common investments in both the landed house estate and the ritual estate clearly appear to be important strategies for late prehistoric Ma‘ohi houses. Our case study illustrates how daily quotidian tasks, such as the cooking and preparation of foodstuffs, storage of food surplus, stone tool production and retooling, and working of the agricultural terraces adjacent to dwelling clusters, form an important mosaic for interpreting the function of particular archaeological structures. These data are equally important for understanding the social relationships linking dwelling clusters to one another *vis à vis* hierarchical ranking, as well as for linking these patterns to labour and resource allocation within the larger community.

Here we turn to a more holistic analysis of investments in the house estate which allow us to model how certain houses successfully negotiated their perpetuity,

wealth, and power through time. We integrate our case study from Zones A and B with other archaeological data available for the Amehiti sector of the 'Opunohu Valley to illustrate how these practices ultimately promulgated increased social difference within and between neighbourhoods and communities.

During the first phase of settlement in upper Amehiti, a house group of some status established a principal dwelling and two ancestral temples within Zone A. This effectively established the group's access to a corporate estate which included natural resources such as water sources and garden land. While the agricultural complexes associated with Zone A have not yet been dated, in the Tupaururu sector of the valley agricultural practices often predate or are contemporaneous with habitation (Lepofsky *et al.* 1996; Lepofsky and Kahn 2011). Based on dates for agricultural use in other parts of the valley, we believe that some of the agricultural complexes in Zone A may have been established during the 14th century. Indeed, Zone A certainly does not represent the first settlement of Amehiti. Along the highly desirable lower valley flat where permanent water courses and productive land are abundant, there is archaeological evidence that houses of high status were the first to move into the valley. These houses occupied elaborate dwelling sites and performed rituals at simple to moderately elaborate *marae* as early as the 13th to 14th centuries A.D. (Green *et al.* 1967; Green 1996; Kahn 2011).

About a century after the first settlement in Zone A, another house, this time of more moderate status, established a series of dwellings and agricultural complexes in association with family temples, creating the residential landscape of Zone B. Zone B thus represents a social group of somewhat lower status and situated on somewhat less productive lands than the principal house established at Zone A. Our chronology supports an interpretation that higher status houses were both associated with earlier settlement in the valley and that these complexes were most often situated on the most productive and highly valued land.

Archaeological evidence suggests that the two houses that occupied Zones A and B had rather different success in growing and sustaining their social groups over the long term. We infer that this translates into abilities of the house to effectively recruit and retain members. Zone A exhibits evidence for multiple occupation and construction episodes up into the 19th century, while the Zone B house expanded and maintained its presence on the landscape for two centuries but then ended. The patterns we see suggest differential abilities of houses to grow through time, but we must caution that they may also be associated with population collapse in the historic period.

Other evidence illustrates the importance of widening and maintaining a house's social ties and rank through affiliation. At Zone A, the construction of specialised structures -294 and -298 suggests an affiliation with the high-status 'arioi during the initial translocation of the war

cult into the Windward Islands (Kahn 2010) as well as an ability to maintain alliances and broaden social networks. Recruiting and retaining members and broadening social ties were critical to the maintenance and growth of houses through time, solidifying both prestige and status. Greater success in these strategies ensured social continuity and permanence of the group on the landscape. It is also likely that the Zone A group had ties to other well-established houses in the valley, such as those residing at major aggregate complexes on the lower Amehiti alluvial flats. Here *marae* were renovated during the early 19th century for dedication to 'Oro, patron deity of the war cult which was closely tied to the 'arioi. This *marae* renovation also had political ramifications, signalling the loyalty of 'Opunohu Valley elites to the reigning Pomare clan who had unified Tahiti and the North coast of Mo'orea into a single chiefdom in the protohistoric period (Kahn 2010, 2011). If our interpretations are correct, the ability of the Zone A house to align with the 'arioi signals high ranking along economic, social, and political fronts. Members of the 'arioi served as messengers for the 'Oro war cult, transmitting this new monotheistic religion across polity boundaries in the Windward Society Islands (Moerenhout 1837[1]:487). Hosting the travelling parties of 'arioi required housing them as well as providing substantial provisions to support their voracious feasting (Lepofsky and Kahn 2011). The putative association of the Zone A house with the 'arioi suggests that this residential group had considerable wealth and rank. This could only be maintained by the ability to call upon its members to produce copious foodstuffs that were funneled into social production (Brookfield 1972).

While communal investments in the material estate of a house could be staged over a few centuries as these houses grew and recruited members, investments in the house's claims of ancestry appear to have been established early on. At both Zones A and B temples were constructed during the initial phase of occupation on the landscape. In our view, these monuments served multiple purposes, the most important of which was to validate the group's hereditary claim to land. Constructing a *marae* on house lands was a key strategy for establishing ownership rights to the corporate estate (Henry 1851:141). At Zone A, constructing temples near important resources, such as permanent streams and springs used in wetland irrigated agriculture, afforded the house rights to critical resources essential for the means of production. Associations with named *marae* also carried with them rights to use hereditary titles, a matter of strategic importance for houses competing for rank and status. The materialisation of such a strategy is evident in Zone B, where the ancestral temple was constructed on the landscape's highest, therefore most sacred, promontory.

Ritual and secular feasting were other strategies employed by Ma'ohi houses to gain status. Temples provided communal locales for tribute collection and for ritual feasting among house members, as exemplified by site -325

in Zone B. Ritual feasting provided an avenue for maintaining house social identity and for signalling the status it conferred to other houses. In both zones, there is evidence for secular feasting occupying a prominent position within these residential landscapes, either directly downslope from temples or in prominent, elevated contexts associated with elaborate round-ended structures of specialised function. Secular feasts would have created and perpetuated social relationships within the larger community. Hosting public feasts allowed houses to perpetuate the corporate group and its holdings by establishing house status within the larger neighbourhood. Feasts also functioned as a way to attract and retain house members over the long term.

The overall trend is of a phased influx of high and moderate status houses into the 'Opunohu Valley, as well as their growth and elaboration, and affiliation with occupational elites such as the 'arioi, through time. These processes served to increase elites' control over commoner production in later prehistory. This was likely one important facet of Ma'ohi elites political ascent and rising social status and power, and echoes trends documented in many other ranked societies world-wide (Ames 1995; Costin 1991; Junker 1999; Schortman and Urban 2004).

CONCLUSIONS

Our archaeological case study supports that in late prehistoric Ma'ohi society – as in ranked societies generally – the social hierarchy and its ideological underpinnings were sustained by subtle variations within and between houses at the local scale. Our focus on the architectonic manifestations of rank differences, and developing a chronologically-based model of their change through time, provides material evidence for how shifts in Ma'ohi house rank afforded some houses not only greater access to essential resources such as productive land and water sources, but also facilitated their abilities to maintain and extend their corporate group. We argue that these processes afforded the most successful houses greater access to labour and continued wealth production over time. Our Amehiti case study exemplifies the significant role that small-scale relations – quotidian interactions within neighbourhoods – played as sources of social power. These local processes, in turn and in aggregate across the scale of islands and the archipelago, promoted social change within this complex Polynesian chiefdom.

The house society model is especially informative for understanding social change, as it helps us to dissect linkages between the material record of houses and their residential landscapes, and the intangible record of social actions. Developing fine-grained chronologies of site proxemics and domestic and ritual structures' permanence on the landscape contributes to a holistic view of the forces underlying increasing social hierarchy in the Society Island chiefdoms. These data, in conjunction with more commonly used indicators of rank such as architectural

elaboration, and access to tangible and intangible goods and resources, afford a more detailed view of how social actions and strategies of corporate groups allowed emergent elites to promulgate status differences.

Of course, small scale relations do not take place in a vacuum; they were intimately connected to larger regional processes. The initial movement of high ranking houses into the 'Opunohu Valley likely resulted from significant population densities on the coast, which in turn, created pressure on land and resources. This pattern is part of a larger expansion into interior valley contexts throughout the Society Island archipelago at this time (Kahn 2006, 2011; Wallin and Solsvik 2010a). This shift in settlement pattern echoes a well-known process in most Polynesian archipelagos, where inland expansion post-dates initial settlement by a few centuries and appears to be fuelled by the build-up of high coastal population densities (Addison *et al.* 2008; Burley 1998; Kirch 2000b; Suggs 1961).

Following the initial upland settlements in Amehiti, residential, ritual, and agricultural complexes grew in size and density over a period of two centuries. The landscape filled in with agricultural and habitation complexes spanning a broad spectrum with regards to rank and status. Similar patterns are found in the Tupaururu sector of the 'Opunohu Valley, (Kahn 2005a, 2006) and are suggested in other inland contexts in the archipelago (Cauchois 2010; Maric 2010; Sinoto 1996; Wallin and Solsvik 2010b), although areas outside of the 'Opunohu Valley lack detailed settlement chronologies. Regionally, this relates to an extended episode of population growth and subsistence intensification (Lepofsky 1996; Lepofsky and Kahn 2011) where the materialisation of status and rank distinctions through elaboration of habitation features, specialised structures, and ritual temples becomes more pronounced (Green 1996; Kahn 2005a, 2011; Kahn and Kirch 2011).

The house society model offers archaeologists a powerful way to conceptualise the temporal-spatial dynamics of power relations. In linking social organisation to architectonic space, the framework promotes an understanding of process, notably how social relations shape archaeological patterning in prehistoric dwellings and their surrounding landscapes through time. The temporal dimension is highlighted in investigating how the placement of structures on the landscape and the sequence of their construction naturalises relationships between houses, their neighbours, and political leaders in both sociopolitical, economic, and ceremonial realms.

Second, the house society model grounds social relationships by emphasising common investments in the corporate estate, which we argue are most efficiently investigated with a multi-scalar approach. The house society perspective articulates well with a 'bottom-up approach' as the household is a context for social relations, where day-to-day practice takes place. The model encourages integration of material remains with social interactions, which can be investigated both at the domestic micro-scale and

that of the community meso-scale via patterned residential activities and broader use of the landscape. Thus, what seem like mundane tasks, such as positioning a temple on the landscape, building a foundation terrace of some height for a large domestic structure, or preparing foodstuffs in separate cooking sheds isolated from sleeping structures, have lasting impacts on social relations when they are viewed as repeated activities that served to construct patterns of social interaction at multiple scales.

Finally, privileging variation at the micro- and community scales allows for an understanding of the developmental dynamics of institutionalised social hierarchy in ranked societies. Our case study underscores the importance of competition among domestic groups or corporate houses as a source of social change. Early investments in the ideology of the house, via the construction of temples, had lasting effects – establishing ancestral claims of precedence and broadcasting collective identity, prestige, and territorial rights. Through time, expressions of social hierarchy in both domestic complexes and monumental temples allowed certain corporate groups in the Society Islands to assert exclusionary rights, rather than integrative principles within neighbourhoods and the community. That in the long term exclusionary rights were expressed both in residences and in ceremonial spaces underscores the role that both ritual and the economy had in the development of increasing social inequality through time in ranked societies.

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