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CEREMONIAL ARCHITECTURE IN EAST POLYNESIA: DEVELOPMENT AND VARIABILITY

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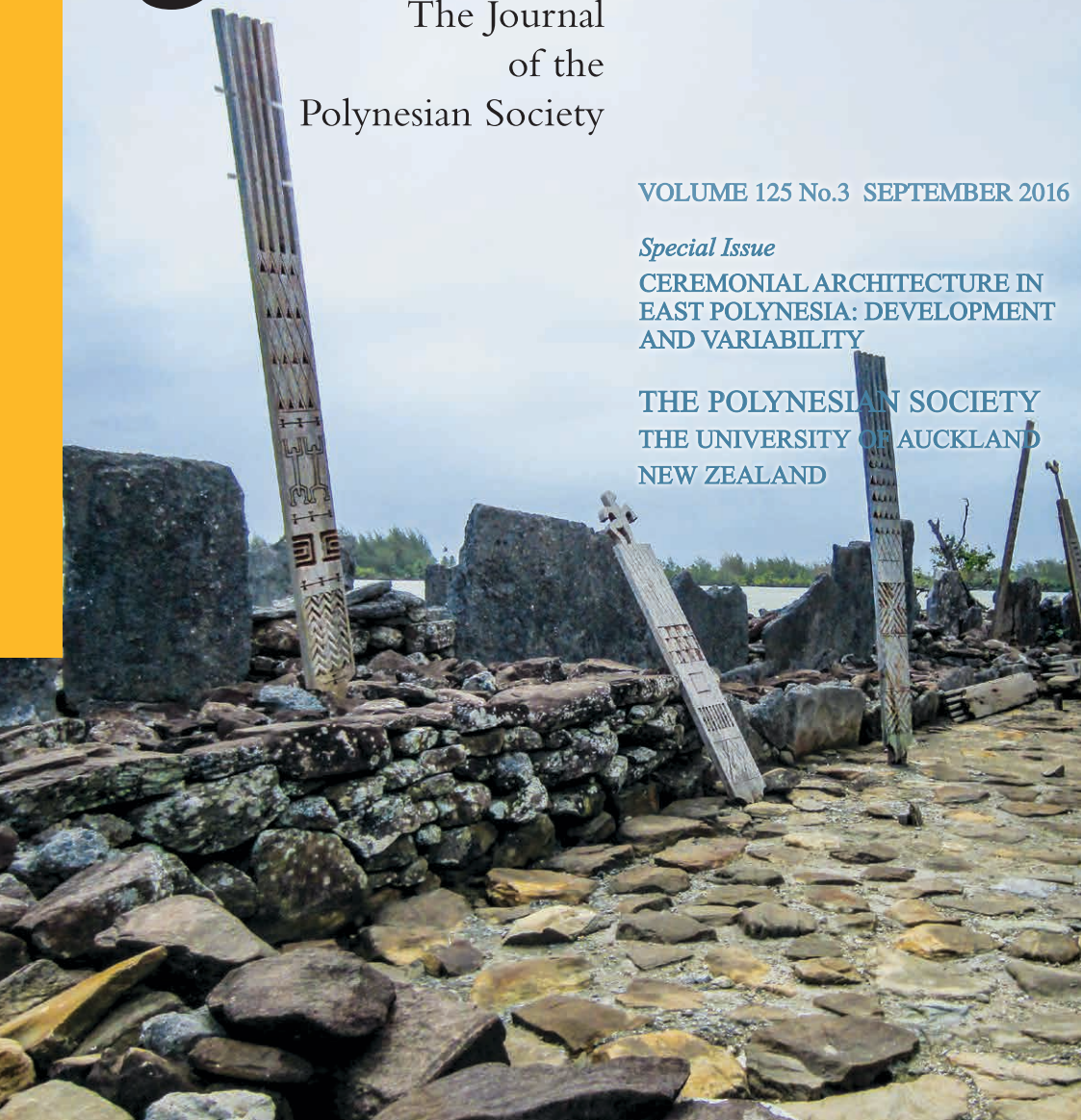

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CEREMONIAL ARCHITECTURE IN EAST POLYNESIA: DEVELOPMENT AND VARIABILITY

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Cover image: Rauhuru Marae with carved ceremonial planks (*unu*), Maeva, Huahine, Society Islands. Photograph courtesy of Melinda S. Allen.

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CONTENTS

This special issue evolved from a symposium, "Ceremonial Architecture in Eastern Polynesia: Development and Variability", organised by Guillaume Molle for the 80th *Society for American Archaeology* (SAA) meetings in San Francisco, California. A particularly important aspect of both the SAA symposium and this special issue is the bringing together of Anglophone and Francophone scholars with common interests in East Polynesia. As outlined in the SAA symposium abstract, while clear cultural-historical similarities are found in the region's ceremonial architecture, both archaeological studies and ethnohistorical accounts also point to variation between and within archipelagoes. This variability has been attributed to a variety of internal and external processes, and the case studies assembled here, from central and marginal East Polynesia, explore both patterning and underlying causes.

Focusing in on the ʻOpunohu Valley of Moʻorea, Society Islands, Jennifer Kahn offers a richly detailed account of the material expression and distribution of feasting on ritual and residential structures, and its use by community leaders to consolidate economic, socio-political and ideological power. In her analysis of the ceremonial architecture of four chiefdoms of the Society Islands, on Tahiti and Raʻiatea, Tamara Maric draws on archaeological, ethnohistorical, and toponymical analyses to show how external influences, including both interaction and competition, led to changes in the geographic locations and forms of ceremonial complexes over time. Turning to the extensive Tuamotu Archipelago, Guillaume Molle investigates morphological variability in ritual architecture across this large geographic area, along with potential causes; his analyses highlight the roles of endogenous socio-political processes, ritual innovations and external influences. Examining ritual architecture in the Kaupō District of Maui, Hawaiian Islands, Alexander Baer's landscape approach reveals that the agriculturally-rich core of this district is bounded by a network of monumental temple complexes, a pattern which strongly contrasts with the small, relatively simple ceremonial spaces of the interior. Finally, Flexner and McCoy take us into the post-contact period and use two case studies, also from the Hawaiian Islands, to argue that traditional religious structures and localities continued to play a role in the lives of Hawaiian communities of the 18th and 19th centuries, with some of contemporary importance as well.

Contributors to This Issue

Alexander Baer (PhD, University of California, Berkeley, 2015) is an archaeologist at Pacific Legacy, Inc. (Honolulu, Hawaiʻi and Berkeley, California). His research examines social complexity and ecology from an interdisciplinary perspective, employing method and theory from anthropological archaeology alongside biology, phylogeography and geology. He has conducted field projects throughout the Caribbean, the American Southwest and Polynesia, where his current work in Hawaiʻi, Easter Island and Mangareva is exploring dynamic human-environment interactions and long-term sustainability.

James L. Flexner is a Lecturer in Historical Archaeology and Heritage at the University of Sydney. He holds a PhD from the University of California, Berkeley and his thesis focussed on Hawaiian historical archaeology. James has been working extensively in southern Vanuatu since 2011, with a current project exploring 3000 years of settlement and interactions in the region, particularly the Polynesian Outliers of Futuna and Aniwa. His book, *An Archaeology of Early Christianity in Vanuatu*, will be published by ANU Press later in 2016.

Jennifer G. Kahn joined the College of William and Mary in Williamsburg, Virginia in 2012 and currently is an Associate Professor in Anthropology. Over the last 23 years she has conducted archaeological field research in Polynesia and Melanesia, working in the Hawaiian Islands, Society Islands, Marquesas Islands, Gambier Islands and New Caledonia. She maintains an active museum research program, having analysed collections from the Bishop Museum, the Auckland War Memorial Museum (New Zealand) and the American Museum of Natural History (USA), as well as serving as a Research Associate at Bernice P. Bishop Museum and the Smithsonian National Museum of Natural History (USA). She received the prestigious Rising Star Award from the Virginia State Council of Higher Education in 2016.

Tamara Maric is a French archaeologist working at the Service de la Culture et du Patrimoine in Papeete, the French Polynesian Government office which oversees archaeology in the region. She studied settlement patterns on the island of Tahiti for her thesis research at the Université de Paris-1. Since 2013, she has been part of the technical team conducting a World Heritage project at Taputapuatea Marae on Ra'iatea Island, under the direction of the French Polynesian Government.

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Guillaume Molle is a Lecturer in Pacific Archaeology at the Australian National University in Canberra. He completed his PhD in 2011 at the University of French Polynesia with a dissertation focussing on the prehistory of Ua Huka in the Marquesas Islands. Since 2009, he has also conducted archaeological research in Tuamotu Islands, the Gambier Archipelago and Teti'aroa Atoll in the Society Islands, with French and American collaborators. His research interests include timing and process of human colonisation in East Polynesia and the development of ceremonial architecture.

THE FUNCTIONALITY OF FEASTING AT LATE PREHISTORIC RESIDENTIAL AND CEREMONIAL SITES IN THE SOCIETY ISLANDS

JENNIFER G. KAHN
College of William and Mary

Much of the research into East Polynesian ceremonial sites focuses on *marae-ahu* 'temple-altar' complexes as sacred sites where varied religious rituals and rites of passage were performed. Yet ethnohistoric documents and the Tahitian lexicon suggest a broader role for Ma'ohi or 'indigenous Tahitian' ceremonial architecture, specifically as the foci of individual and corporate ceremonies of a religious, economic and political nature. Situating ceremonial *marae* complexes within broader archaeological landscapes likewise speaks to the integrated socio-political and ritual nature of Society Islands ceremonial architecture. This case study investigates the role of feasting on terraces attached to Ma'ohi *marae* complexes and within communal spaces found in residential complexes. Utilising a spatio-temporal perspective, I investigate the function of feasting at a range of community and familial level temples and residential complexes found in the 'Opunohu Valley, an inland valley context on Mo'orea Island (Windward Society Islands). My goal is to explore the ways that Ma'ohi household leaders, chiefs and priests may have utilised feasting to materialise their economic or political authority, while at the same time facilitating the formation of communal identities. A second goal is to identify whether the specific function of feasting differed at monumental architectural sites of varying scale and complexity, utilising both archaeological evidence and ethnographic analogy. Finally, a third goal is to investigate change through time in the scale and intensity of feasting at specific locales, in particular, whether community level or corporate feasting intensified and became a strategy used by socio-religious elites to formalise and extend social alliances.

BACKGROUND TO FEASTING STUDIES IN MIDDLE RANGE SOCIETIES AND POLYNESIAN CHIEFDOMS

Feasts include the communal consumption of food or drink (Dietler and Hayden 2001); they are typically both qualitatively and quantitatively different from everyday domestic meals in the types and amounts of foods and drink that are served. Feasts can be forms of ritual activity, in that they link power displays with social action (oratory, drinking, dancing) and thus can become the stage for other transformative social acts such as gift

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exchange. They are also inherently political events (Dietler 2001) where status is negotiated, alliances and marriage exchanges are created, and conflict is resolved.

Studies have delineated varied types of feasting with diverse goals, including work party feasts, solidarity feasts, solicitation feasts, tribute feasts and maturation and life event feasts, among others (Dietler 2001, Hayden 2001). The form and function of these specific types of feasting, as well as their scale and intensity of occurrence through time (Chicoine 2011, Potter 2000), have been recent topics of investigation. Feasting events can empower different social groups at different social scales (Reinhart 2015). At the community scale, feasting events are central to hierarchical reproduction, as they bring together and express a wide range of social relations. There is growing realisation that feasting, as a highly visible event of some import, can be an agent of social transformation, in structuring the social relations of production, in creating new identities, in enlarging the prestige of leaders, and in constructing political alliances (Emerson 2008, Hayden 2001, 2014, Knudsen *et al*. 2012, Reinhart 2015).

In middle range societies, societies that are intermediate in terms of political complexity like chiefdoms, feasting serves as a highly visible social act, representing not only a local or political leader's generosity, but delineating boundaries of particular social groups and their control over resources. In effect, feasting nourishes the status of a group, but it often has simultaneous functions and effects. Feasts can be highly integrative while at the same time exclusive, joining elite leaders with commoners by highlighting their shared kinship ties and integrating households at the local level, while at the same time showcasing socio-economic, ritual or political power of local and regional leaders and their differential status vis-à-vis the rest of the populace (Knudsen *et al*. 2012, Potter 2000). Hayden's (2014) recent comparative synthesis argues that feasting is underlain by three general motives: social bonding, material and economic benefits, and status distinction, supporting the event's often multi-faceted character as a simultaneous social, economic and political act.

In the past, public feasting events involving the community were financed at the supra-household level (Potter 2000) and were sometimes held in specialised communal spaces, typically on or near sacred sites (temples, monuments, tombs, ancestor shrines) or other types of specialised locales (men's houses) and sometimes in structures having specialised facilities (Blitz 1993, Chicoine 2011, Hayden 2014). Such feasts were often regulated by ceremonial participation in the ritual calendar. In contrast, residential feasting commonly took place at, or adjacent to, specific house sites or within communal places and ritual zones in household complexes (Junker

and Niziolek 2010, Nash 2010) and were financed at the household level (Potter 2000). Thus, the spatial context of feasting as well as its scale and intensity can provide clues to the type of feast offered as well as its goals, whether to promote within group or between group solidarity, to aggrandise and gain prestige, to broaden social networks and alliances, or to create debt.

In Polynesia, feasting is not well documented archaeologically, but is well known from historic sources. Ethnographic analyses characterise Polynesian feasts quantitatively as involving supra-households groups and large amounts of food per consumer, and qualitatively as having high numbers of ritually marked foods or delicacies (Kirch 2001; see also Oliver 1989: 291-92). Polynesian scholars differentiate household level or domestic feasting versus community level feasting, and sacred versus secular versus political feasting (Kirch 2001: 171, Table 6.2; see also Kirch 1991: 131, Oliver 1974: 231, 259-64, Thomas 1990: 89-97). Much research has focused on the ways in which political elites in Polynesian chiefdoms utilised feasts as sources of socio-ritual and political power (Kirch 2001, Kolb 1994, 1999, 2006, Thomas 1990). Leach's (2003) survey of East Polynesian ethnohistoric records documents widespread traditions of hospitality, including food sharing, status display through feasting and elaborate social rules governing public feasts. Both sacred and secular community-wide feasts hosted by district chiefs or paramount chiefs indebted neighbouring chiefs who were invited to attend, and materially displayed the socio-economic and political power of particular leaders through lavish spectacles of food, ceremony, feasting and dance. Such feasts took place in spatially defined places that were marked by permanent, and often elaborate, stone structures, including temples (*marae*, *me'ae*, *heiau*) and other structures (dance grounds [*tohua*], council platforms). Some elite feasts were highly exclusive, permitting only a few individuals of similarly high status and high political rank to participate in order to emphasise alliance linkages. Similarly, ceremonies marking different stages of an elite's life (rites of passage) or political career broadcasted the ideological underpinnings of their socio-ritual and economic power to the rest of the populace, as did sacred ceremonies embedded into the ritual calendar, where large amounts of foodstuffs and prestige items were funnelled up to the elites from the general populace in the form of tribute.

While much has been made of elite feasting in Polynesia, in most regions ethnographic data illustrate the importance of feasting within and between commoner households as well as among and between elite households (Goldman 1970: 500-5). Residential feasts at the local level established and perpetuated social relationships, while at the same time excluding different groups (Kahn 2005, Kirch 2001; see also Dietler 2001: 88-90, Hayden 2001: 29-30).

ETHNOHISTORIC AND ETHNOGRAPHIC DATA FOR FEASTING IN THE SOCIETY ISLANDS

Ethnographic and ethnohistoric data, as well as glosses from the first Tahitian dictionary (Davies 1851) illustrate that the major types of Society Island feasts included residential and secular events, residential and ritualised events, communal and secular events, and communal and ritualised events that were typically also political in nature (Table 1). Community-wide feasts often had a strongly exclusive nature. While they brought the entire community together at the temple, often to present tribute items, only the most sacred elites could actively take part in these public rituals. The less sacred or profane (commoners, women) participated only indirectly from the "outside", as members of the audience watching those actively involved in the rituals taking place within the sacred precincts of the *marae* enclosure. In contrast to these community scale events, commoners and women could actively participate in local level residential rituals and feasts. Thus, social class played an important part in dictating the host of Society Island feasts as well as the audience of the feast and their appropriate levels of participation.

Household Feasts

Ethnohistoric and ethnographic data for the Society Islands indicate the importance of the household and household groups as the basic unit of production (Oliver 1974). Ma'ohi households worked land held in common and participated in domestic ritual and feasting at their familial or ancestral *marae* (Henry 1928: 141). The activities of household groups had widespread importance in marking social difference and establishing and maintaining social relations. In house societies such as the Society Islands, the practice of daily activities, such as shared preparation and consumption of foodstuffs, served as markers of house affiliation while at the same time emphasising the boundary of the house to others (Kahn 2007).

Glosses for Ma'ohi household level feasts (Table 1) highlight how these events often focused on life stages of children, such as cutting of the umbilical cord or removing food *tapu* 'taboo'. It is likely that both high status and low status households staged such events, either at their familial temples or at communal spaces within residential complexes. Life stage domestic feasting served dual purposes—to re-establish and strengthen kinship bonds—but also to increase perceived status at the local level, both to participants of the feast and the surrounding community. The ethnohistoric evidence implies that staple goods and non-staple goods held equal importance in smaller family feasts and gift exchange (Henry 1928: 128-29, 198, Morrison 1935: 347).

Table 1. Examples of Ma‘ohi community scale feasts and household scale feasts and their material correlates (not exhaustive).

Tahitian term	Description	Scale/Reconstructed Locale	Material Items	References
Fa‘aari‘ira‘a	Office taking, investiture of the chief	Large scale, public; International, national, or community level (district) temples	Large quantities of feast foods, rolls of high quality bark-cloth, clothing with feathered decoration, feathered *maro* ‘loincloths’, canoes	Henry 1928, Oliver 1974: 1015-24
Taurua	Public feast	Large scale, public; International, national, or community level (district) temples	Bark-cloth, canoes, pigs, human sacrifice	Oliver 1974: 1295-96
Pa‘iatua	Religious ceremony on the new decoration of the *to‘o* ‘god’ image, or performed as a prelude to other ceremonies (chiefly inauguration, laying a cornerstone of a *marae*), first fruits tribute ceremonies	Large scale, public; International, national, or community level (district) temples	Large quantity and variety of foodstuffs including pigs, dog, deep sea fish, turtles, starchy puddings, rolls of bark-cloth, mats, feathers, feather ornaments	Davies 1851: 182, Henry 1928: 157-77, Oliver 1974: 112-20
Matea, maui fa‘atere, haea mati	Political and religious ceremonies prior to commencing a battle	Large scale, public; International *marae* dedicated to ‘Oro	Human sacrifices, (to the gods) bark-cloth, fine mats, pigs (to the priests)	Ellis 1831, Oliver 1974: 385

– *continued over page*

Tahitian term	Description	Scale/Reconstructed Locale	Material Items	References
	Mourning ceremony and feasts	Public; for elites at community *marae*	Large quantities of pigs, other food stuffs, rolls of bark-cloth	Corney 1918: 183-95
Parara'a matahiti	First fruits (harvest ceremony)	Community *marae*	Tribute and feasting goods, brought to the temple; large quantities of pigs, deep sea fish, turtles, baked vegetables, starchy puddings, mats, rolls of cloth, feather ornaments	Babadzan 1993: 237-40, Henry 1928: 177, Moerenhout 1837: 516-21
Po tupapa'u	Annual night of returning ghosts	Community or familial *marae*		Davies 1851: 204, Oliver 1974: 628
Ruahineaimauu	A term used in connection with a batch of food, baked at the removing of restrictions in using a new fishing net	Community or familial *marae*	Fish	Davies 1851: 233, Morrison 1935: 183
Purepapa	Ceremony attended with prayers, and offering up a number of pigs, previous to launching of a canoe	Specialists' *marae*?	Pigs, bark-cloth	Henry 1928: 181
Auto'i	Name of a certain feast, and the ceremonies of canoe builders	Specialists' *marae*?		Davies 1851: 51

Pua'atafeti'i, Pua'afatoi	A feast, and ceremony, when the members of a family eat together for the first time, children having been considered sacred, and haven eaten apart	?, secular, small scale, not public, probably at a range of households, both high and low status		Davies 1851: 205
Uhiairi	A ceremony performed, when the umbilical cord of a first-born child was separated, natal ceremony where a chief's newborn is given a "royal-name" or kin title	?, public for elites, small scale for non-elites; probably at a range of households, both high and low status and/or international, community or familial *marae*	Food, feather objects	Davies 1851: 298, Henry 1928: 184-87, Oliver 1974: 643
Amoa, Amo'a	The name of a certain feast, where prayers were made and ceremonies undertaken, for the purpose of removing various restrictions in regard to the children of the chiefs who were before considered sacred. A certain feast and series of rituals for the removal of restrictions on chiefly newborns to render them sacred	?, house near the *marae*, family residence, "head-freeing rites" at the *marae*	Pigs, cloth, feast foods	Davies 1851: 20, 21, Oliver 1974: 446

Elite Feasts

Ethnohistoric accounts indicate that elites, and particularly elite feasts, were provisioned by commoner labour and tribute (Corney 1914 [II]: 134, Henry 1928: 177, 260, 357, Oliver 1974: 635, 1010-11, 1071-72). Feasts were often integrated with Ma'ohi political events and socio-ritual rites (Oliver 1974). Lavish ceremonies where new chiefs were invested with power necessitated months of preparation. Commoner and elite households alike would have produced copious amounts of foodstuffs, such as pigs, plantains, breadfruit and starchy puddings (*po'e*), fancy clothing (including fine bark-cloth or *tapa* garments with feathers affixed to them), plaited mats and perhaps a new canoe for presentation at the investiture ceremony. One of the most sacred renewal ceremonies, the *pa'i atua* or 'first fruits', would have taken place at community (district level) temples. Foodstuffs presented at the feast after the *marae* ritual included large quantities of pigs, deep-sea fish, turtles, baked vegetables and starchy puddings, as well as great numbers of mats, rolls of cloth and feather ornaments. Non-staple goods, particularly bark-cloth, also figured prominently in the articles demanded by the chiefs from households and communities as tribute for large-scale community-wide ceremonial events associated with feasting (Corney 1913 [I]: 357).

Glosses for Ma'ohi elite feasting refer to community-wide secular feasts and community-wide sacred feasts (Table 1); both likely had political connotations in elevating and supporting the socio-religious power of chiefly leaders. Some community feasts involved removing restrictions for important objects of high value, such as new fishing nets or a canoe. Such rituals may have taken place at specialists' temple sites, those that were dedicated to certain deities related to specific craft activities. Glosses for Ma'ohi community-wide sacred feasts sponsored by elites include rites of passage and life event ceremonies for rulers and members of their families, in addition to ceremonies of warfare and tribute. Such ceremonies took place on the largest and most elaborate temples, either of "international", "national" (royal), or "district" (community) level stature (Kahn and Kirch 2014: 35-39). Feasting events were likely held on spaces just adjacent to temples, either in the open air, or in specialised "eating sheds" (glossed as *fare tama'ara'a*; see Henry 1928: 176). Small feasts carried out at the end of a period of *rahui* 'restriction' took place directly on district level *marae*, where a pig was cooked and eaten on the spot (see also Ellis 1831 [II]: 93). Such feasting is likely to be associated with specialised architecture, including pavements or platforms where foodstuffs were consumed, or pavements where dances, songs and other amusements (wrestling, games) were carried out (Henry 1928: 239, Kahn 2005: 165). Ethnohistoric documents likewise suggest that ritual feasting could have taken place near priests' houses where ritual foods were cooked. Houses for ritual

attendants are expected to be situated in close association with *marae*, and may be of either round-ended or rectangular form (Kahn 2015). Sumptuary non-staple items presented to the chiefs as tribute, or exchanged in elite feasting ceremonies, including bark-cloth or other objects made from vegetal materials and fibre (e.g., mats), would have been produced in household contexts.

Material Correlates of Society Island Feasting

East Polynesian ethnographic data highlight that high status and highly valued foods often took central roles in feasts. These included fatty, fleshy animal foods (pig, dog, fowl, pelagic fish and turtle) and fermented breadfruit or puddings with coconut cream or oil. *Kava*, a psychoactive plant, may have been prepared and imbibed at feasting sites (Kirch and Green 2001, Thomas 1990). Following this, large quantities of such foods and drink disposed at one place would be highly indicative of feasting.

East Polynesian ethnographic and historic records, as well as archaeological data, suggest that many food stuffs would have been cooked or prepared *in situ* at both domestic and elite feasts in communal spaces removed from everyday cooking areas (Kahn field notes, 1997, Oliver 1974: 262, Suggs 1961: 72-73). Thus, the spatial context of cooking features, and their direct association with other sites types (sleeping houses, ritual structures, specialised houses), can be used to differentiate everyday cooking from food preparation associated with feasting events. Given the need for copious amounts of food, cooking or food preparation features associated with feasting, such as earth ovens, hearths and fermentation pits, should be larger or more abundant than those found in domestic cooking areas (see Ottino-Garanger 2006: 371, Fig. 6).

Ma‘ohi sleeping houses served as the primary residence (Orliac 1982); such house sites typically are quite clean in their interior and have exterior but enclosed cookhouses, either directly attached to the house or on fronting terraces (Kahn 2005, 2007). Such every-day cooking areas typically had a small to moderate sized earth oven or hearth (or both) that were re-used time and again, as well as one to two food storage or fermentation pits. While cook sheds often are associated with charcoal, fire-cracked rock and sometimes shell and bone, these spaces were presumably regularly swept given their close association with sleeping houses which had to be maintained in a “clean” manner given *tapu* regulations. These data diverge from expected correlates of feasting areas, where we might expect larger sized and more frequent constellations of earth ovens, hearths and pits which were used to prepare copious amounts of food stuffs in short periods of time. That feast foods were all consumed and disposed of in one place (Henry 1928, Thomas 1990) likewise suggests that feasting debris will differ from everyday domestic remains. The intermittent but intensive use of feasting areas might

lend themselves to less frequent cleaning or maintenance activities, resulting in large accumulations of cooking debris over short periods of time.

Unfortunately food items consumed at feasts in the Society Islands, as well as the majority of tribute items presented at such events (Table 1), were organic in their nature and will not preserve in inland valley contexts due to high rainfall and soil acidity. However, microfossil analyses should be able to retrieve signals of certain items, such as bark-cloth, *kava* and vegetal foodstuffs (Horrocks *et al*. 2015, Kahn *et al*. 2014). Due to these constraints, I focus on the most durable material correlates of Society Islands feasting, notably, the association of cooking features with non-domestic and/or specialised or ritualised architecture. Site proxemics play an important role in defining site status, as temple sites, specialised ritual structures and ceremonial sites tend to be situated in elevated locales, as a way to protect individuals of high status who resided and used such sites. Equally important for identifying feasting locales are the size, frequency and placement of cooking features and associated cooking debris (earth oven rake-out, ash dumps, sheet deposits of charcoal and fire-cracked rock, etc.), as well as the nature of the associated archaeological deposits. Criteria for defining the function of sub-surface features can be found in Kahn (2005: 156-63, 180-82).

SITE PROXEMICS AND EXCAVATION DATA FOR MA‘OHI FEASTING

Here I compare and contrast evidence for feasting events associated with ‘Opunohu Valley, Mo‘orea sites (Fig. 1). The case studies include two residential complexes with familial temples and an aggregate temple complex with community *marae* that functioned as a ritual-political centre.

Amehiti Zone B

The Zone B ceremonial and residential complex is found in the Amehiti District of the ‘Opunohu Valley (Fig. 1). The Zone B complex includes numerous house sites and cooking sheds (-322, -323, -326, -329a, b, c) associated with households of varying rank, in addition to a specialised secular feasting area (-324), a familial temple (-325) and shrine (-338) of moderate elaboration, and dryland and irrigated agricultural complexes (-335, -337, -339) (Fig. 2). Based on site proxemics and excavation data, Zone B has been interpreted as the material remains of a corporate group (or house) of moderate status, who worshipped together at its ritual structures, planted together at its agricultural terraces, and feasted together at its specialised locales (Kahn and Kirch 2013).

Feasting remains were found on the elaborate terrace associated with the -325 temple. Here, test excavations at TP1 recovered two large earth ovens with multiple use events (Fig. 3, Table 2). The surrounding area had dense midden suggestive of *in situ* cooking practices (fire-cracked rock, charcoal,

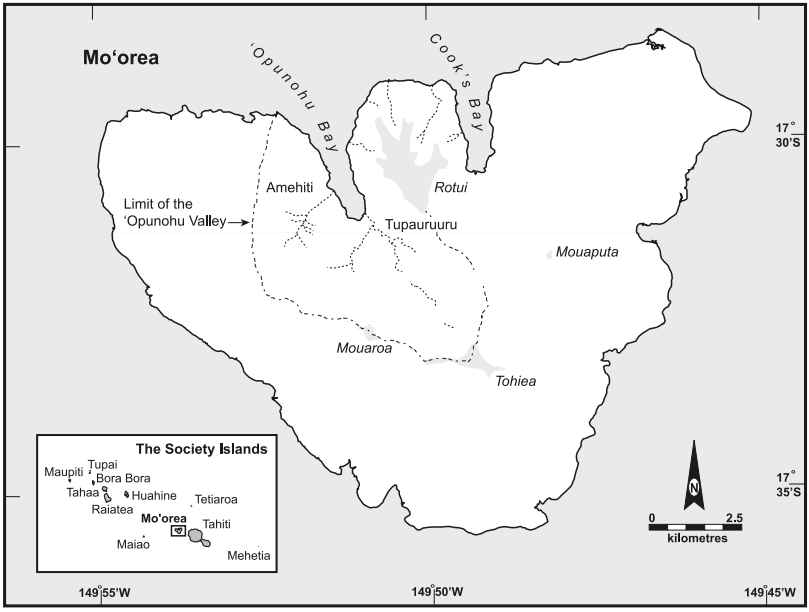

Figure 1. Overview of Mo'orea Island, showing the limits of the 'Opunohu Valley and the Amehiti and Tupaurūuru political districts.

ash). Given their association with the familial temple, it is highly likely that these earth ovens are the result of communal ritual and feasting events sponsored by the headman of this corporate residential group. Given that -325 is situated at the most elevated point in this residential complex, such ritual feasting events would have both created a shared identity among residents of Zone B, while at the same time broadcasting the status and prestige of the headman to its lesser ranked members and neighbouring communities. Site -324, an elaborate complex with two impressive terraces, is situated just below the -325 temple. The lower terrace (B) has a well-constructed pavement along its northeast limit, and a sub-surface cooking feature (hearth) was found at its extreme northeastern limit. Units excavated just adjacent to this hearth and along the mid-line portion of terrace B lacked charcoal and other artefacts, suggesting cleaning and maintenance activities. In contrast, the upper terrace (A) had deposits replete with charcoal, fire-cracked rock and ash. A moderate sized hearth and large earth oven were recovered in the excavations, in addition to a breadfruit fermentation pit. Given the limited

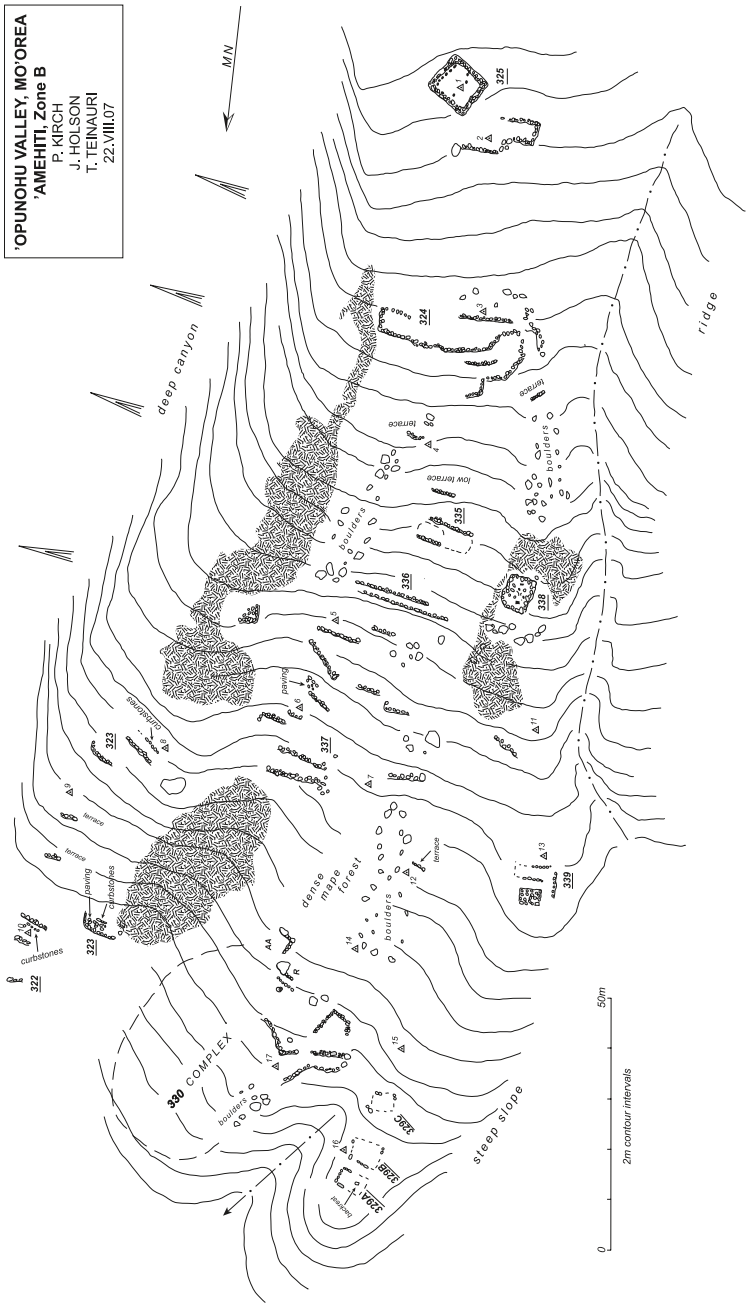

Figure 2. Plan view of the Amehiti Zone B residential complex, ʻOpunohu Valley, Moʻorea.

Figure 3. Plan view of the -325 *marae* with the associated terrace; inset shows plan view of excavated earth ovens in TP1.

Table 2. Feasting remains at main site complexes and structures discussed in the text.

Island	Complex	Site #	Site Type	Function/Status	Evidence for Feasting	Special Features
Mo'orea (ScMo-)	Zone B	325	Family temple with two attached terraces	Ritual; moderate	Two large earth ovens with multiple use events on adjacent terraces; thick midden with dense oven rake-out, charcoal, fire-cracked rock	Upper-most site in complex; well-constructed fronting terraces, cooking activities in open (?) area on terrace
		324	Terrace complex, lacks house curbstone outline	Ritual; moderate	One large earth oven, two smaller cooking hearths (one with dense oven rake-out, charcoal, fire-cracked rock); and breadfruit fermentation pit	Large and architecturally elaborate, well-constructed pavement on lower terrace, lower terrace deposits are remarkably clean and well-maintained; upper terrace has evidence for open air (?) cooking activities and is not well-cleaned
		326	Terrace complex, possible round-ended house	Residential cookhouse; moderate	None, but ample evidence for cooking both within a small pole-and-thatch structure and outside of it (moderate to small earth ovens (n=2), small cooking hearths, small food storage pits)	Poorly constructed facing walls, posthole alignments suggest robbed round-ended house; lacks clean open area
		323	Terrace complex, rectangular house	Sleeping house; moderate	Not excavated	Rectangular house found on well-constructed upraised terrace, -322E is found just downslope

	322	Terrace complex, rectangular house	Residential cookhouse; moderate	None, but ample evidence for cooking with a pole-and-thatch structure with three interior earth ovens, one exterior cooking hearth, and lacking food storage pits	Posthole alignments suggest pole-and-thatch structure, lacks clean open area
170-171	170	Round-ended house	Sleeping house, high	None, but evidence for cooking and food storage on fronting terrace includes small earth oven and four breadfruit fermentation or food storage pits, in association with charcoal-rich "dirty" deposits	Upslope of several rectangular houses, in opposition to simple *marae* located at the ridge promontory at bottom of the complex, most elaborate house architecture, large pavement, clean house interior
	171A	Rectangular house	Specialised house for craft activities, high	Two large exterior earth ovens, one external hearth, 11 exterior pits for breadfruit fermentation	Large living flat, cooking activities in open, L-shaped alignment with specialised storage, frequent lithic reduction in house interior, moderate sized pavement
	171B	Rectangular house	Sleeping house, moderate	None, but one earth oven and three small cooking hearths in exterior	Small exterior pavement with cook house(s); clean house interior
	171C	Rectangular house	Sleeping house, moderate	None, but small hearth in exterior, one exterior breadfruit fermentation pit	Exterior cooking activities associated with cook house(s); clean house interior
	171D	Terrace	Residential cookhouse, moderate	Four hearths and food storage pit	Cooking activities associated with cook house; no associated surface house

– continued over page

Island	Complex	Site #	Site Type	Function/Status	Evidence for Feasting	Special Features
		171E	Terrace	Specialised terrace, moderate	Four food storage or breadfruit fermentation pits, hearth, ash dump	Cooking activities associated with open, well maintained area; pavement
		171F	Family temple	Ritual, high	No exterior excavations, faunal remains suggestive of ritual offerings and/or feasting	In opposition to ScMo-170 round-ended house located at the most elevated portion of the ridge
	103	103E, G, I, K, L, N	Community temple	Ritual, high	None, but limited excavations	Archery platform (-131), council platform (-181) and large round-ended house (-178) upslope
		103F, H, J, M	Attached shrines	Ritual, high	Not excavated	Interspersed between and among the temple sites
		103C	Round-ended house	Ritual, high	Three interior pits, three large exterior earth ovens (one >1.75 diameter), several smaller earth ovens in exterior, pig teeth, pig bone, fish bone, food pounder	Largest round-ended house in valley, associated with elaborate exterior pavement
Raiʻatea	VAV-1	RAI-56	Terrace complex fronting three temples, exterior to rectangular house	Ritual, high	No interior excavations, large earth ovens in exterior	Exterior cooking activities, close proximity to cooking features at RAI-57
		RAI-57	Terrace complex fronting three temples, interior of rectangular house	Ritual, high	Two cooking features, unknown size (not fully excavated)	Interior cooking activities, close proximity to cooking features at RAI-56

number of postholes recovered, these food preparation activities appear to have been carried out in the open air. It is likely that foods were produced on the upper terrace (A) for feasts that were situated on the lower terrace (B). These feasting activities were most likely associated with secular community events.

While not excavated, the architecture and layout of ScMo-323, a downslope house, suggest it served as a sleeping house for a moderate status household (Kahn and Kirch 2013). Just downslope of -323, excavations at the -322E rectangular house revealed a house interior with numerous earth ovens and hearths but lacking food storage pits. Site -322E has been interpreted as a cookhouse for the residents of -323 (Kahn and Kirch 2013). In sum, areas interpreted as feasting locales, in contrast to domestic cookhouses, had moderate to large open-air food preparation facilities with large cooking features, in one case with food storage pits. In all cases the feasting food preparation facilities were not associated with sleeping structures. One feasting locale was found in association with a "clean" area devoid of cooking remains that could have served as a food consumption locale.

Tupauruuru, ScMo-170/171

The ScMo-170/171 residential complex is found in the heart of the Tupauruuru District. This residential complex includes four house sites, one round-ended (-170) and three rectangular (-171A, B, C), in addition to stone-faced terraces with soil flats (-171D, E) (Fig. 4). A familial *marae* is found at the bottom of the complex, which also is the limit of the ridge, where it abuts the main stream. Terrace -171E can be considered a fronting terrace to temple -171F, given its close association to the southern enclosing wall of the temple, and the fact that the northern limit of -171F is bounded by a steep slope. Site proxemics and excavation data highlight that ScMo-170/171 was a high status residential complex (Kahn 2005, 2007).

As with Amehiti Zone B, feasting remains were recovered in two locales within -170/171, apparently differentiating zones of secular versus sacred feasting. Substantial evidence for supra-household food production and consumption was recovered along the large living flat associated with -171A (Fig. 5, Table 2). This rectangular house is situated below -170, the round-ended house found at the most elevated point in the complex which is both large in size and well-elaborated architecturally. Site -171A, the most elevated of the rectangular houses in the complex, has a moderately sized exterior pavement along its northern limit. Excavations within the house yielded dense lithic remains suggestive of adze manufacture (Oakes 1994). Given that an outdoor adze production workshop was found on the exterior terrace adjacent to -170, -171A likely served as a specialised house for adze production activities (rather than as a sleeping house) (Kahn 2005, 2007).

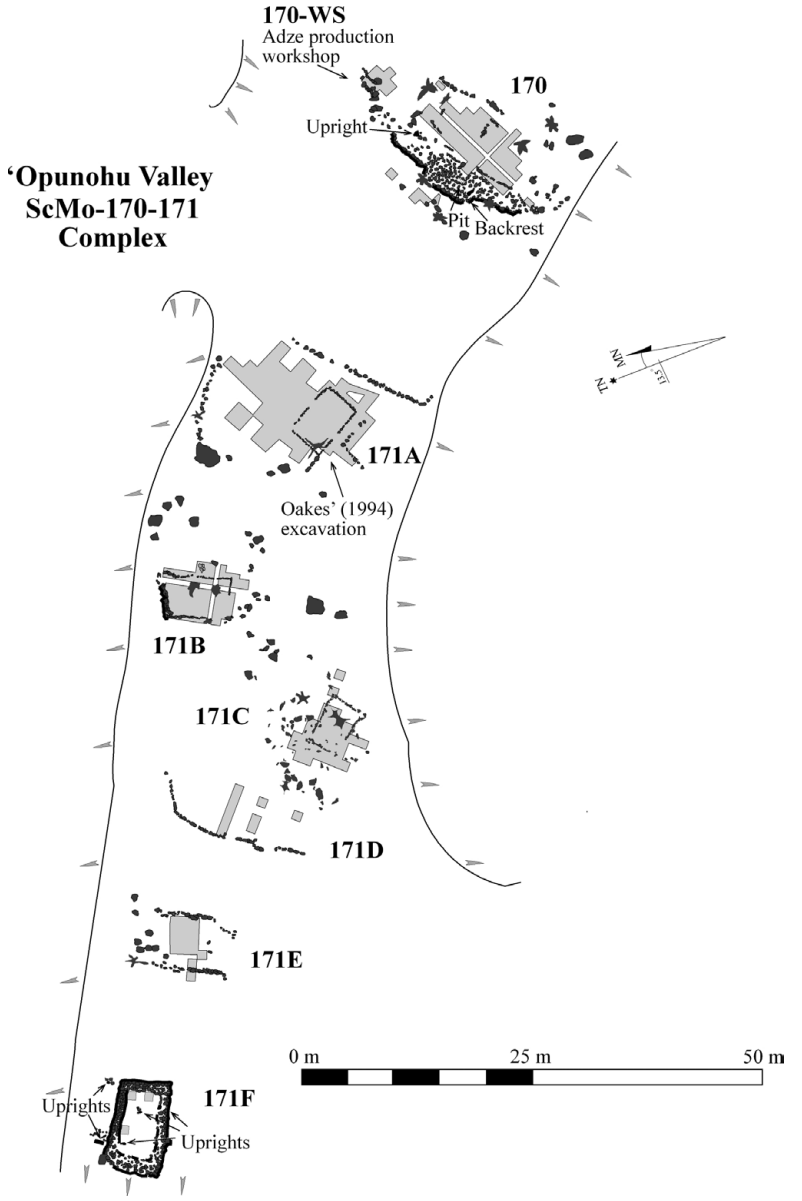

Figure 4. Plan view of -170/171 residential complex.

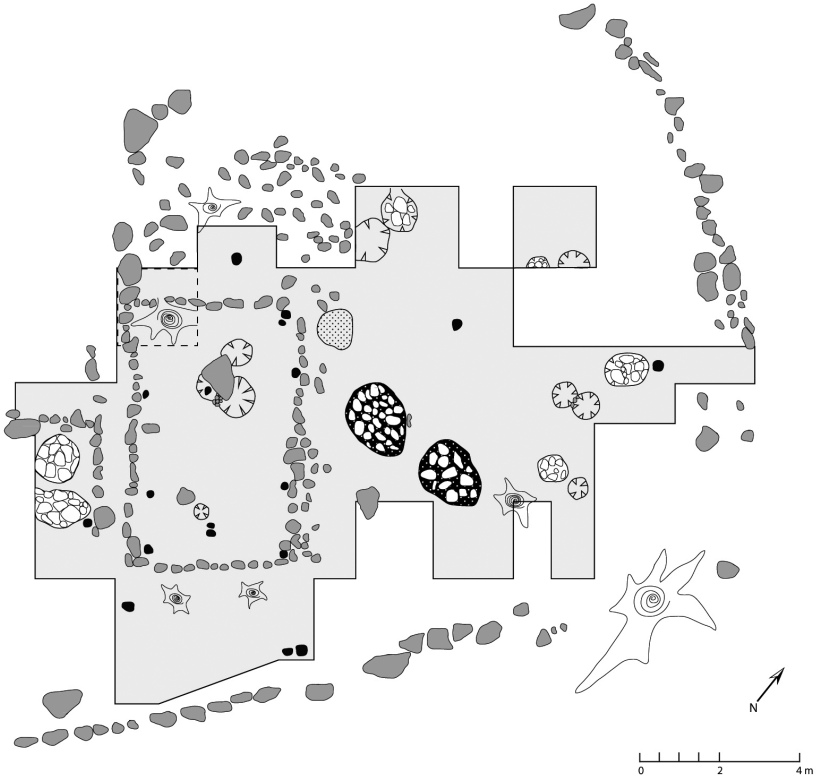

Figure 5. Plan view of -171A after excavation with sub-surface features.

Excavations revealed that the large living flat exterior to -171A had two large earth ovens and a cooking hearth, in addition to 11 pits for breadfruit fermentation, two of which were associated with an L-shaped stone alignment. These data demonstrate food production and consumption at levels beyond the needs of the residents of -170 and are indicative of domestic feasting. The intensity of food storage/fermentation pits signals material remains of the Polynesian "pudding complex", where fermented or semi-fermented starches were mixed with emollients such as coconut oil (Kirch and Green 2001), and sometimes cooked in earth ovens, to create specialty or luxury foods that featured prominently in Ma'ohi public feasts (Leach 2003). Given -171A's spatial location, its feasts appear to have been secular in nature and were likely sponsored by the headman of the corporate residential group residing in -170.

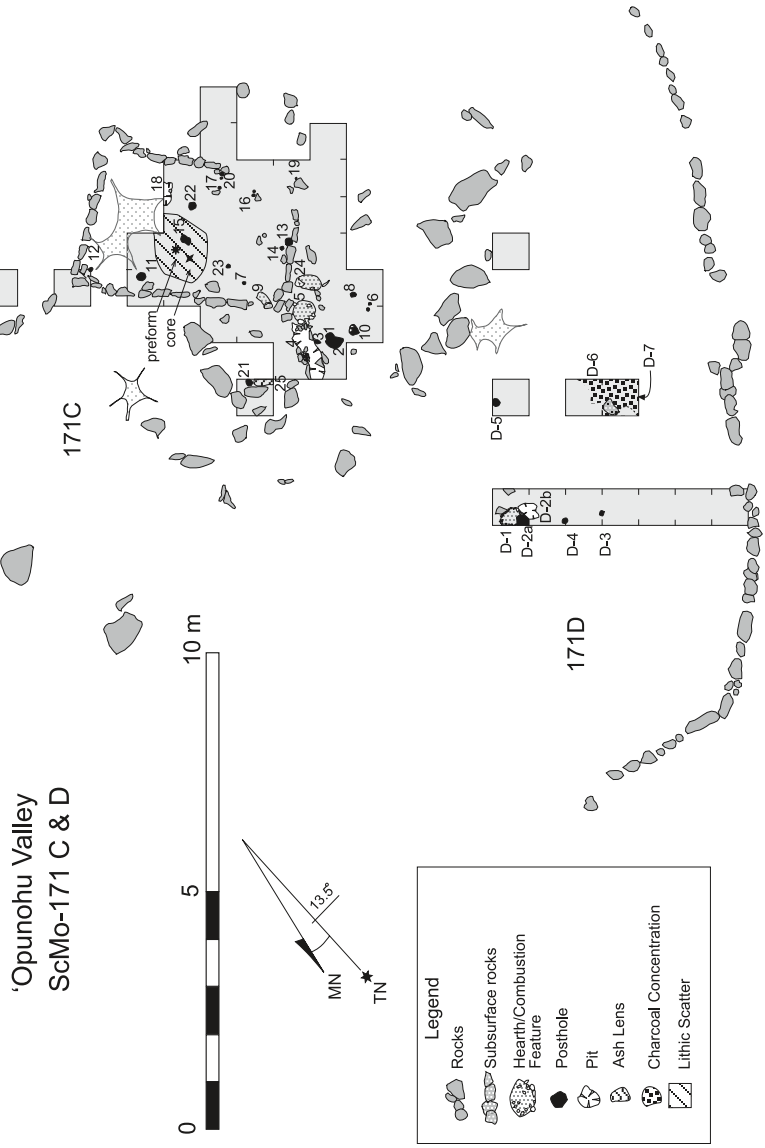

Figure 6. Plan view -171C/D after excavation with sub-surface features.

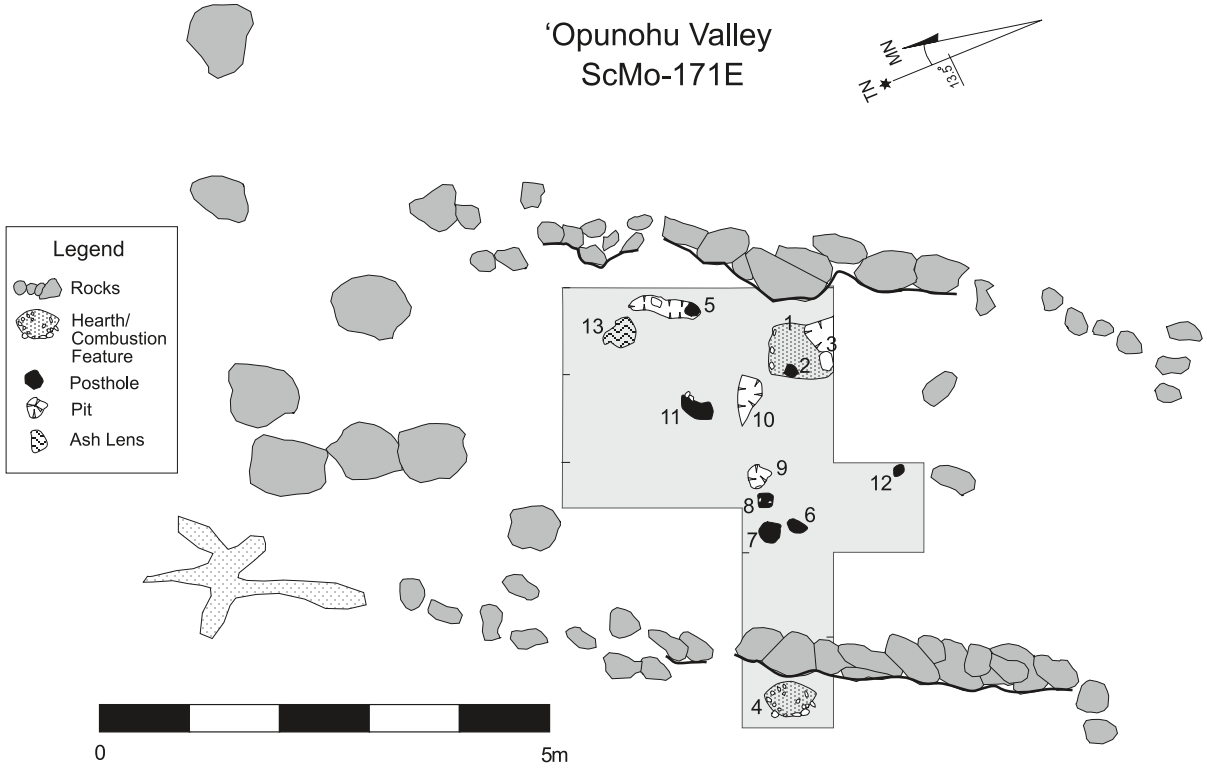

Figure 7. Plan view of -171E after excavation with sub-surface features.

Feasting remains were also associated with terraces situated below the last rectangular sleeping house (-171C) and just above the small familial *marae* (-171F) found at the bottom of the complex. Terraces -171D and -171E each included paired stone-faced terraces with interior soil flats; a portion of the -171E soil flat had a moderately sized pavement (Fig. 7). At both locales, suites of food preparation activities not associated with formal sleeping houses were found, suggestive of public locales for communal activities. For example, excavations at -171D recovered three hearths and a pit for food storage or fermentation, in association with substantial charcoal, oven rake-out, ash and fire-cracked rock. In a similar manner, -171E revealed substantial food preparation activities, including four food storage or fermentation pits, a cooking hearth and oven rake-out. However, in contrast to the "dirty" deposits recovered at -171D, some deposits at -171E, particularly those adjacent to the surface pavement, were "clean" and generally lacked fire-cracked rock or substantial charcoal. It seems likely that -171D served as a communal food preparation area for feasting events that took place on -171E. Because these events were outside of the -171F temple enclosure, they may have been secular events led by the residential headman that brought together members of this extended corporate group. However, given that archaeological data and site proxemics suggest secular feasting was associated with high elevation and the residence of the headman (-170) and specialised structures (-171A), feasting events at -171E could be interpreted as domestic ritual feasting events that were located in spatial opposition to secular domestic feasting events.

In sum, sleeping houses -170, -171B, -171C each had cooking areas either directly attached to the exterior of the house, as with lower status houses -171B and -171C, or situated on a fronting terrace, as with higher status house -170. These data conform to expectations for exterior cook-houses attached to specific households for everyday cooking. These data are in contrast to food preparation remains at -171A which are found in the open air in association with a specialised house and those at -171D and -171E which are found in open-air communal spaces. As with Amehiti Zone B, archaeological data suggest that feasting locales are more commonly associated with the presence of food storage or food fermentation pits or have higher frequencies of such sub-surface features than domestic cooking areas. As with Amehiti Zone B, feasting activities at -170/171 were also associated with well-constructed exterior pavements.

Tupauruuru, ScMo-103

ScMo-103 is situated in the middle of the Tupauruuru District lowlands. The complex is comprised of seven aggregated temples in addition to round-ended and rectangular house sites and raised stone platforms (Fig. 8). Round-ended

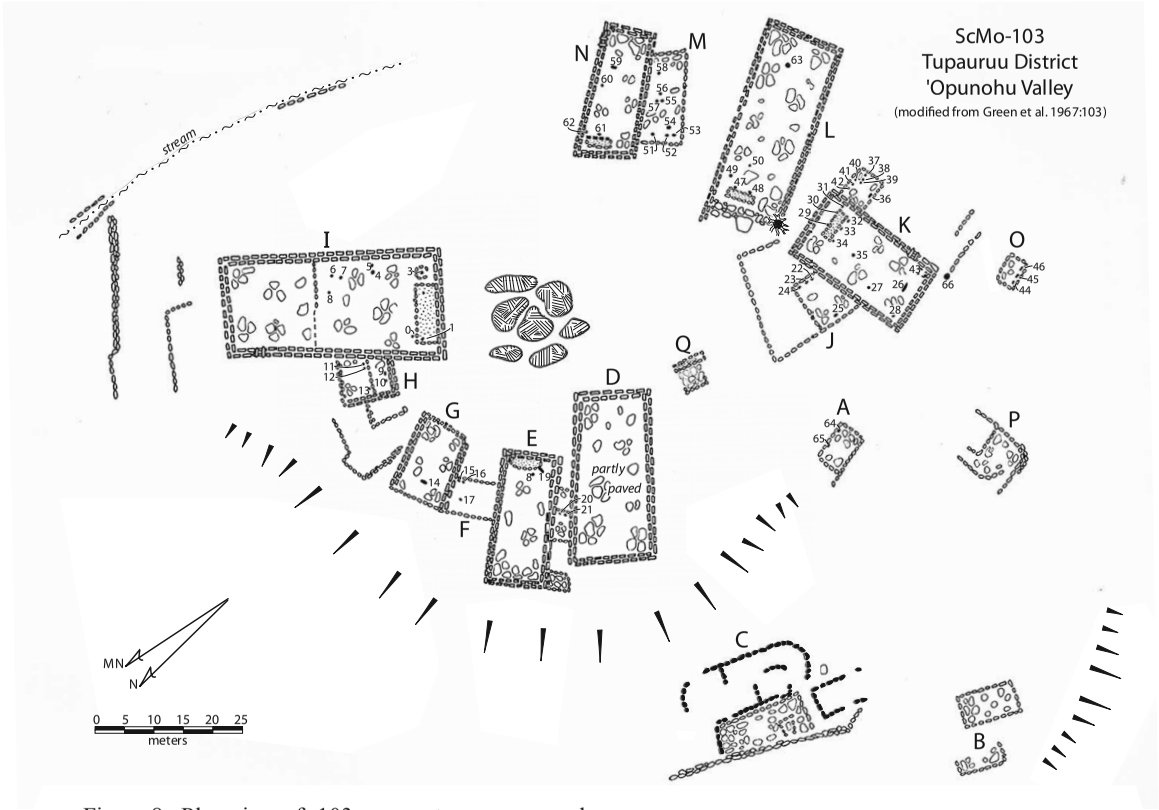

Figure 8. Plan view of -103 aggregate *marae* complex.

house site -103C is exceptionally large and is associated with a sizeable, well-constructed pavement. The complex is found adjacent to an archery platform (ScMo-131), another large round-ended house with an attached pavement (ScMo-178), and a chief's platform or council platform (ScMo-181). Council platforms (*tahu'a- umu-pua'a* or literally 'pig oven platform') signify an elite presence. These elaborate raised stone platforms served as loci for "national councils" of high chiefs, priests and landowners and also served as feasting areas (Kahn and Kirch 2014). Council platforms are rare in the valley and in all instances are associated with aggregate clusters of *marae* and other elite structures such as archery platforms (Green and Descantes 1989, Green *et al*. 1967, Kahn and Kirch 2014). Political deliberations or "national councils" held by chiefs at such platforms would be expected to be associated with feasting activities.

Green and colleagues (1967: 151) have argued that ScMo-103 served as a "focal point" or "major elite center" for settlement in Tupauruuru. I have argued that it served as one of four major ritual-political centres in the valley (Kahn 2011, Kahn and Kirch 2014), given that it is comprised of two or more elaborate temples in association with specialised sites such as archery platforms, council meeting platforms and large round-ended houses and rectangular houses of a specialised function. Such major ritual-political centres would have been the loci of ceremonies sponsored by district level chiefs, as well as areas where tribute was brought to the chiefs by the surrounding community. Current excavation and survey data suggest that such ritual-political centres in the 'Opunohu Valley are often associated with specialised houses, including rectangular houses that served as residences for ritual practitioners (Kahn 2013, 2015, Kahn and Kirch 2014; see also Orliac 1982: 164). Oral traditions describe how high priests could be attached to specific elite temple sites (such as community level *marae*), where participation in ritual was restricted to high status persons (Babadzan 1993, Henry 1928: 144). As Table 1 suggests, ceremonies at such temples were often followed by elaborate community feasts.

Green and Davidson's excavations at round-ended house site ScMo-103C recovered numerous breadfruit storage pits in addition to numerous exceptionally large earth ovens associated with charcoal, ash and fire-cracked rock (Table 2). Green and colleagues (1967: 138) interpreted the quantity and size of these features as suggestive of "lavish entertaining". Site -103C has been interpreted as a *fare i'a manaha*, a house to store sacred items used in *marae* ceremonies (Green 1996, Orliac 1982: 237). The size, frequency and context of its cooking features are suggestive of a feasting locale. Feasting events at -103C were likely both community-wide secular and ritual events

given their association with an aggregate *marae* complex of some elaboration. I recovered similar feasting events at a second major ritual-political complex in the ʻOpunohu Valley (ScMo-124), at a higher elevation in the Tupauruuru District. There, community-wide ritual feasting took place on a large terrace fronting two elaborate *marae* and adjacent to two elaborate pavements and a rectangular priest's house (Kahn 2015: 74, Kahn and Kirch 2014), while community-wide secular feasting took place in front of a council platform (Kahn and Kirch 2014).

The -103 feasting facilities share similarities with those found at Amehiti Zone B and 170/171. These include evidence for cooking facilities unassociated with sleeping houses, but found in close proximity to communal areas fronting *marae*, or to specialised structures such as priests' houses and council platforms. The -103 data support the hypothesis that feasting locales will have frequent and large cooking features and storage pits in associated with dispersed debris from cooking activities such as ash, charcoal, and fire-cracked rock.

EXTRA-AREAL COMPARISONS

Having highlighted the nature of feasting events at both community and familial level temples on Moʻorea, in addition to those found at residential complexes, I briefly turn to excavation data from other islands in the archipelago to parse out regional patterns. A survey of excavation reports from Tahiti illustrates that large earth ovens and hearths have been recovered in temple contexts, both within elaborate temple enclosures (community level *marae*), as well as near or within the *ahu* 'altar' (Belcaguy 1988, Garanger 1971, 1975: 43-44). Their context is highly suggestive of communal ritual feasting events, some of which may have taken place when architectural features of the temple, particularly the altar, were enlarged or elaborated. Data from the Papenoʻo Valley, particularly from TPP06 (Chazine 1978: Figures 35-38), highlight that terraces in front of large aggregate *marae* complexes (community level temples) were used for feasting events. The latter were likely associated with community secular feasts which followed rituals on the *marae*, similar to patterns found at Site-342, Amehiti Zone B.

Turning to the Leeward Society Islands, Edwards's (1988) survey of Faʻaroa Valley, Raiʻatea recovered numerous temple complexes of varying size and complexity. He argued that the VAV-1 complex was one of two extensive ceremonial complexes in the valley with elaborate temples and house sites (1988: 19), in effect, similar to the ritual-political centres found in the ʻOpunohu Valley. Faʻaroa survey data suggest that these two sizeable aggregate *marae* centres had large ritual structures functioning as district level temples.

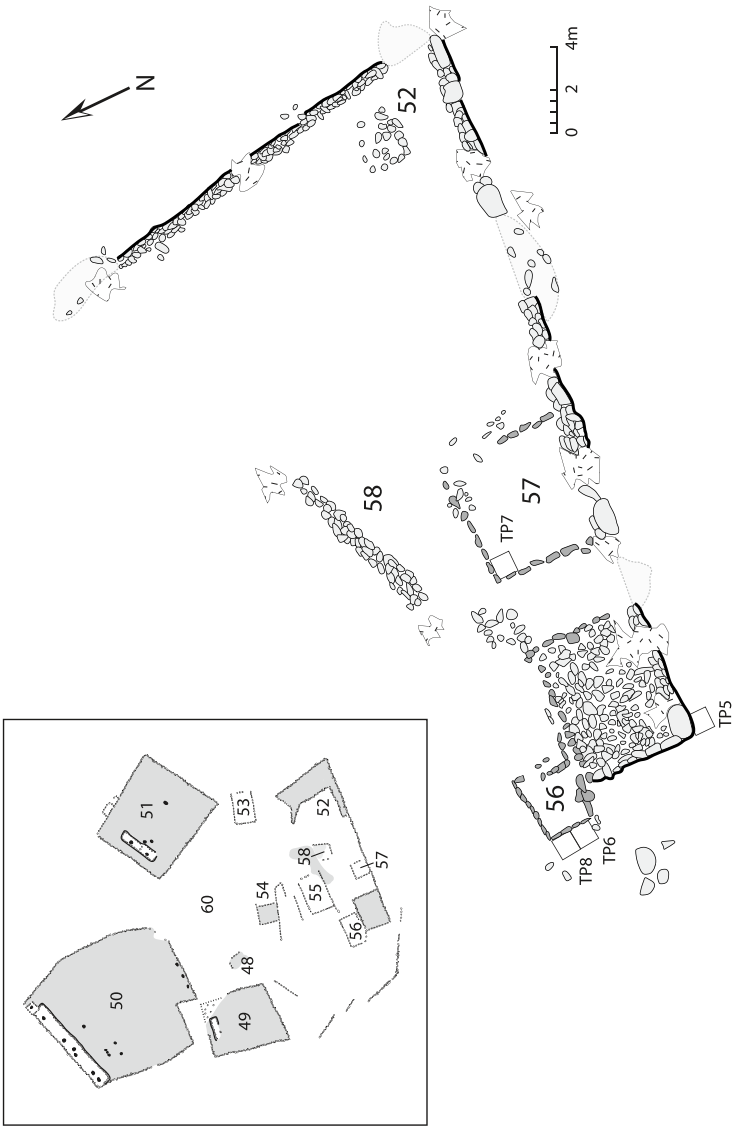

Figure 9. Plan view of -52 fronting terrace with house sites -56 and -57; inset shows plan view of VAV-1 aggregate *marae* complex, Faʻaroa Valley, Raiʻatea.

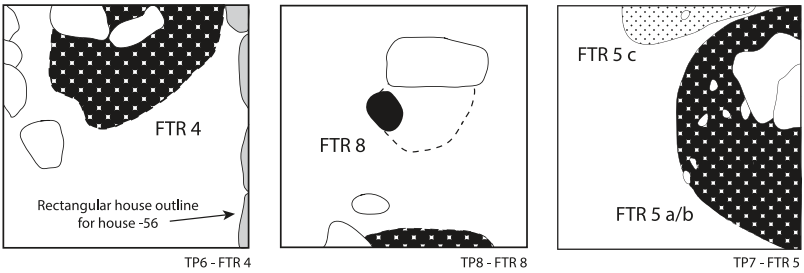

Figure 10. Sub-surface features associated with rectangular house sites -56 and -57, VAV-1 aggregate complex.

The eastern zone of the VAV-1 complex includes three elaborate temples situated on an extensive and well-constructed terrace which fronts the *marae* (Fig. 9). Several pavements and at least four rectangular houses are found on this fronting terrace. My recent excavations at two of these rectangular houses (RAI-56, -57) uncovered extensive evidence for food preparation activities, including four cooking features, two of which were sizeable earth ovens (Fig. 10).

One of the cooking areas was exterior to a rectangular house, while the other was found within a rectangular house. Both food preparation areas had extensive sheet midden replete with oven rake-out, fire-cracked rock and ash. Given the close association of these cooking areas to well-constructed pavements on fronting terraces, and the sites' close association with elaborate *marae*, it seems likely that they represent communal secular feasting locales. Rectangular house sites -56 and -57 may have in fact served as *fare tama'ara'a* or specialised eating sheds known to have been used in elite feasts in the Society Islands.

TEMPORAL TRENDS

Here I discuss dated feasting contexts (as reported in other publications) to assess whether domestic or supra-household ceremonial feasting intensified in the Society Islands through time. In terms of Amehiti Zone B, ritual and secular feasting at sites -325 and -324 calibrates to between the mid-15th to mid-17th centuries at 2 sigma (Kahn and Kirch 2013). Feasting events at -171A post-date AD 1641, and are also relatively late in the Society Islands sequence (Oakes 1994: 77), while the -171E and -171D contexts have not yet been dated.

Feasting events taking place in aggregate *marae* complexes interpreted as ritual-political centres also calibrate to the late prehistoric period. Feasting contexts at -103C, based on a large earth oven calibrated to the mid-17th to mid-18th centuries (Kahn 2011), most likely date to the period just prior to European contact (pre-AD 1767). Feasting events at a second major ritual-political centre in the ʻOpunohu Valley, ScMo-124, include dates from earth ovens associated with a priest's house. Radiocarbon samples from these two earth ovens most likely date to between AD 1690–1730 (Kahn and Kirch 2014: 191-92). Structures or feasting events in the Faʻaroa Valley VAV-1 aggregate *marae* complex have yet to be dated. However, the surface architecture of two of the associated *marae*, namely *Acropora* (coral) veneer facing of the *ahu*, suggest that the complex was constructed and used late in the Society Islands sequence, post AD 1620 (see Kahn and Kirch 2014, Sharp *et al*. 2010).

Clearly more residential and ceremonial feasting contexts must be dated in the Society Islands to develop a refined chronology for these important socio-political events. Current data tentatively suggest that domestic feasting at elite house sites began as early as the mid-15th century and likely became intensified in the mid-17th century. Lepofsky and Kahn (2011) and others (Green 1996, Kahn 2014) argue that status differences among and between Maʻohi residential complexes become pronounced by the mid-1400s, a time of major inland expansion in the archipelago, when communities established temples and house sites in interior valleys. Thus, small-scale household feasting correlates with a period of increasing status differentiation among households and tentatively suggests that local scale feasting events ultimately contributed to these larger social transformations.

By the mid-1600s, Maʻohi elites had increasing control over subsistence production, both at the local and community scales (Lepofsky and Kahn 2011). Feasting at aggregate *marae* complexes intensified in the 17th century and continued up to the era of European contact (AD 1767). This was a period of rising political centralisation in the Society Islands, characterised by increasing political power of ruling elites such as paramount and district level chiefs and ritual specialists. Archipelago-wide data suggest that feasting was increasingly exploited by the Maʻohi elite class in later prehistory as a means of centralising their political power, particularly post-AD 1650, a chaotic period with intensive warfare ending in the unification of the Tahiti and Moʻorea chiefdoms, and a period of religious upheaval with the translocation of the ʻOro war cult from the Leeward Islands (Kahn 2010, Maric 2012, Wallin 2014). These trends mirror worldwide patterns, where feasting, as both an integrative and diffractive political strategy, can intensify during periods of inter- and intra- polity conflict and competition and periods of socio-religious upheaval (Junker 1999, Schachner 2001). It appears that Maʻohi feasting had

broader social ramifications, ultimately leading to increasing social hierarchy at both the local (household) and community (district) scales. Such patterns have been documented in other complex societies, where feasting activities tend to proliferate as political centralisation intensifies (Chicoine 2011, Knudsen *et al*. 2012, Kolb 1994, 2006).

* * *

The Society Islands archaeological case studies illuminate several points with respect to the role of feasting in late prehistoric Ma‘ohi society. In terms of context, feasting events can be found within secular locales, including communal spaces in residential complexes, sometimes in close association with the headman’s residence, and terraces attached to, or fronting, temple complexes, sometimes in association with priest’s houses. Feasting events are also associated with ritual locales, such as the interior of temple enclosures or in close association to temple altars, in addition to political locales, such as council platforms. These archaeological data confirm hypotheses developed from the ethnographic record, notably that feasting was a strategy used by household leaders and regional political leaders, including chiefs and the religious elite (priests), at both the local and community (or district) level. It is clear that Ma‘ohi feasting events empowered different social groups at different social scales.

The archaeological case studies highlight the importance of context and site proxemics in both the identification of feasting activities and interpreting their specific function, yet sampling issues remain. Excavation data suggest that Ma‘ohi feasting was associated not only with open-air cooking facilities, often containing large and numerous earth ovens and hearths, but commonly with pits for storing and preparing starchy root crops and fruits that would be transformed into luxury puddings. Such creamy puddings played important roles as feast foods throughout Polynesia (Kirch and Green 2001).

Since we lack well-preserved material remains of feasting, including detailed evidence of the type, quality and quantity of foodstuffs, it is difficult to parse out feast type or feast function without relying heavily on the size and frequency of food preparation facilities, their relationship to specialised architecture and site proxemics. For example, current excavation data from the ‘Opunohu Valley indicate that small-scale domestic feasting was hosted by upper class households in communal spaces with pavements, however, additional excavations at lower status house sites may reveal other evidence for domestic feasting. Current data also suggest that local headmen hosted both secular and ritual feasts to reify and unify the corporate group, perhaps in face of tensions between households that may have arisen as a result of

varied access to material and immaterial symbols of wealth and status (Kahn 2005, 2007). Such small-scale domestic feasts likely materialised the ritual and socio-economic status of the residential headman to other members of the corporate group and visiting neighbours. This hypothesis must be tested with additional excavations at residential complexes of varying status to understand the "reach" of feasting events among and between domestic complexes of varying status.

At the archipelago-wide scale, the close association of ritual-political centres with feasting activities likewise supports how district or community level chiefs and high-status priests hosted feasting events as a means to extend their economic or political authority, as well as a means to engage in community building. Within these contexts, communal and secular feasting was often associated with specialised facilities, including elaborate pavements, specialised houses, priests' houses and elaborate terraces fronting *marae,* similar to data for supra-household feasting elsewhere in Polynesia and in other complex societies. In these contexts, community members, some of whom could not directly participate in the ritual events at the ceremonial *marae*, could be entertained by the largesse of political and ritual leaders with foodstuffs, oratory and entertainment. Community members reciprocated by literally providing the fruits of their labours as the foodstuffs to be consumed during the feasting events.

While more work is needed to clarify these trends, the political nature of Ma'ohi communal feasting is most strongly materialised in its association with council platforms in the two well-excavated political centres of the 'Opunohu Valley. Ethnohistoric texts describe how social units competed against one another to produce the best tribute in order to please the gods, suggesting that at least at the community level, feasting spurred the intensification of domestic production (Henry 1928: 174-75) and perhaps led to other social transformations. Certainly, intensive elite feasting in Hawaiian temples supported the ideological power of chiefs in illustrating their role as mediators between the greater populace and the gods (Kolb 1994), and we can expect that Ma'ohi chiefs profited in a similar manner from hosting sacred and secular community feasts. One possibility is that the chiefly lineages controlling the four major political-ritual centres in the 'Opunohu Valley were carrying out competitive corporate feasting as a strategy for indebting their neighbouring chiefs, but also as a means of alliance building and marriage exchange. These trends intensified after AD 1650, a period of major regional social upheaval and warfare that resulted in regional political centralisation and the introduction of the 'Oro war cult from the Leeward Islands.

Finally, there is some suggestion that the specific function of feasting differed at monumental architecture of varying scale and complexity, for

example, at familial temples versus larger, more elaborate community or district temples. At larger community aggregate temple complexes, archaeological evidence and ethnographic analogy for feasting in the late prehistoric period illustrate how Ma‘ohi chiefly lineages actively demonstrated their social power by competing in cyclical rituals associated with tribute display and competitive feasting. Yet at familial level temples, archaeological evidence and ethnographic analogy suggest that household headmen utilised feasting as a means of status display as well as a signal of hospitality and of belonging to a particular social group. Thus, at both the household and community scales, Ma‘ohi feasting is strongly correlated, but not uniquely associated, with ceremonial sites. Feasting in the late prehistoric Society Islands chiefdoms served varied secular and sacred functions. Such events actively solidified local and community level leaders' economic, socio-political and ideological power in varied ceremonial contexts and likely contributed to the high degree of political centralisation seen in the period just prior to European contact.

ACKNOWLEDGEMENTS

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ABSTRACT

Much of the research into East Polynesian ceremonial sites focuses on temple-altar (*marae-ahu*) complexes as sacred sites where varied religious rituals and rites of passage were performed. Yet ethnohistoric documents and the Tahitian lexicon suggest a broader role for Ma'ohi (indigenous Tahitian) ceremonial architecture as the foci of individual and corporate ceremonies of a religious, economic and political nature. Utilising a spatio-temporal perspective, I investigate the function of feasting at terraces attached to a range of community and familial level temples, in addition to communal spaces within residential sites in the Society Islands. My goal is to explore the ways that Ma'ohi household leaders, chiefs and priests may have utilised feasting to materialise their economic authority, while at the same time facilitating the formation of communal identities. I utilise archaeological data to identify feasting

at monumental architectural sites of varying scale and complexity and house sites of differing status. I then turn to ethnographic analogy and social theory to suggest differing functions of feasting at different site types. As I argue, feasting serves as a highly visible social act, representing not only a political leader's generosity, but delineating boundaries of particular social groups and control over resources. In the Society Island chiefdoms, at both the household and community scales, feasting is strongly correlated, but not uniquely associated with, ceremonial sites and served varied secular and sacred functions. I conclude that feasting actively solidified local and community level leader's economic, socio-political and ideological power in varied ceremonial contexts of the late prehistoric Society Island chiefdoms.

Keywords: feasting, ceremonial architecture, Society Islands, socio-political strategies, spatio-temporal analyses, communal identity.

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FROM THE VALLEY TO THE SHORE: A HYPOTHESIS OF THE SPATIAL EVOLUTION OF CEREMONIAL CENTRES ON TAHITI AND RA‘IATEA, SOCIETY ISLANDS

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In the 18th century the Society Islands had developed a complex chiefdom system that was considered to be one of the most stratified in East Polynesia, along with those of the Hawaiian Islands. The Society Islands are situated in central East Polynesia, and are currently divided into the Leeward Islands (to the northwest) and the Windward Islands (to the southeast) (Fig. 1). This division is geographical, but in traditional times there were minor cultural differences between the islands as well. The principal islands are high volcanic formations, Tahiti being the largest (1042 km^2), while Ra‘iatea, the youngest, is the largest of the Leeward Islands. These volcanic islands have deep, rugged valleys, and chiefdoms and territories typically were organised according to this topography.

By the end of the 18th century, the Tahitian chiefdoms were generally organised into eight principal political divisions, themselves often subdivided into three sub-districts. On Tahiti, 20 principal chiefdoms existed, most of them grouped into four confederations, but some were relatively independent (Oliver 1974) (Fig. 1). The settlement pattern described by ethnohistorical accounts places the ceremonial centre—including a principal temple or *marae* of the district and associated ritual houses and canoe artisans—at a coastal promontory and facing towards the reef pass. The social elite (*ari‘i*) resided on the coastal promontories, while the common people (*manahune*) lived in the valley interiors. This model typified the Windward Islands (Tahiti and Mo‘orea), as described by Tahitian scholars (e.g., Ari‘i Taimai in Adams 1964, Ta‘aroa 1971 and Tati Salmon 1913) referring to their own islands, but little is known about the Leeward Islands (Ra‘iatea, Taha‘a, Huahine and Bora Bora). Thus we do not know if this traditional model can be applied to those islands, which have some differences in language, social organisation and ceremonial architecture (Handy 1930: 85, 104). This article examines the evolution of socio-political territories as seen through ceremonial architecture (*marae*). The goal here is to provide a synthesis and initial overview of pre-European spatial and diachronic transformations of settlement patterns on Tahiti Island (Windward Islands) and compare these with patterns on Ra‘iatea Island (Leeward Islands).

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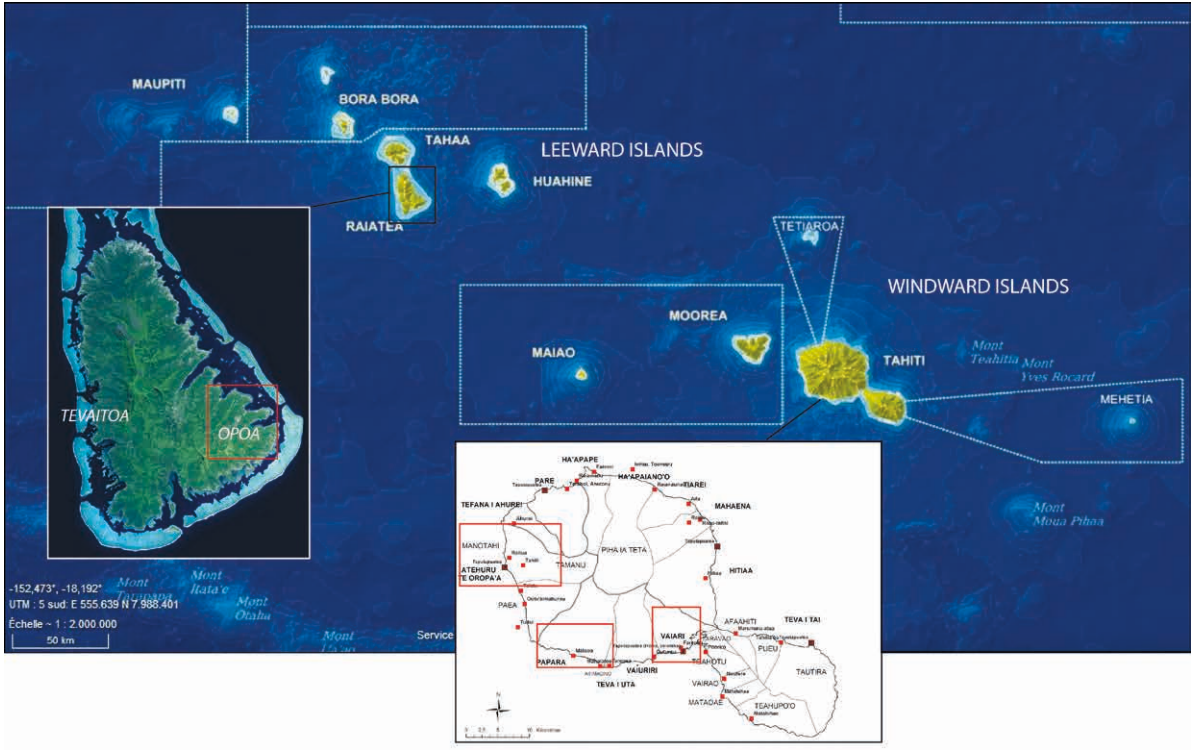

Figure 1. Map of the Society Islands showing the location of study areas: Tahiti Island and Opoa on Ra'iatea Island, during the second half of the 18th century.

Since the pioneering archaeological studies of the 1960s (Garanger 1964, Green *et al.* 1967), the traces of elite settlements have been recorded, sometimes far inland, leading archaeologists to challenge the traditional settlement model described above. From 2000, settlement patterns of the Windward Islands have been increasingly documented, allowing for a better understanding of past social spaces, especially relationships between settlements of lower social classes, agricultural systems, and the habitats of intermediate social classes (*ra'atira*), the latter scattered throughout valleys (Cauchois 2010, 2015, Kahn 2006, 2010, 2011, 2013, Maric 2012). As a result, archaeologists working in the Society Islands now have good criteria for identifying the habitats of different social classes, through a combination of ceremonial architecture and household complexity.

Particularly important to this study is the ceremonial architecture of temples (*marae*), and their geographic distributions. Given the importance of religion in pre-contact societies, the architectural elaboration of ceremonial architecture can be an important marker of major changes in socio-political and religious systems. The architectural forms of *marae*, and their archaeological contexts, allow for the identification of the residences of different social groups, as for example, the *marae* of the *ari'i* versus the simple *marae* of the *manahune*. Sometimes residences of the "middle-class" or *ra'atira* also can be identified based on the analysis of settlement patterns.

ETHNOHISTORICAL SOURCES

The analysis of the three Tahitian chiefdoms presented here was carried out as part of my doctoral thesis research (Maric 2012). The aim of the present study is to reconstruct past territorial spaces and changes through time, using an inter-disciplinary approach which involves archaeological data, ethnohistorical records and an interpretation of toponymy—the latter inspired by the work of Torrente (2012) and Vaimeho-Peua (2008). The latter involves interpreting the original sense of place names to reconstitute the ancient function of spaces or locations, which are memorised in land names (ceremonial places, residences of the elite, agricultural/fishing places and so on).

According to many general ethnohistorical records, the territorial anchorages of Tahitian chiefdoms were supposedly unchanging, as the symbolic values of the landscape were highly sacred. The natural boundaries (rivers, mountains and reef passes) marked territorial limits, which were highly sacred *(tapu*). These were memorialised in traditional *paripari fenua* or 'praise chants' relating to the land and territories of a chief. Such chants list the principal geographical attributes of the territory, including the rivers or water places, sacred mountains, islets, ceremonial centres, district level temples or *marae*, meeting grounds or *tahua*, and the ritual *'arioi* [1] places,

along with the names of the principal chiefs. However, the study of local ethnohistories shows that change *did* occur, particularly with respect to the location of ceremonial complexes. Moreover, while archaeological surface studies of settlement patterns can have the problem of palimpsests in each landscape and territory, local ethnohistorical analysis helps to demonstrate changes over time. Here the settlement pattern cases from Tahiti are compared with those from Opoa on Raʻiatea Island, as the ethnohistorical records indicate a direct and strong influence of this chiefdom on the historical trajectory of Tahitian chiefdoms.

The methodology used here, specifically cross-referencing of archaeological and ethnohistorical data, helps to bring a diachronic perspective to our understanding of socio-political organisation in several ancient chiefly territories. The analysis of toponymy, along with ethnohistorical sources and genealogies of the ruling *ari'i* families, sometimes allowed for relative dating of the establishment of the principal chiefly *marae*. Despite a lack of archaeological studies and absolute chronologies for Tahitian and Raiatean *marae*, a framework from neighbouring islands can be applied. On Huahine Island, geographically close to Raʻiatea, the first monumental *marae* in Maeva and Matairea are dated from the 15th to 16th centuries AD (Wallin and Solsvik 2005). On Moʻorea Island, close to Tahiti, rich data from ʻOpunohu Valley dates construction of the first *marae* to the 13th to 14th centuries AD (Kahn 2011), while the development of more elaborated ceremonial architecture occurred in the 17th century (Kahn 2013, Kahn and Kirch 2014).

Most of the traditional lore and ethnohistorical records in Tahiti were written during the second part of the 19th and beginning of the 20th centuries. More generally, central East Polynesian traditional accounts mostly indicate three to four chronological periods of major political and religious transformations (Gunson 1993: 140-41). With a few exceptions, as for example Rapanui (Métraux 1999) or Napuka in the Tuamotu Islands (Te Reo o Te Tuamotu 2000), the first settlement of people on East Polynesian islands was mostly forgotten, or obliterated by later genealogies. Similarly it appears that on Tahiti Island archaic period traditions were replaced by the religious foundation myths related to the ruling chief genealogies as known in the 18th century, but on Raiʻatea and Huahine traditional accounts still exist from more remote times (Saura 2005). On the other hand, Tahitian genealogies are less ancient than in the Leeward Islands (Pichevin 2013).

The second period of the ethnohistoric accounts describes the coming of a chief from another island, who marries a woman or man from an indigenous chiefly line or clan. The newcomer brings a new socio-political order, through the worship of their gods and a new *marae*. This social, political and religious change may be seen as the local appropriation of

the political power and lands, legitimated through descent from marriage with an indigenous person (Eddowes 2003). The replacement of a prior genealogy by this new ruling family has been called "the ideology of the winner" (Torrente 2010: 279-80), and might be the result of either an outright war or a prestige competition. As a consequence of this, trying to retrospectively reconstitute the previous socio-political organisation often requires a considerable ethnohistorical analysis of many and varied sources which relate to non-contemporaneous events.

On Tahiti, a major change in local histories arises from the arrival of founding ancestor Firiamata no Hiti from Bora Bora Island (Leeward Islands) who married a woman from a ruling family on the south coast of the island, Vaiari. Farepu'a Marae, dedicated to the god Ta'aroa, is supposedly the first *marae ari'i* of the island. Some generations after this, other *marae ari'i* were established around the island and involved taking a founding stone from the original Farepu'a Marae. On the island of Ra'iatea, in contrast, the major historical event is linked with the arrival of the god Ta'aroa, which is partly why the alternative name of this island was Havai'i, and it remains for many Polynesians a "sacred island".

The last major period of socio-political transformation in the Society Islands—before European contact—relates to the introduction of a new god, 'Oro, who was associated with fertility, peace and war (Henry 2000: 127, 237). The origin of this cult lies in Taputapuatea at Opoa, on Ra'iatea Island. The first *marae* Taputapuatea on Tahiti was founded in Tautira by the priests of Opoa (Henry 2000: 136). The other *marae* Taputapuatea in the Windward Islands was founded following an alliance between a Tahitian chief with the Tamatoa Chiefdom of Opoa (Henry 2000: 136-38). Thus, in Tahiti major socio-political transformations in late prehistory are traditionally attributed to influences from the Leeward Islands of Bora Bora and Ra'iatea.

ARCHAEOLOGICAL EVIDENCE

Marae of the Society Islands were of a variety of architectural types, based around three main components: the *ahu*, which was the most sacred part of the *marae*, materialised by a platform or enclosure, and located at one end of the court; upright stones; and a courtyard. The first archaeological inventory (Emory 1933) recorded three *marae* types that co-varied with geographic location. However, since the 1930s, the spatial location of those architectural types is no longer a criterion, but the geographic nomenclature is still used. The "interior" *marae* type has a simple architecture, using mostly basalt stones, and consists of an *ahu*, usually a low platform or area delimited by an alignment or low enclosure. The oldest dated *marae* in 'Opunohu Valley is of this type (Kahn 2013).

The "coastal" type *marae* appears around the 17th century in the Windward Islands (Kahn and Kirch 2014), and was further developed during the 18th century. Kenneth Emory (1933) described these monumental *marae* on the coastal plains of Tahiti and Mo'orea. Most of them were directly associated with chiefly genealogies (Emory 1927). Since the 1960s, archaeologists carrying out further investigations and prospections (Garanger 1964, 1980, Green *et al.* 1967) have sometimes recorded these *marae* types at considerable distances inland, but the label of "coastal" has remained in the archaeological literature. Finally, a group of "intermediate" *marae* can be defined; these include worked coral or basalt slabs in the facing of the *ahu* and two-to-three stepped *ahu* platforms (Emory 1933, Green *et al.* 1967).

In the Leeward Islands, the "coastal" *marae* have large *ahu* platforms with one or two levels (demarcated with large dressed coral slabs) and a courtyard (sometimes paved), and no constructed walls but sometimes double alignments. In the Windward Islands, the "coastal" architectural form has worked stones and coral in *marae* enclosures and/or retaining walls for the *ahu* platform. Worked rounded basalt stones are set in several courses, and the first course of the wall is made of square coral blocks set on edge. This architectural component also has minor variations: the first course may use square basalt blocks—natural or sculpted—or both basalt and coral blocks. In some "coastal" type *marae* that are located inland, as in the Papeno'o Valley of Tahiti or in the 'Opunohu Valley of Mo'orea, natural rounded cobbles have been used instead of worked ones, apparently in imitation of "coastal" type *marae* that are actually located on the coast (Maric 2012: 66). One ethnohistorical account associates this architecture with worship of the god 'Oro; Henry (2000: 139) suggested that the rounded stones symbolised turtle heads, which could replace human sacrifices during 'Oro rituals.

On Tahiti, we know where the most ancient and powerful chiefly *marae* were located but unfortunately most of them were destroyed around the beginning of the 19th century. As a result, for some of them we lack architectural details. However, invaluable information comes from the first archaeological records of Emory (1933), and also from descriptions in ethnohistorical sources (Henry 2000, Salmon 1913). The disappearance of these major *marae* is a significant problem for our analyses, as without excavations and dating, the period of their establishment is unknown.

Polynesian religion, which structured the whole social life of Polynesians, had temples both for different social levels and for different purposes: family (including the different social classes), "kin-congregation" (Oliver 1974), specialist activities and territorial markers. This may explain the variety of architectural forms observed archaeologically. The fundamental aspect of *marae* is their function as places of interaction between two worlds: *Te*

Ao, the world of the living, and *Te Pō*, the world of the ancestors and gods. The *marae* itself was surrounded by boundaries which marked the sacred space. This fundamental function is also spatially materialised, with *marae* frequently being located at territorial limits or the edges of ancestral lands (Garanger 1964: 10). The great *marae ari'i* of the territorial level were part of ceremonial complexes involving numerous stone and wood structures, which focused all the attributes of the chiefly power. Thus, we can consider that the *marae ari'i* corresponded to the religious and political centres of chiefdoms.

VAIARI, TEVA I UTA CONFEDERATION, TAHITI ISLAND

In the middle of the 18th century, the Teva Confederation was said to be the most powerful on Tahiti Island. It included "Teva i Uta" (including the chiefdoms of Vaiari, Papara, Atimaono and Vaiuriri) located on the southwest coast of Tahiti Nui, and the "Teva i Tai" Confederation of the peninsula (Tahiti Iti). According to oral traditions, all of these socio-political groups were descendants of the founding ancestor Teva (Ta'aroa 1971). The mythological supremacy of Vaiari came from the ancestor Firiamata o Hiti, who derived from Bora Bora Island (previously named Vava'u). Farepu'a Marae, dedicated to the god Ta'aroa, was founded in the honour of a mythical ancestor named Tetuna'e, supposedly his direct descendant.

Farepu'a Marae unfortunately was destroyed by "King" Pomare in 1820 (Salmon 1910: 41, Ta'aroa 1971: 265). A sacred chant indicates its location, at the beginning of the main valley of the district, with a view of the coastal plain (Salmon 1910). This location is cross-referenced with both historical data and genealogical information. From the latter, a *marae* Farepu'a is mentioned in the land of Hapuriuri, according to the genealogy of Nu'u and Nu'utea, as transcribed by Tati Salmon (Emory 1927). This ancient land has been recorded in the land claim register (*Tomite fenua i Papeari,* 1855–1856) and its relative location can be made using the ancient cadastre plans. This location corresponds to the lower valley of Titaaviri, at the same place indicated by our local informants during fieldwork in 2005 (Maric 2012: 230). A sacred chant describes this *marae* as being constructed of large coral blocks (*pu'a*) and ornamented with red feathers, a symbol of the most powerful ruling title. These sources collectively place the most ancient ceremonial centre of the Vaiari Chiefdom on the river bank in Titaaviri Valley, less than one kilometre inland (Fig. 2).

A second major ceremonial centre has been identified from a toponymic study of the district. In the land claim register three *marae*, Va'iōtaha, Taputapuatea and Hitia'a, were recorded on the land Taunoa, on the shore at the coastal promontory Rave-atau, facing the pass. Today this area is occupied by modern houses, but there are some poorly preserved remains; these

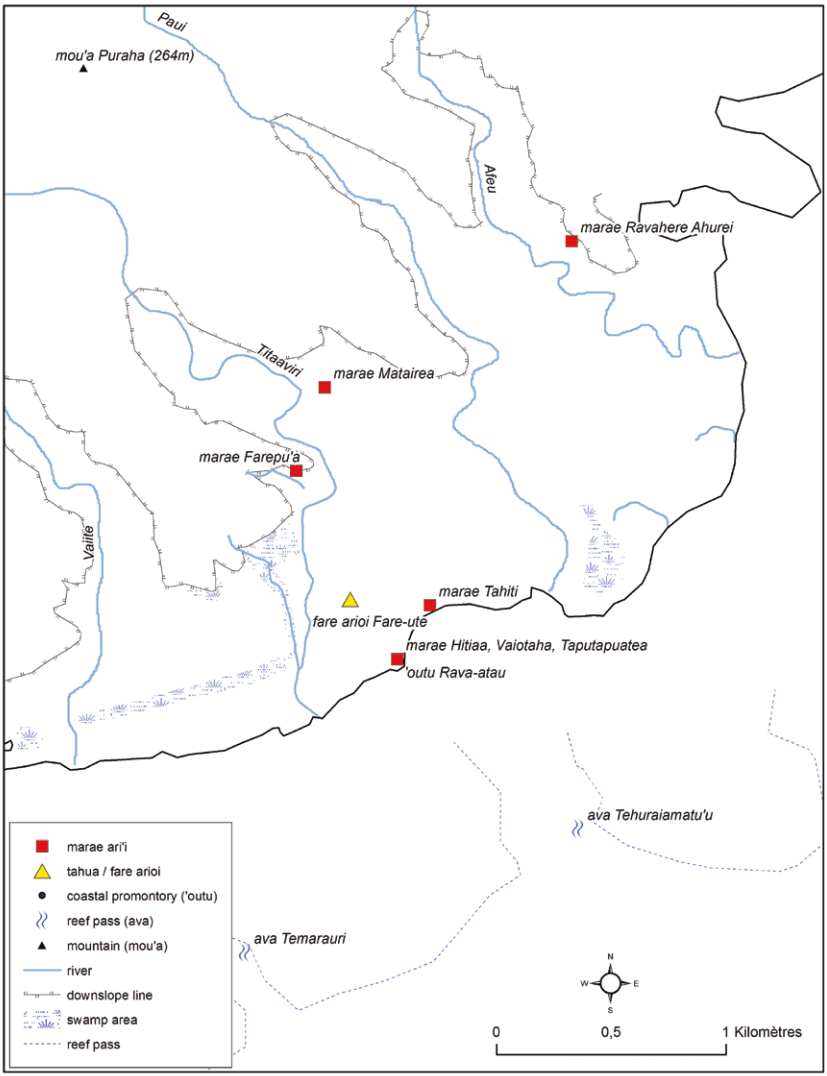

Figure 2. Location of ceremonial centres in Vaiari Chiefdom.

include some squared coral blocks, upright basalt stones and a banyan tree,[2] indicating the previous location of a *marae*. The local land names have kept the memory of ancient ceremonial places linked to the chiefdom, including the residence of the *ari'i*, the house of *'arioi*,[1] and a place for high-ranking women (*tapairu*) (Maric 2012: 229). The *marae* of Taputapuatea in the district of Vaiari is recorded in several ethnohistorical accounts (Bodin 1982, Salmon 1951,Ta'aroa 1971). The Taputapuatea Marae of Vaiari is clearly related to the original Taputapuatea Marae in Opoa, and reflects expansionist activities during the proto-historic period (12 generations before AD 1900, c. the 17th century), according to the genealogy of Hiro (Cadousteau 1996: 34-36). Thus, there are two non-contemporaneous ceremonial centres in Vaiari District. The most ancient was located at Farepu'a Marae in Titaaviri Valley, and the more recent ones, *marae* Taputapuatea, Va'iōtaha and Hitia'a, were founded on the coastal promontory.

PAPARA CHIEFDOM, TEVA I UTA CONFEDERATION, TAHITI ISLAND

The Papara District and Chiefdom occupied a special location in the very steep topography of Tahiti. Here the deep and narrow valley opens onto a large coastal plain that is only 2 km wide, but is the largest coastal flat in the Society Islands. According to ethnohistorical sources, the chiefdom of Papara appeared after that of Vaiari. Traditions say the ancestor Teva was born of the Chiefess Hotutu (a descendant of the Vaiari lineage) and a chief who originated from Ra'iatea (Ta'aroa 1971). The latter is identified as Ari'i Matauhoe from *marae* Vaeara'i, in other words from Opoa on Ra'iatea. In this case, relative dating based on genealogies is difficult because of internal contradictions, with one indicating that Hotutu lived 40 generations before 1900 and the other suggesting 25 generations before 1900 (Pichevin 2013: 263). If we take the more recent one, Hotutu and Teva may have lived about the 15th century (using a count of 20 years per generation).

Mata'oa Marae was founded on the coastal plain of Papara, close to the valley of Temarua (Fig. 3). In 1925, this *marae* was in a poor state of preservation, but Handy's [n.d.] unpublished journal records enclosure walls like those of the "coastal" type *marae*, and a sand mound that may correspond to the fill of an *ahu* platform. The site was excavated in 2004 (Maric *et al.* 2004), but nothing was left of the original *marae*, nor was there any stratigraphy; only buried and scattered round, shaped stones and squared quadrangular basaltic blocks were observed, which are surely the remains of the walls seen by Handy.

The most ancient chiefly *marae* in Papara was Taputuara'i, founded with one of the eight stones taken from the *marae* Vaeara'i of Opoa (Ta'aroa 1971). It was situated in the ancient lands of Amo, at the beginning of Temarua Valley. The chiefly title linked to this *marae* was Tuitera'i (Adams 1964: 14). This

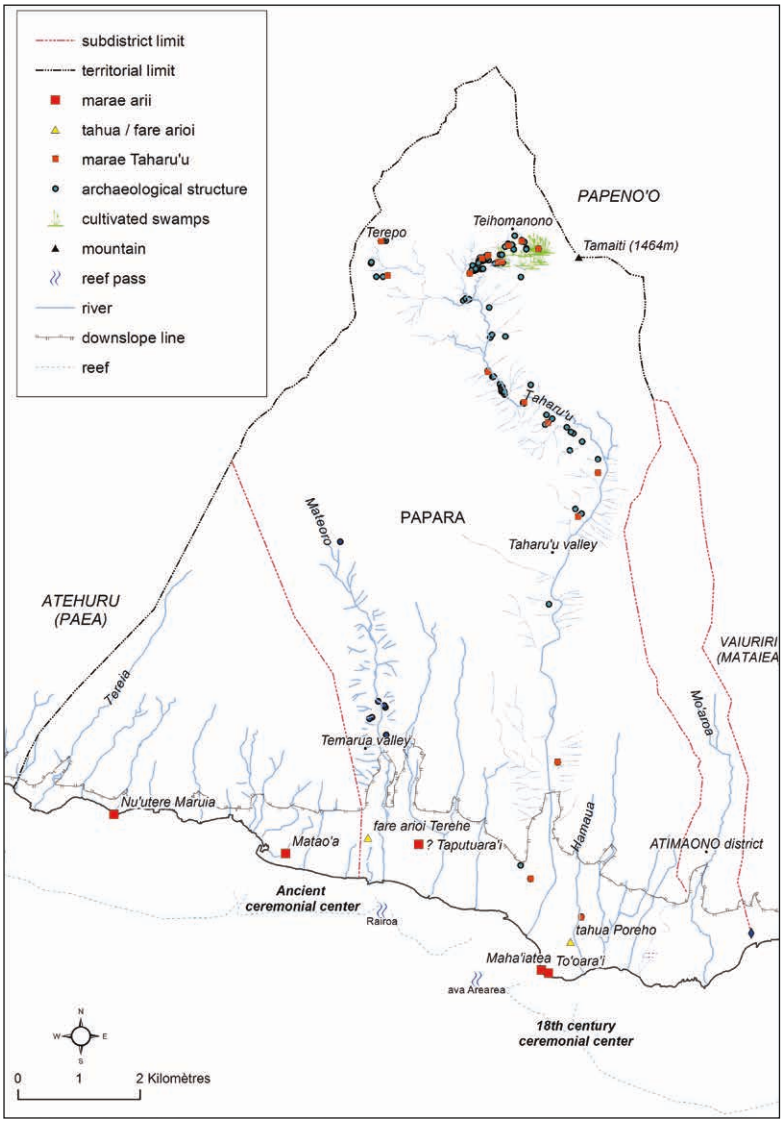

Figure 3. Location of the non-contemporaneous ceremonial centres in Papara Chiefdom.

marae was recorded by Emory (1933: 74) as an "intermediate" type, with both enclosure walls and stepped *ahu*, and also simple architecture elements of the "coastal" type, such as round, shaped stones in the walls. It was associated with a smaller *marae* that was dedicated to the tutelary spirit of the *ari'i* family. Unfortunately this *marae* was also destroyed during the 20th century.

In the 18th century, the ceremonial centre of Papara was transferred several kilometres to the west, to the coastal promontory of Manono at the mouth of the largest valley of the territory, Taharu'u (Fig. 3). This move can be linked with the historical account of Ari'i Taimai (Adams 1964) that relates a competition between the two brothers for the *ari'i* title, and which led to the exile of the oldest brother, Aromaitera'i. The younger brother, Amo, took a founding stone from the old family *marae* of Taputuara'i and founded his own *marae*, To'oara'i, at Manono. To'oara'i Marae stood on the shore and has been described as a typical "coastal" type *marae*, with enclosure walls and a two-step *ahu* platform (Baessler cited by Emory 1933: 34, Salmon 1913). Some years before the arrival of Captain James Cook, the monumental *marae* of Maha'iatea was constructed, close to the To'oara'i Marae.

The interior of Taharu'u, a steep and deep valley, is marked by scattered habitation sites, agricultural terraces and a few irrigated terraces. The settlement extended from the lower valley to the high plateau of Teihomanono (between 400 and 800 m elevation), and has been radiocarbon dated to the beginning of the 15th century. The first tangible occupations, in the lower valley as well as in the valley interior, are characterised by intense basalt flaking activities, which decrease over time. A ceremonial complex is found on the plateau, at an elevation of 600 m, located at the edge of the cliff, while small habitation and horticultural sites are located along the streams (Maric 2012: 210-12). The ceremonial complex has been interpreted as indicative of *ra'atira* residences, a class which is supposed to have played an intermediate role between the *ari'i* and the *manahune* in controlling the subsistence-production system.

All *marae* in Taharu'u Valley are of the "interior" type, from the little shrines associated with horticultural sites to a greater *marae* located at the feet of the sacred mountain Tamaiti and surrounded by a swamp. As this mountain is traditionally associated with the *ari'i* of Papara, it is larger and better constructed than all others in the valley; it may indicate a ceremonial site associated with the elite, and may also mark the inland margins of the chiefdom territory. The global settlement pattern of Taharu'u Valley reveals an almost typical example of the ethnohistorical model: the *ari'i* ceremonial centre is located on the coast, and the lower classes are living in the mountains. This was the description given by the Teva descendants (Ta'aroa 1971); however, the archaeological records show that the ethnohistorical model is too simple.

MANOTAHI CHIEFDOM (PUNA‘AUIA), TAHITI ISLAND

In the 18th century, Manotahi Chiefdom (the other ancient name of Puna‘auia) formed, with Manorua or Paea, the confederation of Atehuru (also known as Te Oropa‘a), and “the land of the warriors *Manahune*” (Handy 1930: 71). Douglas Oliver (1974: 976) classified it as of the fourth order of complexity. It is situated on the west side of Tahiti, and the main valley of Punaru‘u communicates with the interior of the caldera of Papeno‘o. Traditionally, Puna‘auia was populated by three original clans, with the Atiue and Mehiti (descendants from the founding ancestor Puna) occupying the interior and the Moene living on the coast (Handy 1930: 71).

The *marae* of Punaru‘u Valley are all of the “interior” type, mostly grouped into aggregate complexes of *marae. S*ome of them can be considered as monumental because of their dimensions, but they are not architecturally elaborated: natural blocks are used in the walls and facings of the *ahu*, except for some little slabs of coral. This fact can be underlined, as the elite presence through temple types is recorded in other major valleys of Tahiti and in ‘OpunohuValley on Mo‘orea. On the coast, although all *marae* have been destroyed archaeological records (Emory 1933; also unpublished records in Département Archéologie archives, Tahiti) describe monumental temples and *ahu* with stepped platforms but constructed using only natural stones.

The most ancient *marae ari‘i* of Manotahi was named *marae* Tahiti, and was founded from Farepu‘a Marae in Vaiari, three generations before Teva (Cadousteau 1996, Emory 1927), and thus may date to shortly before the 15th century. Tahiti Marae was located 2 km from the coast in Punaru‘u Valley (Fig. 4). It was visited by the Captain Wilson in 1797 who described a paved court of about 27 to 35 m wide, enclosed by wooden fences, and with a heap of stones corresponding to the *ahu* platform (in Emory 1927: 100); the latter must have been a simple low platform of basalt stones. This type of *ahu* platform can be compared with the second period of elaboration of *marae* B in the Ta‘ata Marae Complex in Paea[3] (Garanger 1975). The remains recorded in 1920 by Handy and Emory (1933: 62-63) show a simple and small “interior” type *marae* with some coral slabs for the *ahu*, probably a *marae* annex, numerous platforms in a rocky steep area and sacred banyan trees.

In the 18th century, the major ceremonial centre of Manotahi was located on the coastal promontory of Nu‘uroa, at the mouth of the Punaru‘u River, where Taputapuatea Marae was founded near the more ancient *marae* of Puna‘auia. This Taputapuatea Marae was also mostly destroyed when Emory (1933: 61-62) visited and recorded large coral slabs and numerous rounded-shaped stones, which indicated a typical monumental “coastal” type *marae.* The analysis of the toponymy of Nu‘uroa explicates the meaning of the land

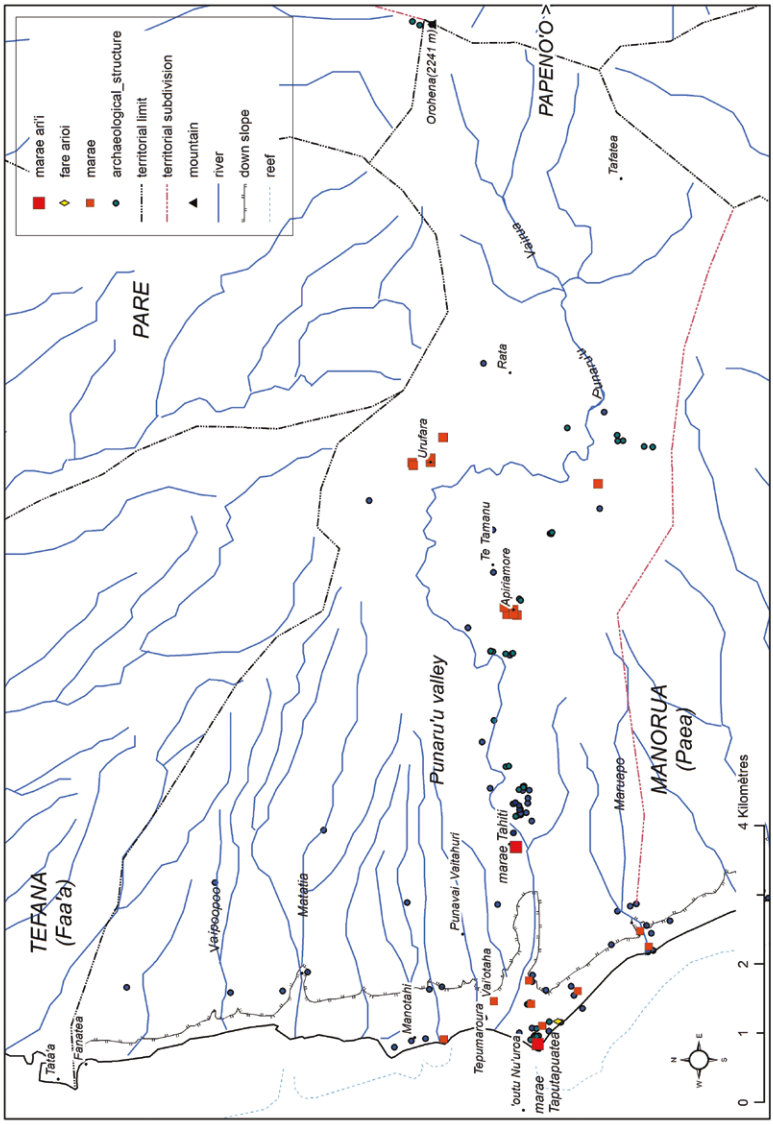

Figure 4. The ceremonial centres of *marae* on Tahiti in the Punaru'u Valley and Puna'auia and Taputapuatea Marae at the Nu'uroa coastal promontory.

names, and shows different ceremonial spaces were associated with other districts and chiefly *marae*, *fare ʻarioi* and so on (Tessier 2010).

In summary, the most ancient forms of the *marae ariʻi* type were not architecturally elaborated temples, although they might have been monumental in size. In Punaʻauia, the *marae ariʻi* was located in the interior of the main valley of the district. The ceremonial centre of Taputapuatea, located on the coastal promontory at the mouth of this valley, must have been established later, around the late 17th to 18th centuries. We also know from ethnohistorical accounts that at the end of the 18th century the inland *marae ariʻi* were still in ritual use.

CHIEFDOM OF OPOA, RAʻIATEA, LEEWARD ISLANDS

The pre-European political organisation of Raʻiatea, also named Havaiʻi, included nine principal chiefdoms. Opoa, located southeast of the island, was controlled by the *ariʻi* Tamatoa who were considered the most powerful in the archipelago during the 17th to 18th centuries (Handy 1930: 83, Oliver 1974: 1209-10). Traditional lore relates that the god Taʻaroa arrived from the sky and placed his right foot on this locality (and his left foot on the other side of the island in the Tevaitoa Chiefdom). Then a *marae* was founded and named Vaearaʻi (literally ʻfeet from the skyʼ) in the valley of Opoa (Handy 1930: 84). Vaearaʻi is located on the south river bank, not far from the valley mouth. Recorded in the early 1930s, Handy saw a disturbed pavement, an alignment of four basalt rocks and an upright basalt block (Emory 1927, 1933: 150).

Traditions say that stones were taken from Vaearaʻi Marae for the foundation of new *marae* in both the Leeward and Windward Islands (Taʻaroa 1971). On Raʻiatea, the second *marae* founded from Vaearaʻi was the *marae* Tinirau Hui Mata te Papa o Feʻoro, dedicated to the god Taʻaroa and located on the coastal promontory Matahiraiteraʻi in Opoa. This event involved moving the previous religious ceremonial centre, which had been located inland, to the coastal promontory where the *marae* faced the reef pass. During a later period, associated with the new god ʻOro, son of the god Taʻaroa, the *marae* was renamed Vaʻiōtaha.[4] During the late pre-European period, the *marae* was renamed Taputapuatea. The family *marae* of the Tamatoa *ariʻi*, named Hauviri, was the seat of the principal religious rituals that punctuated the life and the death of the chiefs. The complex was also known as the seat of a religious "international" alliance, integrating other islands of the Societies, Rarotonga in the Cook Islands and maybe those as distant as Te Ao Tea Roa (New Zealand), Hawaiʻi and Rotuma (Henry 2000: 128-30).[5]

The Taputapuatea Ceremonial Complex is located at Matahiraiteraʻi, where it is surrounded by natural boundaries and comprises a large sacred space named Te Pō. The site itself can be considered as a territorial limit, as it is

situated on the boundary shared with the neighbouring district of Hotopu'u. The complex comprises four monumental *marae*, two smaller *marae*, and ceremonial and archery platforms. This site, along with the valleys of Opoa and Hotopu'u, is currently a candidate for UNESCO World Heritage status.

Emory and Sinoto (1965) first studied the Taputapuatea Ceremonial Complex in 1963. Subsequently, the principal *marae* were twice restored, first by Sinoto (1969) and then again between 1994 and 1995 by the Département Archéologie (Centre Polynésien des Sciences Humaines) of Tahiti. The impressive *ahu* platform measures 42.50 m in length by 8.20 m in width and is constructed of large, upright, coral slabs which reach 3 m in height (Fig. 5). An enclosure of square coral blocks is located at the summit of the *ahu,* corresponding to the *ava'a rahi* described by Henry (2000: 140). When Emory and Sinoto (1965) conducted test excavations in the courtyard, they discovered a buried pavement level. While restoring the *ahu* platform in 1969, Sinoto further observed that the prominent surface platform covered another older *ahu* platform, of about the same dimensions in length but lower in height. So is the buried pavement contemporaneous with the first *ahu* platform? Minimally we can say that the Taputapuatea Marae had at least two periods of construction, the second one seeing the development of

Figure 5. Coral slabs of the *ahu* platform of Marae Taputapuatea (photo by author).

monumental architecture. This matches with the oral traditions, which relate the consecutive names of this *marae*—first as Tinirau Hui Mata te Papa o Fe'oro, then as Vai'otaha, and finally Taputapuatea.

Taputapuatea Marae is one of the most monumental *marae* of the Leeward Islands, the largest being Tainu'u Marae in the Tevaitoa Chiefdom on the west coast of Ra'iatea; others include *marae* Anini in Huahine and *marae* Marotetini on Bora Bora (Emory 1933: 34). Tainu'u Marae may been constructed after Taputapuatea (Handy 1930: 91, Henry 2000), and if so would support the "developmental hypothesis", which suggests that the most monumental *marae* are a more recent phenomenon (Emory 1970: 77, Sinoto 2001: 17-21). This idea also is supported by ^{230}U/Th dating of coastal *marae ari'i* on Mo'orea Island (Kahn and Kirch 2014: 45, Sharp *et al*. 2010: 13238), which demonstrated that the most monumental ones are later.

Turning to Hauviri Marae, this structure faces the lagoon and is flanked by another less monumental *marae*, currently known as 'Opu Teina. They both are separated by a little beach of about 15 m length named Taura'a-tapu. Hauviri Marae was fully restored in 1995 by the Département Archéologie, leading to a polemic about its final form, with Sinoto (2001) arguing that this *marae* was reconstructed with non-contemporaneous components. When Hauviri Marae was first recorded (Emory 1933) only an *ahu* platform and an upright stone of 2.7 m high in the courtyard were visible. Following the 1995 reconstruction, Hauviri Marae has a paved court enclosed by walls of a typical Windward Island *marae* form, with worked rounded basalt stones (of the "coastal" windward *marae* type) and mostly naturally rounded basalt pebbles. Despite the fact that no detailed report of the excavations and restoration is available, there are interesting data concerning this *marae* in the archives of the Service de la Culture et du Patrimoine in Tahiti (Navarro *et al.* 1995). During excavation of the court, the base of a double alignment of stones associated with scattered rounded stones, was interpreted as an ancient enclosure wall.

Otherwise, the stratigraphy clearly shows the absence of an underlying archaeological layer. This leads to the assumption that Hauviri was not founded on an earlier *marae.* Data on the *ahu* platform are lacking, so it is not possible to confirm that the structure was never modified nor expanded. However, the absence of an underlying occupation, before the construction of Hauviri, can be interpreted as this site being later than Taputapuatea Marae. This would correspond to the ethnohistorical accounts: the successive names of Taputapuatea Marae suggest successive dedications and reconstructions, before the founding of the Tamatoa *ari'i* lineage associated with Hauviri Marae. If we allow that Hauviri once included worked stones typical of the "coastal" Windward *marae* type, then this would be a unique example

of a typical Windward *marae* architectural component in a Leeward Islands setting. Other "coastal" type *marae* have been recorded in the mid-valley areas of Opoa (Edwards 1995a: 17), where a platform, courtyard and *ahu* platform with basalt slabs in the first course, and natural rounded pebbles in the walls, were found.

The settlement pattern of the Opoa Valley (Edwards 1995a, Niva 2008, 2009) shows habitation sites associated with irrigated horticultural terraces, and *marae* ranging from the "interior" type to simple shrines, the latter being the majority. One major ceremonial site of note, in the middle valley, is Taumariari Marae (Emory 1933: 150-51, Niva 2008) which includes a ceremonial platform with numerous upright stones, associated with two *marae* whose single *ahu* are low platforms with small coral slabs and blocks in the facing, and simple *marae* annexe.

Returning to the Opoa case, the combined ethnohistorical and archaeological data allow for a preliminary hypothesis about the development of chiefly *marae*. The emergence of a ruling chiefly lineage here may be contemporaneous with the moving of the ceremonial centre from the original lower valley location to the coastal promontory, where the *marae* faced the sacred reef pass, and was at the limits of the territory of Opoa.

DISCUSSION

According to the oral traditions of Tahiti, several religious transformations are associated with the increasing pre-eminence of a god's worship. In the first stage there is the pre-eminence of Ta'aroa over Tane (Henry 2000), while in the pre-final stage 'Oro takes precedence over Ta'aroa. In the context of increasing social hierarchy, elites claimed divine ascendance and inter-married with the "royal" lineage of Tamatoa from Opoa on Ra'iatea which led to increasing status competition between *ari'i* lines. The founding of *marae* dedicated to the new worship involved the moving of the ceremonial chiefly centres to the coast, where they faced major reef passes, which became sacred.

Thus, the Tahitian and Opoa chiefdoms were spatially transformed through time. During the period of the establishment of the Tahitian chiefdoms, at a date still not firmly determined but perhaps c. 15th century AD, the chiefly *marae ari'i* were located at the mouth of the principal valley of each territory, near the junction between inland and coastal zones. The precise architecture for most of these *marae* is unknown, but one note indicates the use of coral blocks or slabs in Farepu'a Marae from Vaiari. The testimony of Captain Wilson in 1797 regarding Tahiti Marae in Puna'auia (in Emory 1933: 62) suggests a simple architecture for this ancient and very prestigious *marae ari'i.* The low basalt platform of the *ahu* can be compared to other well documented and neighbouring sites. For example, at the Ta'ata Marae

Complex, the structure designated *marae* B had three periods of architectural elaboration: at first the *ahu* was a simple pavement, in the second period the *ahu* was a low basalt platform, and in the third period, the *ahu* was a three step platform, consistent with "coastal" type architecture (Garanger 1975). In the ʻOpunohu Valley of Moʻorea, the *marae* of site ScMo-124 initially had an *ahu* that was a low basalt platform, dated to the late 17th century; this was later followed by the addition of coral slabs to the *ahu* of the principal *marae* (Kahn and Kirch 2014).

In the 17th and 18th century, in those localities, the ceremonial centres associated with the god ʻOro (Vaiʻōtaha and Taputapuatea Marae), and the chiefdom of Tamatoa from Opoa, were located on the shore, at coastal promontories and facing the reef pass. The former *marae ariʻi* were not abandoned and remained highly prestigious, but an important part of the principal ceremonies occurred at the coastal *marae* centres. It is unlikely that we will ever be able to date the foundations of these Tahitian *marae*, as they all have been completely destroyed, but the associated genealogies provide relative dates of around the end of the 17th century to the beginning of the 18th century. At that time, worship of the god Taʻaroa persisted in Teva i Uta, while that of ʻOro from Opoa extended to most of other chiefdoms of Tahiti, including Tautira on the peninsula, Teva i Tai Confederation, Punaʻauia, Paea, and probably Hitiaʻa and Papenoʻo on the northeast coast.

The establishment of the new Taputapuatea Marae, and the associated major coastal ceremonial centres, corresponds to a new symbolic and spatial pattern whose origin is located in Opoa of Raʻiatea. In moving the ceremonial centres to the seashore, at the mouth of the largest valley of the district, and facing the sea and sacred reef passes, the *ariʻi* were turned towards their powerful siblings in Raʻiatea.

Except for the first Taputapuatea Marae, established on Tahiti by the priests of Raʻiatea (Henry 2000), the foundation of the new *marae* Taputapuatea in the Windward Islands was the consequence of marriages between local chiefs and the Tamatoa lineage of Raʻiatea. Those alliances may have given more power and legitimacy to the local Tahitian chiefs who claimed their ascendance from the major gods of the Polynesian pantheon.

The development of ceremonial architecture with the "coastal" type components is dated at one site, Ahu o Mahine Marae the ʻOpunohu Valley, from the 17th century, while others date to the 18th century (Kahn 2010). This architecture is considered an indicator of the ʻOro cult (Garanger 1980: 80) but, as it was recorded only in the Windward Islands, it was interpreted as a local innovation, leading to a possible contradiction: the cult of ʻOro directly originates from Raʻiatea, while the architectural "coastal" *marae* form linked with this worship appears to a local innovation of the Windward

Islands. Nonetheless, archaeological data from the *marae* in Opoa show that this type of architecture also occurred on Rai'atea. Without dating, we can only propose the following hypothesis: an archaeological link exists between the first *marae* dedicated to 'Oro in Opoa and the more recent "coastal" type *marae* on Tahiti and Mo'orea. On the other hand, the archaeology of the interior valleys of Ra'iatea is poorly known compared to the Windward Islands, with only three valleys archaeologically inventoried to date: Fa'aroa and Opoa (Edwards 1995a, 1995b), along with Mitimitiaute Valley where eight *marae* have been recorded (Gérard 1974).

On Tahiti, the "coastal" type *marae* are located inland as well as on the coast. While local *ari'i* lines inter-married with the prestigious Leeward Island *ari'i* lines, especially with Tamatoa from Taputapuatea-Opoa, the ethnohistorical records give examples of competition initiated by junior lines. In Papara, this led to a junior chief usurping his senior and founding his own ceremonial centre in another place. The presence of this type of *marae* at far inland locations (e.g., 'Opunohu, Tautira and Papeno'o Valleys) also can be interpreted as the establishment of junior *ari'i* on new lands. *Marae* imitating the "coastal" architecture features, with natural (unmodified) stones, may also indicate the limited political power of those *ari'i* upon their people.[6]

In Opoa, the founding of the new *marae* on the coast is supposed to have occurred before the introduction of 'Oro worship. In Tahiti, however, the establishment of the new major district *marae ari'i* on the shore, associated with the 'Oro phenomenon, occurred later, probably during the 18th century, while the *ari'i* lineages captured increasing *mana* 'power' from their powerful siblings in Opoa. Did this have consequences for the settlement pattern of the district population as a whole? The expansion of the new 'Oro worship may have been of less importance for the lower social classes, and perhaps for the secondary *ari'i* as well (Eddowes 2001). The elite established the new religious and political order, while the common people continued to practice their own ancestral cults. But the ceremonies linked with *ari'i* worship may have increased the need for ceremonial offerings (Robineau 1985: 167) and for goods for maintenance of the priestly class. Also, the need for more human sacrifices for 'Oro is emphasised by traditional sources (Henry 2000, Ta'aroa 1971), and this may have had dire consequences for the *manahune*. Also of note, high altitude settlements on Tahiti (500 to 1000 m), associated with horticulture and the numerous simple *marae* or shrines, are testimony of an inland expansion into relatively unfavourable zones for agriculture. More archaeological research is needed to determine whether those settlements correspond to refuges or seasonal occupations.

* * *

The hypothesis presented here is not necessary relevant to all Society Islands. We know, for example, that the pre-European settlement pattern of Huahine (in the Leeward Islands) was different, with a scattered territorial organisation of the whole population, including the elite (Saura 2005). The ceremonial centre, including the "national *marae*" of Matairea, was located in the uplands, on the Matairea Hill, and later *ari'i* founded a new ceremonial centre (Maeva) on the shore of Lake Fauna Nui. This tendency to reorganise ceremonial centres on the shores during the late pre-contact period remains to be fully interpreted. On Tahiti, during the second part of the 18th century, the wars between the Tahitian chiefdoms, legitimated by their Opoa siblings, increased. At the same time, competition between senior and junior chiefs inside their own lineages occurred. In this politically uncertain context, controlling the strategic coast, including the reef passes, and defending access to valley interiors, which were the major agricultural production areas, may have become necessary. As the foregoing suggests, the data presented in this paper will need to be considered in other areas, especially on Bora Bora where *ari'i* lineages also had a strong influence on the Tahitian chiefdoms but archaeological data about settlement patterns has yet to be studied. The case of Opoa also needs to be compared with further archaeological and ethnohistorical research relating to other chiefdoms on Ra'iatea Island.

NOTES

1. The society of *'arioi* is defined as a kind of religious and artistic brotherhood, linked with worship of the god 'Oro, whose origins were in the Taputapuatea ceremonial centre of Ra'iatea Island.
2. *Ficus prolixa*, or *ora* in Tahitian, is a species commonly considered a sacred tree.
3. The Ta'ata Marae Complex is comprised of three courtyards (A, B, C) which are placed side-by-side and the three *marae* have differing architecture.
4. Many other ethnohistorical aspects are related to this site (Eddowes 2001) but space does not allow them to all be considered here.
5. While not published or well documented, some data exist about contacts between Taputapuatea in Opoa and Hawai'i (e.g., a *heiau* named Kapukapuakea) and New Zealand (i.e., genealogies).
6. Teuira Henry (2000) described the process of constructing *marae ari'i*, with each family bringing stones, and sometimes giving their time and working under the control of the *tahu'a marae* or 'specialist of *marae* construction'.

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ABSTRACT

This article compares the geographic and organisational patterns of four major chiefly ceremonial places in the Society Islands. On the island of Tahiti, archaeological data relating to monumental temple (*marae ari'i*) architecture is integrated with ethnohistoric records and toponymic analysis to reconstruct local ethnohistories of

the Tahitian chiefdoms of Vaiari, Papara and Manotahi (Puna‘auia). The ethnohistoric records identify a shift in the location of major religious and ceremonial centres, from original inland locations to coastal sites, around the end of the 17th and 18th centuries in the context of strong political influences from the Leeward Society Islands. The patterns of late Tahitian ceremonial complexes are compared with archaeological and ethnohistorical data from the chiefdom of Opoa on Ra‘iatea Island, where the same model of spatial and diachronic evolution seems to have previously occurred. This analysis suggests that chiefdom of Opoa, focused on the great *marae* Taputapuatea, had a strong influence on Tahitian polities, through the foundation of new *marae* Taputapuatea in the Windward Islands and accompanied by new boundaries which demarcated sacred landscapes.

Keywords: Settlement patterns, ceremonial architecture, *marae*, ethnohistory, toponymy, Society Islands, Polynesian chiefdoms

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EXPLORING RELIGIOUS PRACTICES ON POLYNESIAN ATOLLS: A COMPREHENSIVE ARCHITECTURAL APPROACH TOWARDS THE *MARAE* COMPLEX IN THE TUAMOTU ISLANDS

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In central East Polynesia, archaeological research on ritual architecture has developed unequally across the archipelagos. Religious structures or *marae* of the Society Islands have guided the interest of many authors who published largely descriptive syntheses (Gérard 1974, 1978a, 1978b) and typological analyses, including discussions about local developments of the so-called "*marae* complex" (Eddowes 1991, Emory 1933, Kahn and Kirch 2014, Maric 2013, Wallin 1993). In contrast, *marae* studies are less developed in the Austral and Marquesas Islands where ritual monuments are usually integrated with broader settlement pattern studies in which they play a minor role (see reviews in Conte 2000, Molle 2015: 7). In the Tuamotu Islands, although *marae* prevail in the archaeological record, comprehensive studies on ancient ritual architecture are still lacking.

The Tuamotu Archipelago is one of most extensive groups of coral islands in the Pacific and the largest in central Polynesia; it includes 78 atolls and stretches over 1800 km from northwest to southeast between the Society and Gambier Islands. The archipelago is traditionally divided into several sub-areas (Fig. 1) characterised by cultural and linguistic specificities (Stimson and Marshall 1964). Archaeologically these atolls are distinctive for their extreme ecological conditions which do not favour the preservation of archaeological remains. In addition to the lack of sedimentation, which limits the development of buried anthropic layers, the relatively high frequency of devastating cyclones also has contributed to the disappearance of ancient domestic sites which were made of perishable materials. Only *marae*, the sole structures built in coral stones, have stood the test of time. As a consequence, the attention of archaeologists, as well as earlier missionaries and amateurs, has mainly focused on these ceremonial places.

The earliest mentions of *marae* were provided by the first Catholic missionaries who settled on the islands from 1849. Fathers Audran and Montiton especially could almost be considered ethnographers given the ways that they systematically collected oral traditions about the ancient ritual practices conducted on *marae*; they were among the last witnesses of such practices before they were forbidden and then disappeared with the installation

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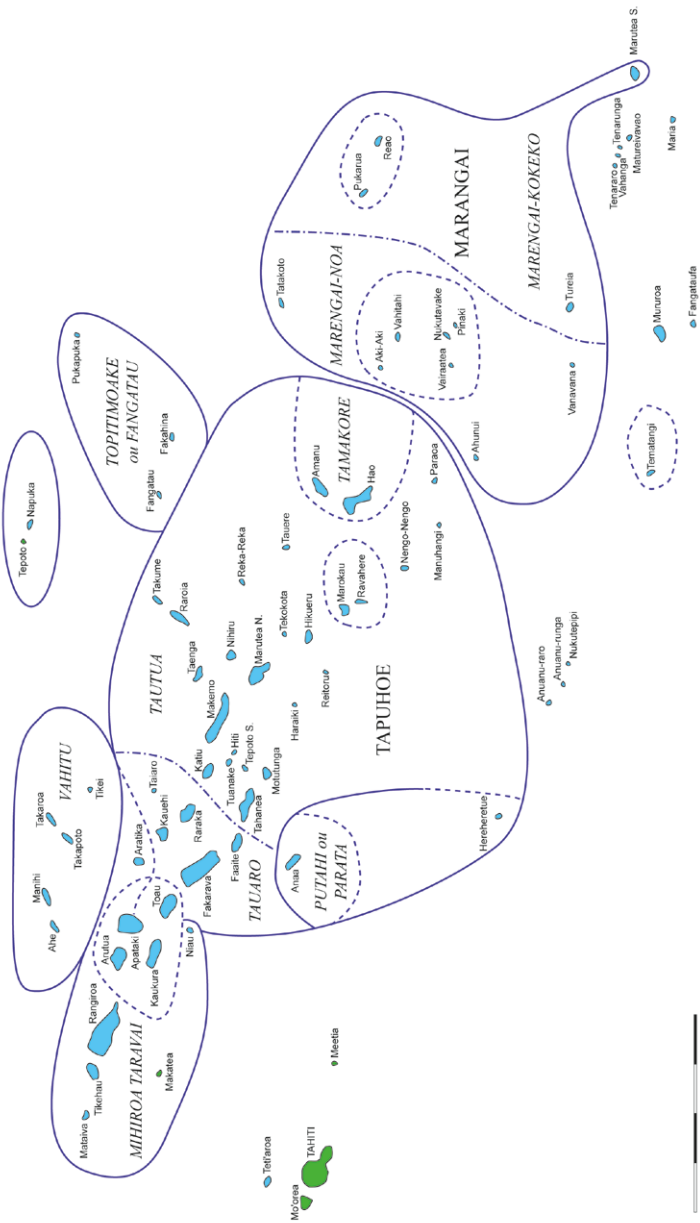

Figure 1. Map of the Tuamotu Archipelago and the traditional Tuamotuan divisions (after Stimson and Marshall 1964).

of Christianity (Audran 1918a, 1918b, 1919, 1927a, 1927b, Montiton 1874). At the turn of the 20th century, this approach of documenting religious sites was pursued by French naturalist and amateur archaeologist L.G. Seurat (1905) and historian E. Caillot (1910, 1932). Scientific archaeological excavations started in the 1930s with the Bernice P. Bishop Museum's expeditions, the first taking place in 1929–1931 in the central atolls, followed by the Mangarevan Expedition in 1934. Kenneth P. Emory was responsible for the archaeology and led the first survey of surface remains, while Frank J. Stimson was in charge of the linguistic research (Emory 1932, 1975, Stimson 1933a, 1933b, 1937, Stimson and Marshall 1964). Emory described in detail different types of *marae* and features on the atolls, revealing high variability in these monuments, which at the time was considered a result of both internal developments and external influences and migrations (Emory 1934, 1939, 1947, 1970).

Since the 1960s, French researchers from the Archaeology Department of the Service de la Culture et du Patrimoine in Papeete have conducted more surveys on the Tuamotuan atolls (often in the context of Cultural Resource Management or CRM archaeology), which have considerably enriched Emory's original *marae* database (Chazine 1977, 2003, 2005, Dauphin 2005, Jacq *et al.* 2011a, Jacq *et al.* 2011b, Marchesi and Maric 2005, Maric 2010, Maric *et al.* 2010, Niva 2007, Niva and Poroi 2005, Sodter 1984, Souhaile 1972, Vérin 1964, Vigneron 1984). Particularly important contributions came from Jose Garanger, who carefully excavated some sites on Rangiroa (Garanger and Lavondès 1966), and later from Eric Conte who led fieldwork at a series of sites on Napuka, Tepoto and on the central atolls (Conte, 1988, 1990, 2006). Also of importance was a multidisciplinary project initiated by S. Hatanaka on Reao that involved archaeologists (Chazine 1982, 1984, Nitta 1982, Sinoto 1976).

Both the vast amount of ethnographical and archaeological data related to *marae*, and the high variability of Tuamotu monuments, create a favourable context for the study of complex connections between traditional religion, ceremonial architecture and socio-political developments within a cultural and geographic entity. The analysis of *marae* serves as a critical avenue for understanding processes of cultural change, as well as ultimately enhancing our broader view of the Polynesian *marae* complex evolution. This was the purpose of Emory's initial study of Tuamotu *marae* development (1934), which he later came to reconsider in a wider regional perspective (Emory 1970). One must admit that at the time his model was built on non-exhaustive data sets, and included only surface recordings, and for these reasons his stylistic comparisons must be put into question. Still, this pioneer study remains an important reference, and has influenced archaeologists engaged

in the region. While documentation has increased considerably since then, unfortunately most of it is confined to unpublished "grey" literature and thus remains unknown and difficult for non-Francophone readers to access. As a consequence, Tuamotu *marae* have been neglected (or even omitted) in many post-Emory studies of Polynesian ritual sites while the Society Islands, Hawaiian Islands and Easter Island have received more attention (see Cochrane 1998, 2015: 41).

For these reasons, and given the almost 70 years since Emory's major publications, it appeared necessary to reassess ritual architecture development within the Tuamotu Islands. This article presents a new classification of *marae*, building on a wide-scale synthesis of surface data (Molle 2015). Analysis of the geographic distribution of *marae* types highlights some cases of local development. Beyond the descriptive aspect, this study seeks to understand the origins of patterns of variability and the nature of local trajectories. Investigation of various factors identifies internal innovations to ritual and socio-political functions as important, as well as external influences.

BUILDING A COMPREHENSIVE CLASSIFICATION OF TUAMOTU *MARAE*

Information on *marae* and rituals in the Tuamotu Islands derives from archaeological research, oral traditions, ethnohistorical accounts and ethnographic works. The heterogeneity of sources provides various views regarding *marae* typologies and use. The pioneering study by Emory (1934, 1947) proposed groupings of *marae* based on the presence/absence of major features (Fig. 2). These included the *ahu* (the main platform and the most *tapu* or sacred feature of the site), upright coral stones and cists, all organised within a sacred space (*tahua*) delimitated by enclosure systems of various forms. Later authors tended to develop their own typologies which can only be used on a small number of atolls. For instance, Garanger and Lavondès (1966: 63) distinguished between simple *ahu* in a non-enclosed court and *ahu* built in a court enclosed by double-alignments of coral slabs with coral gravel fill, the latter only being documented in the western Tuamotus. On Reao, the easternmost atoll of the group, Sinoto simply considered open courts and courts marked by ridges of coral (1976: 109), while Nitta (1982: 381) further divided his classification into 11 subclasses based on the complexity of *ahu* construction. Based on his survey of 10 atolls located in the centre of the archipelago, Conte (1990: 85) defined seven subclasses of *marae*, depending on both the number of *ahu* and their position relative to one another. Other authors have applied those classification systems to their own discoveries. In his recent phylogenetic analysis of similarity in ritual architecture, Cochrane (2015: 29) only included Reao *marae* for the Tuamotu region, thereby under-representing *marae* variation in this group.

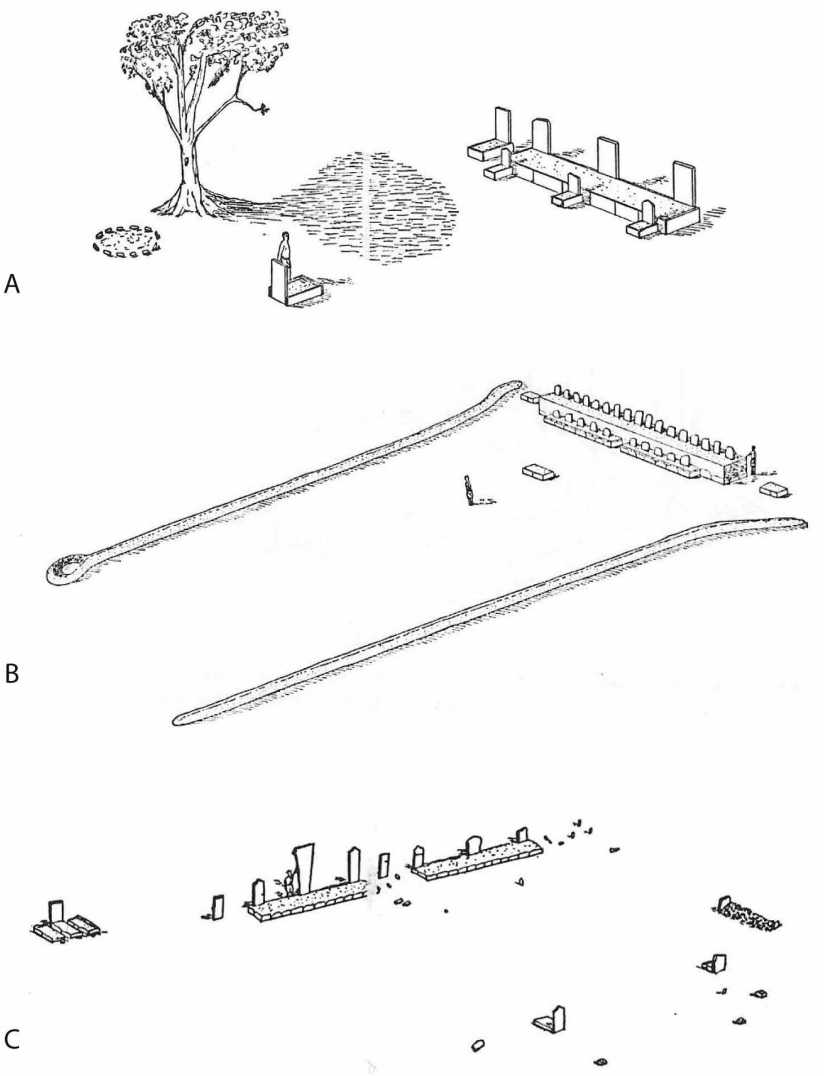

Figure 2. *Marae* styles as recorded by Emory (1934) corresponding to: A. Type 2.1; B. Type 2.3 (Reao); and C. Type 3 (Fangatau) in the new typology presented in this article.

To better address the heterogeneity issue, information about *marae* sites was compiled and synthesised in a relational database that integrates both archaeological and ethnographic materials (Molle 2015: 20). Of the 78 atolls, 36 islands have been surveyed archaeologically, providing site locations and sometimes *marae* descriptions. Additionally, the existence and locations of *marae* are indirectly documented on 32 other atolls through oral traditions, and accounts and records from local informants. Unfortunately, many of these sites have disappeared, either destroyed by missionaries in the 19th century, by cyclones or by the effects of time. The first systematic appraisal carried out in 2007 led to a total of 497 entries in the database. Since then, more surveys have increased the count to 650 *marae*. However, for classification purposes only 147 *marae* were considered to be sufficiently well preserved to be employed in a formal examination.

After examining the occurrence of attributes across the recorded *marae*, I determined that some attributes were more important than others. Table 1 lists Tuamotuan *marae* attributes sorted by architectural importance, from the most frequent to the most infrequent. Like elsewhere in Polynesia, the *ahu* attribute (consisting of a low platform in the Tuamotus) appears to be the fundamental component of ceremonial sites, in front of which ritual actions were conducted. The *ahu* also defines the general orientation of the court and influences the position of other features within the sacred space. The number of *ahu* on Tuamotuan *marae* may be as many as four or when absent, as is sometimes the case, other alternative arrangements were found to maintain its symbolic purpose. Moreover, *ahu* forms vary in dimensions and construction from simple, low platforms delimited by coral slabs set on edge and filled with coral gravel, to stepped platforms, which are sometimes made of piled-up slabs.

The enclosure system is a second attribute of importance. The presence of built walls is not systematic and most of the time the court was delimited by fences made of perishable material. When present, walls vary considerably in terms of dimensions and stonework, from double-alignment walls on Rangiroa to coral ridges on Reao. Additional attributes, including upright stones and cists, were rarely taken into consideration in previous studies. This is mainly due to the non-systematic recording of their presence, and the supposedly random patterns of spatial organisation of these attributes. As a consequence, they are considered separately. The same is true of the fourth category of attributes, which are also less frequently encountered and include pits, ovens and independent shrines. Based on religious traditions, I argue that attributes 3 and 4 likely served very specific ritual purposes and as such were not as indispensable as the *ahu* and enclosure systems.

Table 1. Description of *marae* attributes, with the architectural features organized by importance (see text for full explanation).

Attribute 1: *Ahu* Form and Number	
	A raised rectangular platform located at one end of the *marae* courtyard, which served as the most sacred focal point during rituals.
Attribute 2: Enclosure System	
	Features which delimited the sacred space, made of either perishable or non-perishable materials. In the latter case, they consisted of two or more courses of coral stones, which were placed along any side of the *marae* courtyard.
Attribute 3: Coral Slab Features	
Ahu upright	Coral slabs directly associated with the *ahu*, placed either in front or on top of the *ahu*, and signifying deities and ancestor spirits during rituals.
Independant upright	Coral slabs placed within the boundaries of the *marae* space, serving either as backrests or memorial stones.
Cist	A small rectangular enclosure limited by coral slabs set on edge, sometimes filled with coral gravel, which served as a place for depositing offerings.
Cist with upright	A small rectangular enclosure limited by coral slabs set on edge, including a coral upright at one end, which served as a place for depositing offerings.
Attribute 4: Secondary Architectural Features	
Pit	A depression, often circular in shape, and sometimes delimited by coral stones, which served as a refuse pit.
Oven	A circular-shaped oven made of coral stones, usually for cooking turtles.
Ruahatu	An accumulation of coral branches, sometimes limited by a cist-like structure made of coral slabs set on edge, which servied as a shrine dedicated to the marine deity, Ruahatu.

Building a typology of monuments that reflects the high regional variability of sites is challenging and can be achieved in different ways. The typology presented here is not intended as an ending but rather as a tool for interpreting the meaning of *marae* types which are likely to reflect historical developments across the region; these ideas can be further investigated through future archaeological and ethnographic studies. For this reason, a taxonomic (hierarchical) classification was favoured over a paradigmatic classification (Adams and Adams 1991, Dunnell 1971); I argue that this approach allows more flexibility as it uses criteria of which the occurrence and value might differ across sites. Moreover, such a taxonomic classification unifies previous attempts in that it maintains the hierarchical importance of features accepted by many earlier authors, and recognises the number of *ahu* and the nature of the enclosure system as the major criteria for distinguishing variants.

The three most conspicuous variants of attributes 1 and 2 were selected as the primary criteria for defining types and subtypes: *ahu* number, presence/absence of enclosures, and morphology of the *ahu* platforms (simple versus stepped). However, they turned out to be insufficient for tackling the complex *marae* variability in Tuamotus. In order to encompass all archaeologically recorded patterns throughout the region, subgroupings were then further detailed through additional variations, of which the most distinctive are the types of enclosure walls. Other infrequent variations (often limited to subclasses) include: the position of *ahu* in relation to the enclosure wall, multiple settings of *ahu* features consisting of joint/separated platforms, number of uprights on *ahu*, and various combinations of coral slab features and secondary architectural attributes (uprights, cists, ovens etc.) within a court space.

Figure 3 offers a synthesis of the main *marae* types, as well as the most common variations/combinations documented in the Tuamotus and discussed in this article. Type 1 defines *marae* that lack a classic *ahu* but still are described as ceremonial places and which display a combination of ritual features grouped in a non-enclosed space. Type 2 *marae*, with a single *ahu*, are the most common in Tuamotus, although I distinguish between Type 2.1 (without constructed walls), Type 2.2 (double-alignment walls enclosures, where two alignments of coral slabs have been set on edge and the space between filled with coral gravel) and Type 2.3 (limited on the long axes by constructed coral ridges/elongate mounds). Notably within this latter subclass, there is considerable variation in the *ahu* structures, although they are consistently made of piled-up coral slabs. Preliminary surface interpretation of some sites has led to further subdivisions of *marae* with two *ahu* (Type 3) or three or four *ahu* (Type 4) apparently grouped in an open court space. Finally, Type 5 includes a series of sites that do not display the

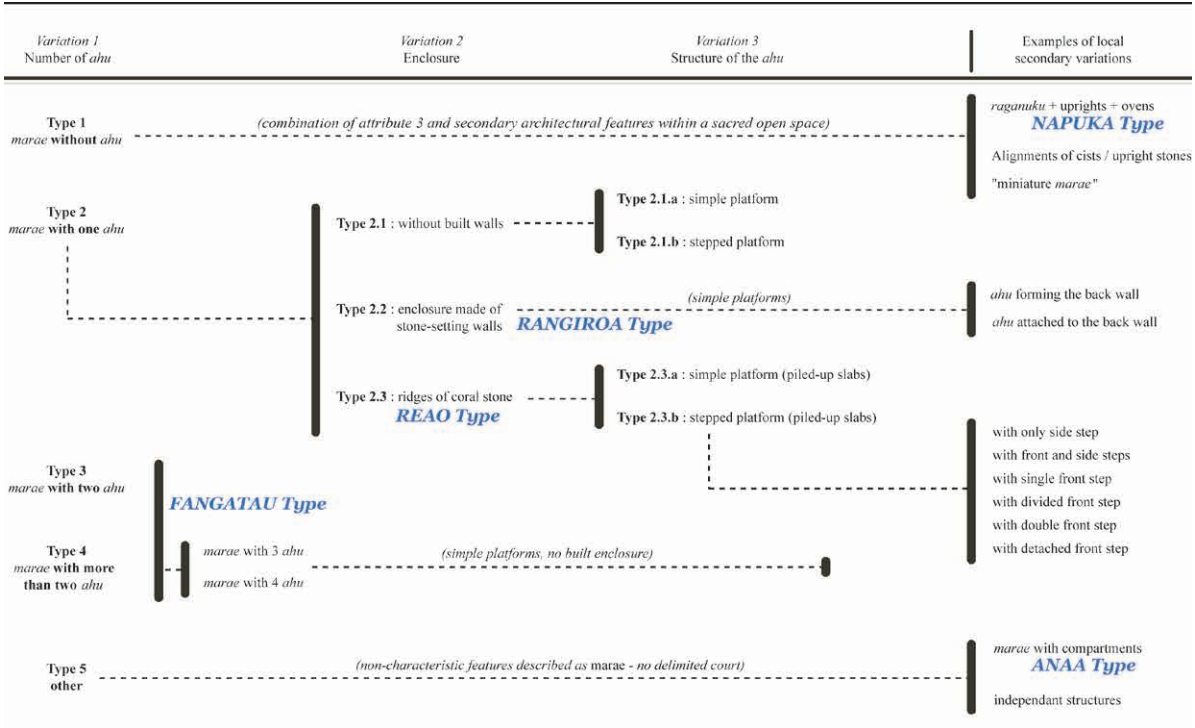

Figure 3. Synthesis of the main *marae* types and variations recorded in the Tuamotu Islands. Blue labels indicate local terms for types discussed further in this article (after Molle 2015: 22).

usual characteristics of *marae*. However, as they are traditionally designated as such by local inhabitants and traditions, they must be taken into account in this comprehensive analysis. The typology, although it might appear less objective than a paradigmatic approach, better serves the purpose of understanding the geographic distribution and development of *marae* types.

GEOGRAPHIC DISTRIBUTION OF *MARAE* TYPES

Building on Stimson and Marshall's (1964) traditional view of sub-regional divisions (see Fig. 1), a geographic distribution analysis of *marae* types was conducted at the archipelago scale. Table 2 shows the distribution of 147 classified *marae* across 12 Tuamotu areas (Molle 2015: 65-69). Figure 4 displays the results of a Correspondence Factor Analysis where the goal is to assess the attraction/repulsion between data in a matrix and to represent these phenomena on a cloud-dot graph where the two axes represent the factorial dimensions (see Benzécri 1973 for details of this method). In the present case, the analysis was run on the Table 2 data. The results demonstrate the occurrence of *marae* types within certain geographic divisions, confirming some patterns of local variability previously proposed by Emory (1934, 1947) and Garanger and Lavondès (1966). Type 2.1, displaying a simple combination of a single *ahu* within an open court, is the most common subclass and is present in all areas, although it is particularly well documented in Marangai and Vahitu. Type 2.2, with double-alignment walled enclosures, is exclusively present in the westernmost region, the most frequent occurrence being on Rangiroa Atoll, which led us to refer to it as the "Rangiroa type" (see Fig. 3). The third subclass (Type 2.3), characterised by both ridges of coral and *ahu* made of piled-up stones, is limited to the Reao area and is defined as such. On Napuka and Tepoto, some *marae* without *ahu* display a recurring combination of features that are designated as an original variation of Type 1. Types 3 and 4 correspond to *marae* with two or more *ahu*. Those are documented in several atolls of the central region, although the strongest association occurs in the Fangatau area, which may indicate another example of local innovation. Finally, although it does not appear clearly on Figure 4, due to the lack of information by the time of the analysis, recent work on Ana'a Atoll (Parata area) has shown that a *marae* made of a series of small compartments is actually a unique variation of the Type 5 *marae* (Maric *et al.* 2010).

INVESTIGATING CULTURAL CHANGES THROUGH *MARAE* VARIABILITY

The development of Polynesian ritual architecture has long been analysed through the perspective of similarity patterns and notions that similarity indicates relative cultural homogeneity across the Polynesian triangle (Emory 1933, Linton 1925). These similarities are now largely accepted

Table 2. Geographic distribution of *marae* types across traditional Tuamotuan divisions.

	Type 1	Type 2.1.a	Type 2.1.b	Type 2.2	Type 2.3.a	Type 2.3.b	Type 3	Type 4	Type 5	total
Mihiroa	0	4	0	5	0	0	0	1	1	11
Vahitu	0	10	1	1	0	0	0	1	0	13
Tapuhoe-Tauaro	0	0	0	0	0	0	0	0	0	0
Tapuhoe-Tautua	3	6	0	0	0	0	3	0	2	14
Tamakore	2	0	0	0	0	1	2	0	0	5
Parata	0	0	0	0	1	0	0	0	0	1
Napuka	6	2	0	0	0	0	0	0	0	8
Fangatau	0	7	0	0	0	0	18	4	0	29
Marangai-Noa	0	5	0	0	0	0	1	0	0	6
Marangai Vahitahi	0	7	0	0	0	0	0	1	0	8
Marangai-Kokeko	3	1	0	0	0	0	1	0	0	5
Reao	3	12	1	0	14	10	5	0	2	47
Total	17	54	2	6	15	11	30	7	5	147

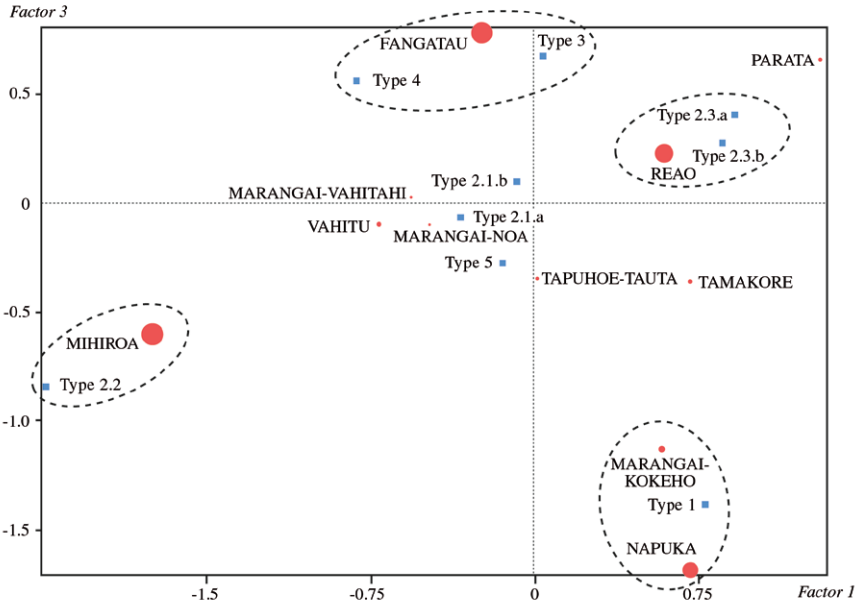

Figure 4. Geometric representation of the Correspondence Factor Analysis showing the relative distribution of *marae* types (square) within geographic divisions (dots). Clusters (dotted lines) highlight specific associations. The size of the dots refers to the weight of each division in the analysis (after Molle 2015).

as a product of phylogenetic relationships that reflect a common ancestry of Polynesian cultures (Cochrane 2015, Kirch and Green 1987, 2001). The original features associated with the earliest conception of *marae* in Western Polynesia were introduced to the central region by the first migrants and spread out across the archipelagos during the following period of inter-island contacts. However, groups adopted and developed various combinations of these initial features at regional and local scales that led, over time, to the large variability of religious monuments noted by the first Western explorers from the 17th century. Regarding the religious and socio-political importance of *marae* in the traditional cultural landscape, this variability likely reflects long-term processes of transformations (Conte 2000: 201, Eddowes 1991). Breaking with previous research focusing on the degree

of cultural relatedness (e.g., Cochrane 2015), I choose here to fully explore variability in Tuamotu *marae* in order to reconstruct the widest array of processes of cultural change within this Polynesian region.

This approach calls for identifying the various factors that drove the innovations in ceremonial architecture which are revealed in the classification. Factors of differentiation have been proposed by authors interested in the broader issue of Polynesian culture changes (see Conte 1997, Kirch 1984). Among them is the "founder effect", whereby only a part of the original parent stock makes up the new founding population which enables later differences. Adaptive capacity to environmental constraints has also been used to explain the recasting of practices. Here I argue for the notion of socio-ritual adaptation by which specific forms of architecture may have developed internally in response to particular spiritual or socio-political needs. Finally, the isolation of islands is a recurring argument to explain differentiation in the Polynesian region. However, communities on Tuamotuan atolls maintained relationships with neighbouring archipelagos, especially the Society Islands and probably with the Gambier Islands as well (Torrente 2012). As such, we must consider in our analysis the possibility of external influences on *marae* development that might have led to either similarity in patterns or reformulation and the emergence of hybrid forms of architecture.

ENDOGENOUS FACTORS AND SPECIALISED ARCHITECTURE

Socio-Political Organisation and Marae *Networks*

In central East Polynesia, the *marae* establishes the rights and relations between social entities acting at different levels (individuals, families, lineages, chiefdoms). In the Tuamotus, social organisation was based on a group affiliation called *gati*. It was itself composed of branches, also called *gati*, which gathered people who descended from a common ancestor. According to the prevalent rule of primogeniture, the chief derived from the branch which was genealogically the closest to the ancestor, and was designated as *gati ariki* (see Nolet 2014, Torrente 2012). Each *gati* benefited from an extended autonomy and formed a religious and political community (*matakeinanga*) independently settled on a portion of the atoll. The material property of a *gati* included a *marae*, a meeting place (*tahua*), water sources or wells (*vai*), fishponds (*'aua i'a*), tracks (*'e'a*), horticulture pits (*maite*), long houses used for meetings (*fare roa*) and burial places (Nolet 2007). In this view, *marae* marked the establishment and the control of a land and as such symbolised the unity of the group as a whole. For this reason, *gati marae* were the most important sites and ones where communal ceremonies were performed on various occasions. Within the large *gati*, lineages and families

possessed their own *marae* which were dedicated to domestic and private ritual practices, about which the literature remains largely silent. The hierarchy of *marae* thus reflected the social organisation of the ancient communities. However, it is important to understand that the hierarchy also expressed itself in the architectural forms of *marae*. Settlement patterns studies in Polynesia often relate the size and the complexity of a site to the rank of its owner, as based on economical (labour capacity) and symbolical (concentration of *mana* according to prestige of an individual) considerations (Conte 2000: 184, Orliac 2000: 99). This determinist view echoes the situation in the Society Islands according to the traditional classification of *marae* by Rev. Orsmond (Gérard 1978a: 66, Henry 2000). Such criteria must be considered cautiously in Tuamotus, especially regarding the high degree of variability across the region. No direct and constant correlation between the size of sites and status can be proven in the current state of our knowledge.

Marae are also indicators of relationships between *gati*. In the same way that groups descend from ancestors or heroes, *marae* supposedly follow a line of descent from the original *marae* founded in a newly discovered land, usually referred to as *marae tumu*. Such a *marae* is known on Rangiroa, the Ra'ipu Marae, which would have been founded by Oio, first chief of the atoll (Ottino 1965: 25). Affiliations are often indicated when founding a new *marae* through the use of a symbolic stone from the *marae tumu*; through this a part of the *mana* is thus transmitted to its descendant (Henry 2000: 149). It is of course difficult to demonstrate such practices archaeologically, although Garanger discovered an exogenous basalt stone in the court of Tivaru Marae on Rangiroa, indicating a potential relation with the nearby Tahiti Peninsula (Garanger and Lavondès 1966). On the other hand, affiliations between *gati* can be assessed through the sharing of *marae* names. Emory was the first to consider these relationships by assuming that the original name of the *marae tumu* was transmitted to its descendants (Emory 1934: 15-16). Building on his idea, I identified 27 names shared by 79 *marae* sites (Molle 2015: 52) and showed the existence of *marae* networks stretching over the entire archipelago.[1] The most important was certainly the Aturona network that originates from a *marae tumu* on Fangatau, which belonged to the Chief Varoa. A traditional hero's journey recounts that his son, Mapu-teretere, travelled through the atolls, establishing alliances and kinships with other groups by founding new *marae* bearing the name of Aturona (Torrente 2012: 285). Unfortunately, our archaeological perspective on a potential "monumental reproduction" along the descent line of *marae* remains limited, as most of the sites have been destroyed and cannot be classified.

Ritual Practices

Aside from their function as socio-political markers, *marae* were foremost places where a series of rituals took place in order to ask favours of the gods and ancestors. Tuamotuan traditions and ethnographic records give evidence of various ceremonies intended for the renewal of fertility, propitiatory rites, asking for protection and revitalisation of collective memory. Aside from these collective practices, rituals also occurred at a private level, including the first pregnancy of a woman, the birth of the first child and the burial of placenta, the rite of incision of the prepuce for young men, ear-piercing for girls, treatments of diseases etc. (Emory 1947: 58). Archaeologically, it is useful to consider the degree of ritual specialisation of the sites, and to possibly relate specific ritual functions to certain types of architecture.

Among the many marine species that were the object of rituals on *marae*, green sea turtles (*Chelonia mydas*) were essential in the Tuamotuan culture and religion (Nolet 2000). The capture and ritual consumption of the first turtle (*mahuta*) marked the beginning of the season of abundance and was seen as a gift from the ancestors to the living (Conte 1988 [II]: 8). Consumption of turtle meat was traditionally a collective activity among *gati* and family groups, and took place on *marae* during long and complex ceremonies that continued until the second half of the 20th century; these were described in details by missionaries on Napuka, especially Montiton (1874; see also Emory 1947: 59). It is said that the participants, including the chief and elders, sat first in the left court of the *marae*, an area called the *te fanui*. Then small wooden boxes (*fare tini atua*) containing relics of the ancestors (Kaeppler 2007) were placed on a structure (*raganuku*) which on some Napuka *marae* (Type 1) replaced the *ahu.* It was made of wooden planks that were placed on top of low coral slabs (Molle 2015: 33). The cooking of the animal took place at two different times and in separate ovens which were located in the rear of the court. The chief and his assistant benefited from the first piece of meat, after which those remaining were distributed among the other men, who then moved to the right court called *te tohitika*. No specific feature has been described for this latter court space which, as a simple meeting area, is difficult to identify archaeologically. The extreme specialisation of theseType 1 Napuka *marae* is confirmed by their designation as *marae tifai* '*marae* for turtles' (Conte 1988 [II]: 12). In the Napuka-Tepoto area, there is no doubt that the large *marae* Rangihoa and Taranaki, which belonged to the two main *gati* of the island, served as places for collective turtles ceremonies and renewal of fertility during the rise of the Pleiades Cluster. However, smaller *marae* also displayed the specific combination of ritual features used for this purpose, including a *raganuku*, uprights and ovens, although these were apparently located in a single open court (Molle 2015: 32). It

thus appears that the fundamental ritual of turtle consumption took place at different levels of the Tuamotuan society and on specialised *marae* where the sizes were adapted to the number of participants. Small family *marae* can thus be considered as a simplified form of the large *gati marae*, whose features served the same though less formalised function (Napuka Type 1). Neither Emory (1947) nor Conte (1988) found any of the necessary features for turtles ceremonies on the other Type 2.1 *marae* of Napuka-Tepoto which display a classic *ahu*. These seem to have had a different function, leading to the idea that specialised ritual activities called for specific features and spatial organisations. In turn, these requirements may be a factor underlying local innovations in *marae* architecture (Molle 2015: 53). The functions of *marae* Types 3 and 4 sites, displaying several *ahu*, are not documented ethnographically in the Fangatau Group. In the absence of visible divisions between courts, and lacking stratigraphic evidence in this direction, we can only hypothesise that these large *marae* could have served for turtle ceremonies as well, with separate *ahu* facing multiple courts.

Even though ritual consumption of turtles is the most commonly described ceremony in the literature, other religious offerings took place on most *marae*, in many cases involving certain species of fish (Ottino 1965: 98). Fish were offered on the *marae* and placed of in front of the upright stones or directly into the small cists in order to ask for future abundance (Garanger and Lavondès 1966: 61, Marchesi and Maric 2005). Like fish, clams constituted a major part of the subsistence on the atolls and were also offered on many *marae*, slowly forming accumulations of shells which are still visible on some sites (Conte and Dennison 2009: 52, Jacq *et al.* 2011b). On Ana'a, a traditional classification from Paea-a-Avehe, Stimson's main informant, distinguishes between *marae* for food consumption, *marae* for offerings of first fruits, and *marae* for offerings to the spirits, the latter being small enclosed structures with a wooden post in the middle (Torrente 2012: 246). In the central atolls, accumulations of coral branches, placed in large cists or between slabs, are common features on *marae*, and called *ruahatu,* the name of the marine deity to which they were consecrated (Emory 1947: 21). Fishermen and voyagers in canoes used to come to the *marae* asking for protection while at sea and often dedicated a coral offering to the god. In total, 24 *ruahatu* have been recorded in the courts of *marae* of Types 1 (Napuka), 3 and 4.

This brief review of religious traditions in the Tuamotu Islands shows that a number of rituals occurred at different levels of the society, but the majority took place in family contexts on small *marae*. When the rituals concerned renewal of fertility and abundance, or in more general terms maintaining the balance of natural forces, they happened in both private and collective contexts. However, the current state of ethnographic and archaeological

information makes the identification of specialised sites very difficult. The only exception is the well-documented case of *marae* for turtles on Napuka, which featured a combination of diagnostic attributes. Thus it appears that this large variety of rituals may have led to the high degree of *marae* diversity across the archipelago; in other words, certain combinations of architectural elements, and their organisation, were perhaps related to the specific activities which took place at these sites.

Ancestor Cults and Funerary Practices

Ethnography has shown that mortuary practices oriented towards ancestor cults were performed on *marae* (Audran 1918, Caillot 1932, Emory 1947, Montiton 1874). Individuals of high rank usually gained post-mortem access to the status of deified-ancestor (*maitu*) through a ceremony of apotheosis. Relics from the body, including nails, teeth, locks of hair and sometimes bones and skulls, were removed and kept in sacred containers which were displayed during ceremonies (Emory 1947: 24, Kaeppler 2007, Molle 2015: 54). Moreover, upright coral slabs, either independent or associated with cists, supposedly marked the presence of ancestors and deities in the sacred space during the rites. This function is sometimes reinforced by their anthropomorphic shapes, as documented on Fakahina and Fangatau (Emory 1934: 8, Jacq *et al.* 2011a, 2011b).

On the other hand, in several cases archaeology has demonstrated burying practices on *marae*. First described by Emory (1947: 47), the Type 1 *marae* Te Tahata on Tepoto Atoll was excavated by Conte who discovered 32 individuals buried in front of the cists and uprights in the court (Conte and Calaque 1984, Conte and Dennison 1995, 2009). A similar situation was documented on a small family *marae* of Napuka where individuals were buried at the foot of the main upright (Conte 2006). These examples prove that, beyond their symbolic representation of, or altar to, the ancestors, upright stones also served as grave markers. On the Rangiroa *marae* of Huruhuru ʻIore, Garanger uncovered a buried compartment containing the skeleton of a young male (Garanger and Lavondès 1966: 49). On Reao, some burial grounds have been recorded in direct association or in close proximity to Type 2.3 *marae* (Nitta 1982, Sinoto 1976). These large spaces, delimited by ridges of coral, comprise a series of cists directly dug into the substrate and marked with upright coral slabs at one end. Excavations led by Katayama (in Hatanaka 1982) showed that they contained human remains. From this evidence, a funerary function is hypothesised for sites formed only by series of uprights and cists, as with the Type 1 *marae* on Marokau, Amanu, Tauere and Hikueru (Conte 1990) or the Type 5 *marae* (with their compartments) on Anaʻa (Maric *et al.* 2010).

It seems clear that certain forms of *marae* allowed for the burying of the dead within a *tapu* space. Aside from the ritual functions mentioned earlier, this would indicate another aspect of specialised development within religious architecture.[2] Ancestors played a significant role in the ancient Tuamotuan religion, maybe as important as the deities of the traditional pantheon (Gessler cited by Nolet 2006: 186). It is also known that burying the ancestors symbolically consecrated the residency of a *gati* on the land (Nolet 2006: 186). The critical concept of ancestor must then be seriously addressed in future functional analyses of *marae* as it transcends religious, socio-political and funerary contexts.

EXOGENOUS FACTORS AND CULTURAL INFLUENCES

Rangiroa and a Tahitian Hybridisation Case

The Mihiroa Group is composed of the seven westernmost Tuamotuan atolls. The distribution analysis of *marae* types indicates that 36 percent of Type 2.1 and 46 percent of Type 2.2 are found in this area (Molle 2015: 66). Type 2.2 is particularly common on Rangiroa and, as such, was considered as a local type; it consists of *marae* courts enclosed by double-alignment walls (defined above) and two rows of upright stones on the *ahu*. The historical trajectory of Rangiroa is well documented and shows the developmental process of religious sites here. Traditions recount that first migrants came from Bora Bora in the Leeward Society Islands and settled in the southeastern part of the atoll, forming the *gati* Oio, which was organised around the original *marae* of Ra‘ipu (Ottino 1967: 25). Indeed, the archaeological survey of these *motu* showed an early human occupation with open *marae* made of single *ahu* platforms, interpreted as an ancient form of ceremonial sites introduced by the first migrants from the Society Islands (Garanger and Lavondès 1966: 45).

Later, the history of the Rangiroa people is closely connected to conflicts that affected the entirety of the Tuamotu Islands from the 17th century, driven by the “imperialistic” attitude of the Parata tribe of Ana‘a (Emory and Ottino 1966, Nolet 2006: 500-15, Torrente 2012: 310). The Parata warriors began a series of conquests over the neighbouring islands with the purpose of unifying the population under their control. The raids intensified and focused on the western group of Mihiroa in the second half of the 18th century. On the largest atoll of Rangiroa, the *gati* faced Parata attacks which led to the abandonment of traditional lands and regrouping around the three major passes, followed by socio-political reorganisation (Ottino 1972). Around 1806, intensification of the conflict ended in the abandoning of the western atolls, with the population finding refuge on the Tahiti Peninsula, in the district of Tautira, where they were granted parts of the land by their allies. In 1821, King Pomare II came to negotiate a peace with Ana‘a and put an end to these wars and then, the exiled

population returned to the island during a "Tahitianisation" phase (Ottino, 1965: 30). Garanger demonstrated that the development of Type 2.2 *marae* dated from this period (Garanger and Lavondès 1966: 65). Newly founded *marae* of Type 2.2 showed characteristics from Tahitian sites, including the double-alignment walls enclosure and the double row of three uprights on top and in front of the *ahu* platforms, some common features in *marae* of the Tautira District (Garanger 1964). Thus, following the exile period in Tahiti where new marriages and alliances were forged, the people of Rangiroa needed to rethink their own social organisation by founding *marae* that combined aspects of both cultural groups. Type 2.2 *marae* were built in a very short and recent period of history and reflect a Tahitian influence on both ceremonial architecture and socio-political structure.

Reao Atoll and the Eastern Connection

The Reao area shows the largest variability in *marae* architecture, although the *marae* here are dominated by the Type 2.3 form which is characterised by long coral ridges along the court sides and *ahu* made of piled-up coral slabs (Emory 1947). This subclass of *marae* shows many variations in the sizes and forms of *ahu* as well. Nitta (1982: 385) proposed a model of development based on the disputable notion of increasing complexity. Following him, the earliest form of *marae* would have been a series of aligned *ahu* in an open court, similar to the Types 3 and 4 in Fangatau Atoll. Later, the enclosed *marae* would have developed, possibly influenced from the West, including Rangiroa and Tongareva, in the northern Cook Islands, where he pinpointed some similarities in the wall construction. He came to conclude that the Reao Type 2.3 was introduced from the Cook Islands through the western part of the Tuamotu Archipelago during migrations that occurred in the 18th century. This model, however, remains uncertain given the very different forms of the northern Cook Islands and western Tuamotu Islands *marae*. Moreover, his model lacks any chronological or stratigraphic data to support the precedence of one type over another.[3] Sinoto (1976: 165-71) put more effort towards acquiring dates for settlements and *marae* development. By synthesising all available data, one could consider an initial settlement in the first half of the second millennium AD, located on the largest lands northwest and southwest of Reao. A cultural influence from the western-central Tuamotu Islands occurred by the 15th century and led to the development of Type 2.1 *marae* in the main districts of Gake and Tapuarava. On this matter, oral traditions indicate that migrants from Niau and Makemo were allowed to settle on the atoll and build their own *marae* (Hatanaka 1982: 32). Then, Type 2.3 *marae* began to develop between the 15th and 19th centuries.

A connection with religious architecture in the Gambier Islands has never been considered in any of these models, although some relevant information was gathered by Emory (1939) and Buck (1938). Following a decade of intensive archaeological research in the Mangareva Group, the possible influences between the two areas must be seriously addressed. Oral traditions recount episodes of migrations from Mangareva towards the eastern Tuamotus, revealing ancient contacts between atolls and high islands (Caillot 1910: 384, 406). On the other hand, archaeology has failed to reconstruct the ancient religious architecture in the Gambier Islands, as the authoritarian missionary occupation, driven by Father Laval, led to a systematic destruction of "pagan" temples, and their quick replacement by new Catholic churches. Thankfully, ritual sites were entirely preserved on the atoll of Temoe, located 50 km southeast of Mangareva, after it was abandoned in 1838 by order of the missionaries. An intensive archaeological research program has been conducted on Temoe since 2001, leading to an inventory of 500 structures including *marae*, paved trails, large housing pavements and numerous coral cairns, the majority of which served as burial places (Conte and Weisler 2002, Molle and Murail 2012, Molle *et al.* 2014). All *marae* recorded on Temoe Atoll show strong similarities to Type 2.3 Reao sites, such as single and stepped *ahu* made of piled-up coral slabs and sometimes with side ridges of coral gravel delineating the court space. Although it is too early to assume a clear influence of one region over another, this relationship between the two groups must be taken into account in our developmental perspective of the Reao Type 2.3 *marae*; they might have originated in a larger cultural context that encompassed the whole of the southeastern part of the archipelago.

* * *

The typology proposed in this study was not intended as a definitive one: further research might reveal other kinds of variation or, alternatively, simplify the types proposed here. However, it is the first attempt since Emory (1947) to synthesise a large dataset at the archipelago scale. This study must be seen as the first stage of a larger holistic approach to ancient Tuamotu Island society for which ritual architecture demonstrates a real potential in tackling questions of cultural change. With the current state of knowledge, one can assume two main drivers of change.

First, endogenous processes most likely include innovations (meaning choices of combinations of features) in response to changing socio-political patterns of organisation, ritual requirements and funerary practices. In short, *marae* can be seen as physical adaptations to spiritual and socio-political needs through local reinterpretations of an "initial package" (Wallin and

Martinsson-Wallin 2010). In some cases, this led to highly specialised sites, as demonstrated for instance with the *marae tifai* in Napuka. Such innovations can occur collectively, privately or at both levels. Also of interest is the development within the Tuamotus of *marae* genealogies and networks that materialised relationships between groups. However, we still lack archaeological information for considering social organisation and hierarchy as factors of divergence or convergence in *marae* forms. A monumental reproduction of affiliated *marae*, however, is possible as other examples are documented in the Society Islands (see Kahn 2010, Wallin and Solsvik 2010), although one might also consider intentional differentiation in the creation of identities (Conte 1997: 167).

Exogenous factors have also been identified in Tuamotus. In the case of Rangiroa's Type 2.2 *marae*, it is an example of cultures in contact and the process of borrowing which resulted in the development of a hybrid form of *marae*. In the case of Reao's Type 2.3 *marae*, it is still too early to evaluate the role of external factors, although recent work in the Gambier region seems to attest to a potential influence from this area but further work is needed.

While this study aims to tackle the issue of *marae* variability at a broad regional scale, it does not exclude the possibility that multiple and complementary factors may have simultaneously affected *marae* development on Tuamotu atolls. Perhaps one of the most challenging aspects of this study is that classic archaeological conceptions of so-called *marae* sites derive from major studies in the Society and Hawaiian Islands, along with Easter Island (Rapa Nui), and these need to be carefully reassessed. Variability in the ritual sites of the Tuamotu Islands (as well as in Marquesas Islands) exemplifies the variable definitions of *marae* amongst Polynesian communities that are likely to reflect complex cultural phenomena occurring over the long-term. It is now important to explore in more detail the functions of Tuamotuan *marae* sites through further archaeological investigations, which should be conducted closely with the local communities for whom *marae* are the most significant remains from their past.

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NOTES

1 *Marae* networks are documented in central East Polynesia, the most famous being the one centred on Taputapuatea Marae. It was connected to the 'Oro cult which spread from the Leeward Society Islands to the Windward group, leading to the development of new temple styles (see Eddowes 1991; Kahn 2010; Maric, this issue).

2 Specialised monuments dedicated to mortuary practices are documented in Marquesas Islands (Linton 1925, Molle 2011). On the other hand, discoveries of human burials on Society Island *marae* remain too few for assigning a specialised funerary function to these sites.

3 Nitta's (1982) model eventually corroborated the traditional information gathered by ethnologist Hatanaka (1982) who directed the research program on Reao.

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ABSTRACT

The archaeology of the Tuamotu Islands in central East Polynesia mainly derives from studies of ritual architecture. Since the pioneering works of Kenneth P. Emory in the 1930s, around 650 *marae* have been recorded in the archipelago. Surface inventories show that the basic architectural features of *marae* were organised in a diversity of patterns, which reflect the complex histories of local communities. To investigate the variability of these monuments, a taxonomic classification of these *marae* sites was developed, the first geographically extensive analysis of its kind. Relying on archaeological and ethnohistorical evidence, in addition to oral traditions, an attempt is made here to explain the development of these sites, considering endogenous socio-political processes, ritual innovations and external influences.

Keywords: Polynesia, Tuamotu Islands, *marae*, typology, indigenous rituals, religious architecture

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CEREMONIAL ARCHITECTURE AND THE SPATIAL PROSCRIPTION OF COMMUNITY: LOCATION VERSUS FORM AND FUNCTION IN KAUPŌ, MAUI, HAWAIIAN ISLANDS

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In the early 20th century, archaeologist and ethnographer Winslow Walker travelled throughout the island of Maui recording the names, histories and architectural features of prominent sites (Sterling 1998, Walker 1930). In conjunction with the early ethnohistories of Kamakau (1992) and Fornander (1996), these studies revealed that by the time of European contact in 1778, the arid, southeastern district (*moku*) of Kaupō had become central to the island's political rule. Home to the Maui kings, Kaupō featured a large population, numerous ritual sites and repeatedly served as a battleground in the wars between polities of Maui and Hawai'i Islands (Baer 2015, Fornander 1996, Kamakau 1992). Archaeologically, we see evidence for massive socio-political infrastructure in the form of an intensified field system, extensive residential sites and ritual architecture distributed throughout the district. However, through the integration of recent surveys with the information collected by Walker, we are presented with a striking pattern of monumental constructions bounding the edges of the district. This paper explores how the network of large ceremonial structures was consciously built to proscribe a uniquely productive agricultural region, effectively creating the community of Kaupō within a series of monumental sites. In contrast, smaller ritual sites in the region's interior indicate that for many structures, their location on the landscape was the primary factor in determining both form and function.

KAUPŌ AND THE RISE TO POWER

In the leeward southeast of Maui, Kaupō was one of 12 semi-autonomous political districts. Prior to unification of the island by Kiha-a-Pi'ilani in the 16th century, each district featured its own internal socio-political organisation. Recent work has demonstrated that Kaupō, beginning early in its settlement sequence, was administered from the small area of Mokulau on the southeastern edge of the district (Baer 2015). By the arrival of Captain James Cook in 1778, paramount rulers had come to control entire islands, installing their own supporters as the heads of various districts. At this time, Kaupō served as one of the main administrative centres on the island, and was a highly productive agricultural region of political and economic

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significance. This prominent role belies its relatively late development, however, as ethnohistoric sources make virtually no mention of the *moku* until the early 18th century, when Maui's King Kekaulike moved his entire royal court from the traditional seat in Nawaieha to Kaupō (Kamakau 1992). With this move, however, the district became central to the power struggle between the polities of Maui and Hawai'i, resulting in numerous battles on the broad, gentle slopes of the district.

While Kaupō's role in the ongoing wars between Maui and Hawai'i is demonstrated through numerous battles described in oral traditions (Fornander 1996, Kamakau 1992), increasing references to the district's developing agronomic and socio-political control systems are also evident (Maunupau 1998). Recent excavation and dating of monumental structures throughout Kaupō indicate a phase of *heiau* 'temple' construction from the mid-16th to 17th centuries (Baer 2015). By the arrival of King Kekaulike in the early 1700s, the region was home to dozens of ritual sites, generally located along the outer edges of a zone of intensified dryland agriculture. In oral traditions, Kekaulike is credited with expanding this emergent ritual network through both the creation of massive new structures and the enlargement of previously built temples. Among these are the war temples (*luakini*) of Pu'u-maka'a and Lo'alo'a, and the complex at Pōpōiwi (Kamakau 1992)—the latter two measuring amongst the largest structures in the archipelago. With this surge in construction, Kekaulike completed the ritual network surrounding Kaupō's agriculturally rich core, effectively using ceremonial architecture to proscribe an area of socio-political importance.

Environmental Setting and Agricultural Production

Kaupō straddles the boundary between the lush, wet districts of Kīpahulu and Hāna to the east, and arid Kahikinui to the west (Fig. 1). Bounded geographically by the gulches of Kālepa and Wai'ōpai, Kaupō stretches approximately 13 km east-west at its widest extent, while rising 5 km inland up the slope of the volcano Haleakalā. A broadly incised, erosional valley known as the Kaupō Gap dominates the district's higher elevations. Breaching the southern face of Haleakalā Crater, this rift in the crater wall is the result of erosion during a rejuvenation phase of volcanism c.120 kya (Stearns and MacDonald 1942). Flowing outward from the gap, a combination of lava and mud was deposited from the crater rim down to the sea, creating a vast accretionary fan of nutrient-rich lavas and sediments. Unlike the mosaic of predominantly leached sediments in Kahikinui bordering to the west (Coil and Kirch 2005, Dixon *et al*. 1999), and the overly wet, incised valleys of Kīpahulu to the east, Kaupō's situation on this Hāna Volcanic Series (Sherrod

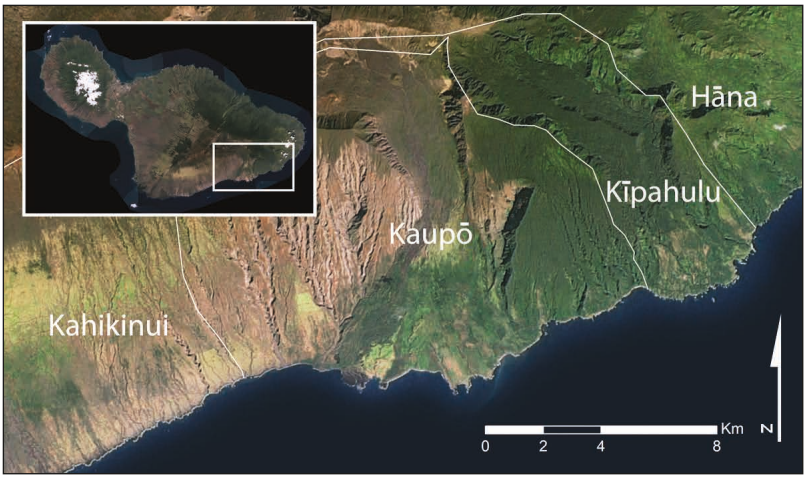

Figure 1. Location of Kaupō and adjacent districts in the southeastern portion of Maui Island.

et al. 2007, Stearns and MacDonald 1942) placed it within a set of sediments ideally aged for intensive dryland agriculture (Ladefoged *et al*. 2009).

Through analyses of soils and sediments across Kaupō, Baer *et al*. (2015) have demonstrated that Kaupō's productive potential was at least as great as that of the Leeward Kohala Field System on Hawai'i Island (Kirch (ed.) 2010, Ladefoged and Graves 2008, Ladefoged *et al*. 1996, 2003). Kaupō's combination of *in situ* weathered basalt parent materials and the aeolian deposition of fine-grained sediments, in fact resulted in nutrient levels rivalling some permanently irrigated wetland systems (Palmer *et al*. 2009), long held as the most productive and nutrient-rich form of Hawaiian agriculture.

This understanding of the region's agricultural capacity is supported by ethnohistoric traditions attesting to Kaupō's sweet potato production. Even into the 20th century, despite massive population loss both locally and across the archipelago, Kaupō was remembered as a *moku* of great productivity. Ethnologist E.S.C. Handy (1940: 161) noted, "Kaupō has been famous for its sweet potatoes, both in ancient times and in recent years … and the greatest continuous dry planting area in the Hawaiian Islands." This capacity for dryland production, along with its proximity to Hawai'i Island, is presumably what attracted the attention of King Kekaulike, whose adoption of the district transformed it from hinterland to the centre of Maui's political power.

RITUAL STRUCTURES OF KAUPŌ

Perhaps more than all other types of sites, Hawaiian ritual architecture has garnered some of the strongest archaeological attention. Kaupō itself is home to a diversity of structures defined early in the 20th century as ritual locations (Maunupau 1998, Thrum 1909, Walker 1930), and again reassessed and codified in the work of Michael Kolb (1991, 1992), the surveys of Patrick Kirch (pers. comm.) and my own work (Baer 2015, 2016). In re-examining the district's ritual sites, I began by attempting to relocate all of the 24 locations numbered by Walker (1930). Working from his maps and descriptions, along with information provided by local informants, I found 21 of his previously recorded sites, and potentially identified two more that he mentioned, but offers little in the way of concrete information.

Having relocated 21 of the 24 Walker sites (and with knowledge of the specific areas for the missing three), we are provided an almost complete coverage, linking the early 20th century archaeology of Walker to current surveys. While not all of Walker's recorded sites correspond with modern understandings of *heiau* (Baer 2015), the information he collected on structure form and ethnohistoric data allow for a deeper exploration of site function and importance. These sites are not, however, the only ritual structures identified throughout the district. By combining Walker's data with recent work, we now have a better understanding of the distribution of important sites across the landscape, and the ways in which their placement may have determined construction styles and purpose.

Identification of Ritual Sites

The definition of ritual sites, in contrast to residences or other kinds of structures, has long been of interest to Hawaiian archaeologists. One of the first chroniclers of Hawaiian history, Abraham Fornander, posited that different styles of temples were a reflection of multiple phases of colonisation and major shifts in cultural practices (Fornander 1996, although his original works were written from 1878–1885). Stokes (1991) tested this hypothesis in the early 20th century, hoping that formal classifications of ritual structures would correspond to different time periods dating from the earliest settlement, to the era of the Tahitian priest Paʻao, and then into the rest of Hawaiian history. Stokes was disappointed to find, however, that very little connection could be made between the architectural traits of individual temples and their time of construction. In particular, the distinction between high-walled structures (where rituals in the interior would have been hidden from outsiders) and open, unwalled platform styles had served as hypothetical temporal markers but, as with other formal traits, these offered little support for the notions espoused by Fornander and Stokes (Dye 1991).

Where Stokes failed to equate form with temporality, he was similarly confounded in efforts to associate specific forms with certain functions. Even these demonstrated no concrete rules linking form to function, leaving archaeologists with little solid information surrounding what a temple *ought* to look like (Dye 1991). These difficulties did nothing to dissuade subsequent researchers from attempting to identify architectural trends, beginning with Bennett (1931), whose typology was referenced through the 1990s (Graves and Cachola-Abad 1996). Following a lull in temple typology research (coinciding with a rise in broad settlement studies), the creation of ritual typologies returned strongly with the island-wide studies of Kolb (1991, 1992, 1994). This work spurred further classificatory schemes based on traits such as wall-enclosed versus open platforms, exterior steps, notches, interior platforms and more (Graves and Cachola-Abad 1996, Kolb 1994, Kolb and Radewagen 1997, Mulrooney and Ladefoged 2005). While these studies have all purported to identify various connections between time, form and function (with differing degrees of success), I am more inclined to agree with Valeri (1985) who argued that across the islands, form and function were largely independent in the construction of *heiau*, such that similar looking sites could have been built and used for entirely different purposes. That said, Valeri does put forth his own basic classification scheme, differentiating between war versus growth-centred temples and based largely on each structure's associated "owner" (most notably the king). He acknowledges the numerous limitations of this system, but contends that some strides may be made in identifying temples within such a scheme.

Our understanding of *heiau* function comes largely from ethnohistoric and anthropological sources, in which a range of different ritual locations of varying sizes, meanings and associations were chronicled. From Kamakau (1976, 1992), Malo (1951), and others, we know of numerous categories, but through archaeological survey and even excavation, the certain association of a site with a specific sort of *heiau* remains unclear. Among the many types of *heiau* described for Hawai'i, the most prevalent (at least in reference to cultural memory and practice) were *pōhaku a Kāne* (sacred stones at which offerings were made), *hale mua* (the men's houses usually associated with a *kauhale* 'household' or larger *'ohana* 'extended family'), *ko'a* (generally small shrines associated with productivity, particularly in fishing), *hale o Lono* (medium-sized temples, often related to productivity and farming), and *luakini* (the largest class, and where human sacrifices were offered, particularly in regards to war). These categories, defined most concisely by Valeri (1985: 173-83), are by no means comprehensive, as not only are there numerous other types, but these may themselves be subdivided into smaller groups.

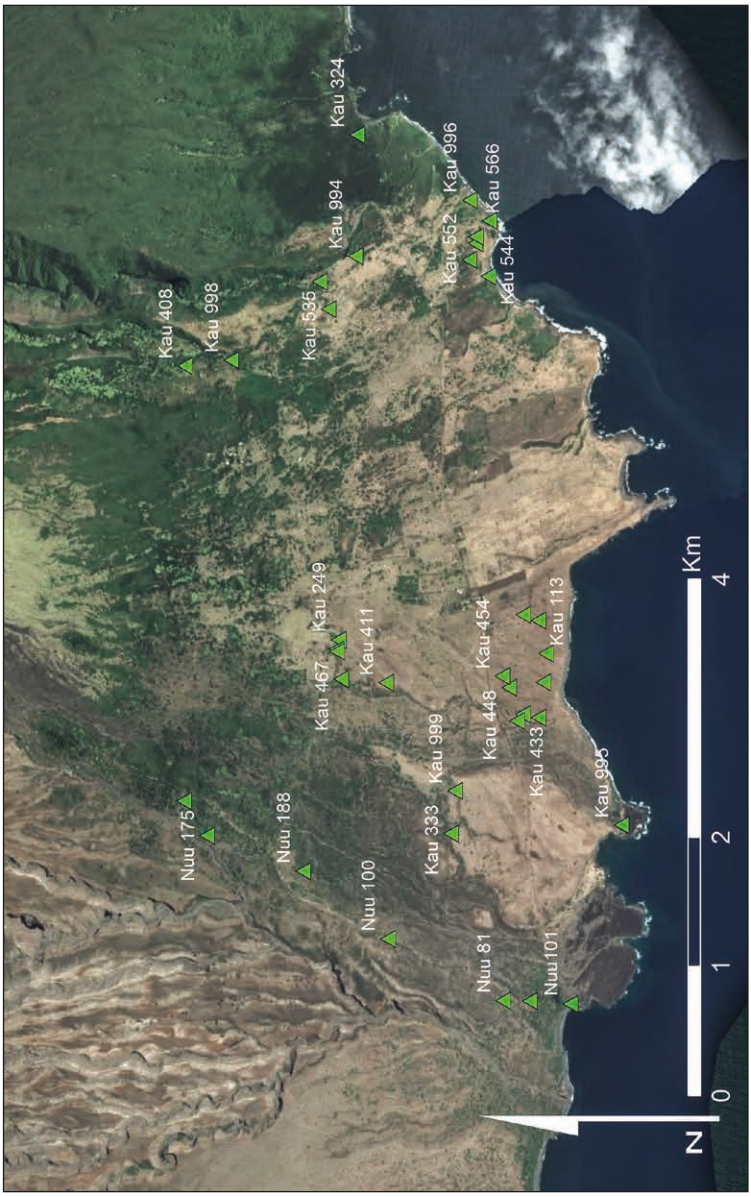

Figure 2. The distribution of ritual locations found throughout Kaupō, including Nu'u.

While it remains tempting to associate the sites described throughout Kaupō with these different traditional categories, too much subjectivity is required for classification. For my own field survey, identification of supposed ritual sites employed formal categories in the definition of a structure's likely function although, as expanded below, location becomes increasingly important. In addition to formal traits, I also relied heavily on oral traditions surrounding specific *heiau* recorded by Walker (1930) in his island-wide examination of Maui's archaeological history. In addition to relocating many of Walker's previous sites, I identified 29 new ritual sites (out of 585 total sites) based on a combination of factors. Where previous studies attempted to isolate single or combined formal traits as indicative of era or specific ritual function, I defined structures as ritual if they contained three or more elements from a list of traits commonly associated with ceremonial structures. Critical elements in this identification were spatial footprint (>200 m^2), wall thickness and height (either >1 m), wall construction (core filled or stacked), notching, upright stones, internal space divisions and internal platforms. While all types of sites could potentially feature one or more of these traits (such as a residential site with internal rooms), their combined presence, particularly in a relatively large site, led to the functional classification of ritual.

Survey Findings

Across Kaupō, field surveys covering >5 km^2 identified 585 new sites. In conjunction with surveys by Patrick Kirch and John Holson in Kaupō's far western land division of Nu'u (a thin strip of land called an *ahupua'a*, running from the coast up the slope of the mountain), we now have more than 1000 discrete sites within the *moku*. With seven ritual sites in Nu'u, and 29 more identified in recent work, Kaupō is home to 36 examples of ceremonial architecture (of which 21 are relocated Walker sites). Figure 2 shows the overall distribution of ritual sites throughout the district. While this initially seems to indicate an even spread of *heiau* across the region, further analysis and the definition of two basic categories of ritual sites points to a highly uneven distribution of ceremonial forms, largely predicated on their location within the landscape.

MONUMENTALITY AND THE PROSCRIPTION OF SPACE

By identifying ritual locations through the presence of three or more discrete architectural features, I eliminated some of the subjectivity associated with previous identifications of *heiau* (or other ritual, though non-temple sites). This does, however, mask variability between these sites, treating them all equally when, in fact, each is unique, demonstrating significant differences. To

identify distinctions within the group of 36 sites, I emphasise two architectural elements of significance: overall size and the presence of internal architecture.

Of all the sites described, a few are certainly massive (Fig. 3), but as a whole they present a statistically smooth distribution. In first selecting a threshold for size, I argue that sites averaging above c. 20x20 m, or >400 m^2, can reasonably be considered large. This figure, while admittedly somewhat arbitrary, builds on the distinction first identified by Bennett (1931) in his work on Kaua‘i. There, he defined “small” and “large” *heiau* based on a combination of square footage and his general impression regarding the amount of labour required in construction. Smaller ritual sites averaged only 46 m^2, while those classified as “large” fell into a number of categories (platform, walled, terraced and round, each with their own subdivisions) with a minimum average size ranging from just under 350 m^2 to 1800 m^2 (Bennett 1931: 30-33). In examining the *heiau* of Kaupō, I selected the 400 m^2 threshold as a relatively low cut-off toward the lower bounds of Bennett’s definition for a “large” temple, as a structure of this size would have necessitated a significant investment in labour. This does not mean that all sites over this size are highly complex or have any traits such as large exterior walls, terraces, or internal divisions, nor that smaller sites cannot have any or all of these aspects, but simply that sites with a footprint greater than 400 m^2 tend to evince a higher level of investment.

Size alone, however, is inadequate for defining any categories of site types, including ritual. First, as shown by the white bars in Figure 3, some sites feature a disproportionate total area based on the simple multiplication of maximum length and width. While sites such as Kou (Kau-995) are indeed enormous, the area described in Figure 3 is not an accurate reflection of the space enclosed for ritual use within the large walls. The site is constructed in an L shape, with most of the area outside of the ritual interior space. Conversely, sites Kau-32 and -273 (also in white) do feature internal areas of 4000 and 1800 m^2 respectively, but these sites are both simply large enclosures that feature some substantial wall thickness, but nothing else like internal platforms or rooms to indicate that they were significant *heiau*. Of the sites, the five in white are least representative of true use area, limiting the viability of creating a ritual classification on size alone.

Additionally, as Gill *et al*. (2015) have demonstrated, sites of significant size (in their case, the O‘ahu site of Pālehua, measuring >1500 m^2) may be deemed “ritual” without also being a *heiau*. Despite the substantial footprint of the enclosure they describe, the lack of all traits associated with temples separates a site such as this from other sites featuring the traditional characteristics of a *heiau*. Similarly large sites are found in Kaupō (again, such as Kau-32 and -273), but once more, a lack of distinguishing traits identifies them as perhaps ceremonial, but by no means major temples.

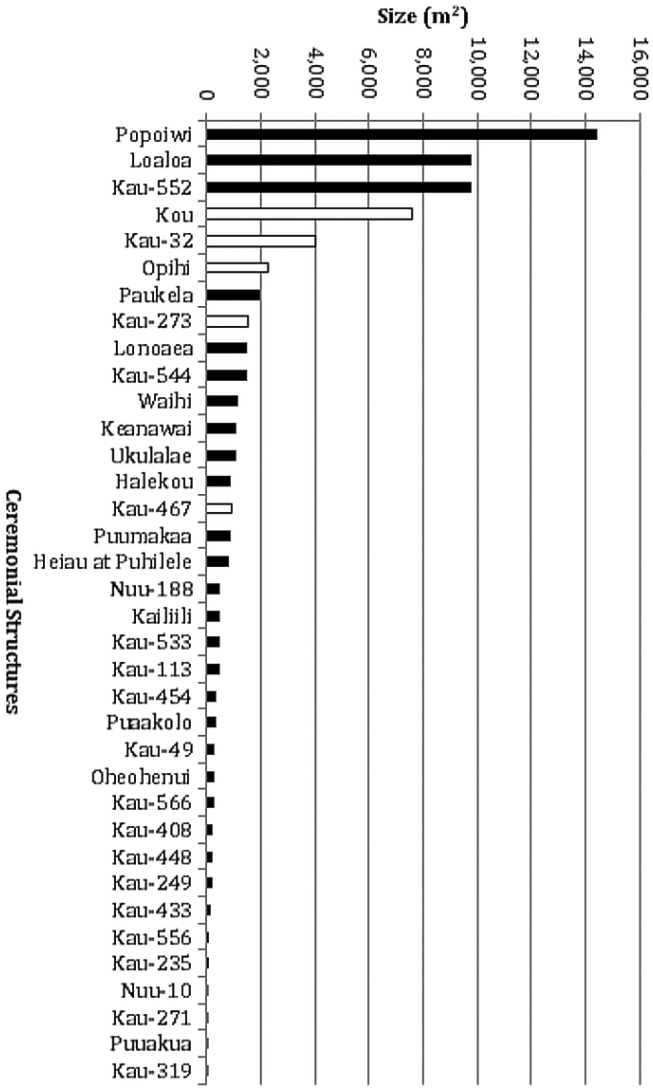

Figure 3. Rank scale plot of the ritual sites found throughout Kaupō (includes some of the sites identified by Walker that may not actually have been ritual locations). White bars indicate sites with reported sizes not truly reflective of the size of the constructed space (see text for details).

For the purposes of identifying discrete classes of ritual location, I therefore combine size with the presence of internal structural or spatial divisions. More than any other single trait, the existence of interior boundaries and separated zones (particularly elevated areas, such as internal platforms) indicates that a structure was consciously divided to allow for differential access and use of space. By separating the 36 ritual structures of Kaupō into two basic categories, I define a class of "Major" sites, featuring a footprint >400 m^2 along with the existence of internal architecture, and "Minor" sites, lacking one or both of the aspects above. While these terms do imply a level of supposed pre-contact social importance, without extensive excavation and further research, they are more heuristic descriptors than realised classes. With that acknowledgement, however, these two groups are quantifiably different, mirroring impressions from field research that there are multiple classes of ritual structures, akin to the categories of *heiau* posited by Bennett (1931), Stokes (1991), Valeri (1985) and others.

Spatial Distribution of Ritual Locations

The distribution of Major and Minor sites on the landscape, demonstrated in Figure 4, reveals that while ritual locations are indeed spread throughout the district, the larger structures with internal architecture are almost entirely located along the exterior boundaries of the mud and lava outflow from the Kaupō Gap. Of the 19 Major sites, 15 are located along the edges of this accretionary fan. Geochemical analyses by Baer *et al*. (2015) have demonstrated that this portion of the flow features what Ladefoged *et al*. (2009) call a "sweet spot" for the production of dryland crops, primarily sweet potato (*Ipomoea batatas*) augmented by dryland taro (*Colocasia esculenta*), yams (*Dioscorea* spp.) and sugarcane (*Saccharum officinarium*). The placement of major structures around this core of productive land indicates the intentional construction of a broad network of sites designed to bound and control valuable territory.

The distribution seen in Figure 4 highlights the discrepancy between sites in the interior of the district and those located along the borders of the fan. In the central, coastal portion of the district, the cluster of ritual sites is exclusively categorised as Minor. Inland and upland, three Major sites are localised towards the upper bounds of the field system, but these three (also recorded by Walker) serve as the only large temples outside of the fan borders. Two of the three feature some of the earliest temple dates found for Kaupō, with initial construction at Opihi Heiau (Kau-333) beginning from AD 1441–1530, and an even earlier date of AD 1296–1476 for Keanawai Heiau (Kau-999; see Baer [2015] for further date ranges). Opihi and Keanawai (along with Kou, on the coast and just to the interior of the western line of

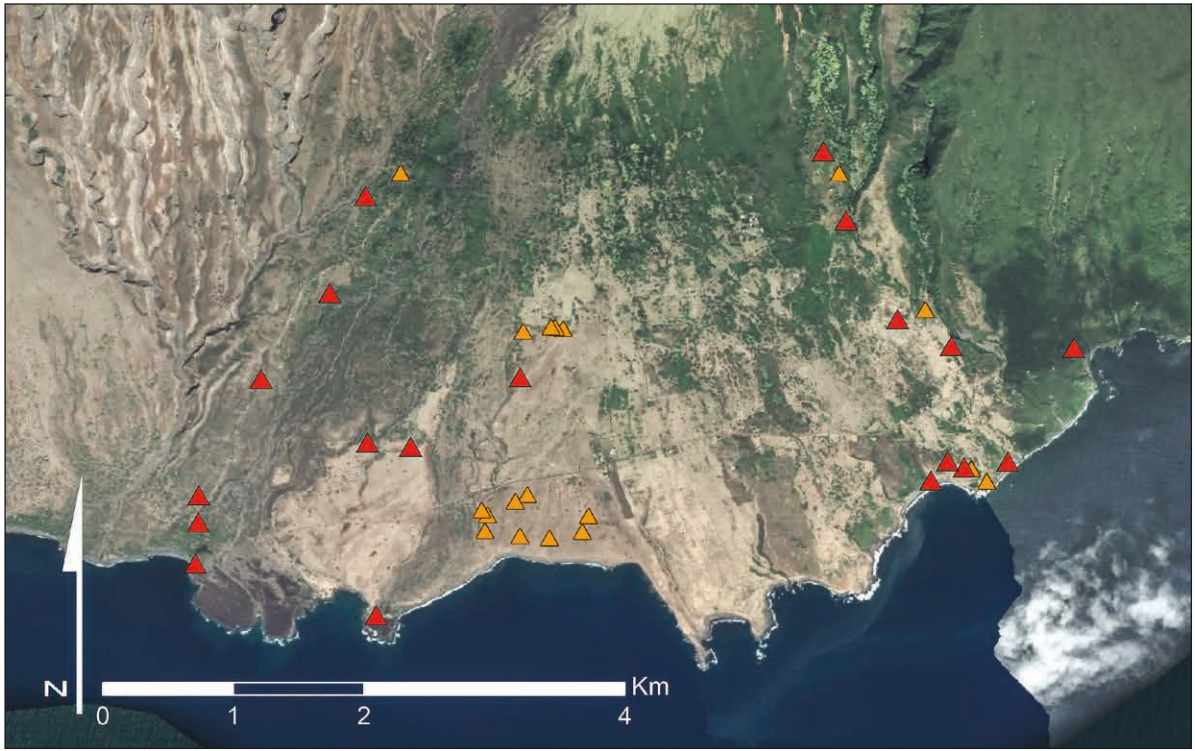

Figure 4. Differential distribution of “Major” (red) and “Minor” (orange) ritual sites.

temples) are also the only *heiau* in the interior whose traditional names were recalled into the 20th century. While the early dates recovered from these sites, along with the extremely early Uranium-Thorium date for Kou (Kirch *et al*. 2015), may be coincidental, they could also reflect the construction of ritual sites before a larger push to bound Kaupō's core in a system of Major *heiau*.

With the other interior ritual locations, we see a distinct emphasis on Minor sites. This area, featuring a dense, highly formalised dryland agricultural system (Kirch *et al*. 2010), and an abundance of small residential sites (Baer 2015), clearly served as the district's productive centre. The aggregated population of farmers, along with the collection of small temples with virtually no interior features, suggests that the ritual locations found in the central coast area were less corporate, and functioned as smaller scale settings for ceremonial practice. While we cannot say definitively, some likely served as *hale mua* (men's houses generally associated with household clusters), while others located in the fields themselves demonstrate the characteristics described by Valeri (1985) and Bennett (1931) as *hoʻoūluūlu ʻai*, or temples designed to increase agricultural productivity.

In contrast, the Major sites along the borders of the fan demonstrate much larger sizes and the presence of features such as interior courts, multiple interior elevations, rooms and generally larger investments in labour cost. Of the 15 structures surrounding the productive core, 11 retained their traditional names, and at least five (Loʻaloʻa [Kau-324], Hale o Kane [not relocated], Puʻu Makaʻa [Kau-535], and Halileo [not relocated] in the east, and Pili-o-Kane [Nuu-79], and potentially Halekou [Nuu-100], in the west) are recorded as sites at which human sacrifices were offered (Kamakau 1992, Walker 1930). The presence of massive temples surrounding Kaupō's interior, along with historical accounts of Maui kings ruling from the district, indicates that the ritual network was constructed to centralise and control the highly productive area. Within the core, as many as 15,000 residents (Kirch *et al*. 2010) farmed one of the richest agricultural zones in the archipelago, ever surrounded by monumental representations of power.

While oral traditions offer clues as to the specific functions of individual sites across Kaupō, the definitive purpose of each ritual structure remains unclear. Beyond the clear pattern of larger, more complex *heiau* distributed around the boundary of the agriculturally intensified centre, little can yet be said about how each location was used. Ethnohistoric analyses by Valeri (1985), along with early research featuring temporally-closer oral accounts (Bennett 1931, Stokes 1991, Thrum 1909, Walker 1930), have defined broad categories of ceremonial architecture, yet the variability in structural features means the link between form and function is somewhat tenuous. Making this link even more complicated is the fact that in designing new *heiau*, priests intentionally borrowed architectural aspects from a range of other, pre-existing

temples (Valeri 1985). In utilising one or more traits found in other *heiau*, priests hoped to maximise the spiritual power and efficacy of new structures. In this process, however, they also created constantly changing forms with little clarity for the etic interpretations of modern researchers.

Evidence from Kaupō, along with analyses of *heiau* within a similarly intensified agricultural system from Kohala (Ladefoged and Graves 2008, McCoy 2014, McCoy *et al.* 2011, Mulrooney and Ladefoged 2005, Phillips *et al.* 2015), now indicate that while form and function remain critical for interpreting individual sites, location on the landscape may be equally important. In 1931, Bennett's classification of *heiau* on Kauaʻi largely created groups based on architectural traits, but he did include one small subdivision of temples defined by their hilltop locations. Archaeologists have long known that structures throughout Hawaiʻi can serve as the markers between territories or other boundaries (Kirch 1985), yet in the interpretation of discrete temples, location has largely remained a secondary concern behind how a structure was designed and/or the activities practiced within. This in no way minimises the many crucial settlement pattern studies that have informed our understanding of pre-contact Hawaiʻi (Kirch 1992, Rosendahl 1972, Weisler and Kirch 1985, among others); instead, it highlights the potential for location to be an interpretive tool *on par* with form and function, rather than an afterthought.

With the distinct placement of Major *heiau* along the boundary of Kaupō's highly productive, nutrient-rich core (Baer 2016, Baer *et al*. 2015), and Minor structures in the interior (likely associated with small-scale, rather than corporate practices), we have evidence that location on the landscape was the primary factor informing construction practices and use. Elites prior to Kekaulike, followed by the king himself, built a network of large *heiau* in very specific places, as these examples of monumental architecture would serve to proscribe a socio-politically valuable area. Similarly, in Kohala, the placement of temples on *ahupuaʻa* boundaries *allowed* them to act as markers of socially significant space, with both form and function dependent on their location.

* * *

Early settlement throughout the Hawaiian Archipelago emphasised small groups practicing irrigated agriculture in windward valleys. By the 1500s, however, demographic pressures and an increasingly powerful class of elites pushed people towards the drier parts of the islands and into the more labour-intensive practice of dryland cropping (Kirch 2010, Kirch (ed.) 2010). The lava and mudflows of Kaupō were quickly recognised as highly conducive to sweet potato and dryland taro cropping, and the region's production was amplified through *landesque capital* investments (permanent modifications of the landscape) in an intensive dryland field system (Baer 2016, Brookfield

1972). Bounding this zone, the formalised set of monumental structures offer a clear demonstration that Kaupō's agricultural capacity was highly valued, and that despite being well away from early centres of Maui power, large-scale labour was being organised to maximise production. Whether this organisation was run by some independent local authority or under the aegis of a leader elsewhere on the island remains unclear, but in either case, massive amounts of labour were being mobilised in the development of the region.

Overall, the Kaupō District features a uniquely elaborated display of monumentality. Through the creation of a simple classification system based on formal architectural features we can explore how the landscape and community of Kaupō were structured, and the expressions of power that served to centralise and contain the district's population. The discrepancy between Major *heiau* along the edges of the productive centre, and Minor ritual sites within the interior, indicates a highly formal network of corporate temples in stark contrast to the less formal sites of the commoner class. While *heiau* are known to have delineated boundaries and marked land ownership (McCoy 2014, McCoy *et al*. 2011, Mulrooney and Ladefoged 2005), the network of structures along the edges of Kaupō's accretionary fan represent the cultural construction of space on a scale previously unseen in Hawai'i, and serve as evidence that the location of a site may be a critical factor in the determination of both form and function.

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ABSTRACT

Recent work in the district of Kaupō, Maui, has demonstrated the presence of a highly intensified dryland agricultural system, extensive residential sites and a range of ceremonial structures that include some of the largest temples (*heiau*) in the Hawaiian Islands. In this paper I discuss the ritual sites of Kaupō and how their placement on the landscape demonstrates a unique expression of elite power. Using formal architectural features to define two basic classes of ritual sites, I show that the nutrient-rich core of the district is bounded on either side by a network of monumental temples, effectively proscribing the highly productive interior. In contrast to these major *heiau* around the exterior, the interior of the district is dominated almost exclusively by small, relatively simple ceremonial spaces. Understanding the differential distribution of the ritual structures in Kaupō offers insights into how pre-contact Hawaiian rulers sought to centralise and control highly productive regions.

Keywords: Hawaiian Islands, landscape archaeology, ceremonial architecture, agricultural intensification, social complexity, remote sensing

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AFTER THE MISSIONARIES: HISTORICAL ARCHAEOLOGY AND TRADITIONAL RELIGIOUS SITES IN THE HAWAIIAN ISLANDS

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Globalisation has a simple mythology. As the story goes, beginning in the 15th century, Europeans began exploring the world. Within a few centuries, the major powers of Spain, Portugal, the Netherlands, Great Britain and France had established expansive colonies and empires. Wealth flowing back to Europe from the colonies provided the capital to fuel the Industrial Revolution, and thus the inequalities between the West and the rest of the world were established. Missionaries provided the moral means to rationalise conquest and colonialism through wholesale conversion to Christianity.

Anthropologists, historians, and many others, including generations of indigenous peoples, know that this simplistic story does not reflect reality, and yet, many aspects of it continue to shape approaches to archaeological research. We know that people continued to practice traditional religions in various ways long after the missionaries arrived and through to the present. In archaeological studies of indigenous religion in Polynesia, with a few laudable exceptions, the implicit purpose of studying *marae*, *heiau* and *langi* (Polynesian sacred sites) is as a window to the pre-European past, and not as a window to how life changed in a post-European world. In the life history of sites of religious ritual, there is the pre-contact period when they were built and maintained for generations, and there is the modern-day; but the time in-between the traditional and the modern is lost or at least unacknowledged.

In this paper we outline several ways to bridge the "prehistory/history divide" (Lightfoot 1995) via religious architecture in Polynesia. We argue that the study of the long-term evolution of indigenous religious practices of Kānaka Maoli or Native Hawaiians, including those of the post-contact era, offers a way to take steps towards replacing colonial just-so stories with a more realistic analysis of the past built on archaeological facts (Flexner 2014). Kānaka Maoli continue to practice traditional religion in various forms in the present, particularly in engagements with *heiau* 'temple' sites, and will continue to do so in the future (Kawelu and Pakele 2014, Tengan 2008). What historical archaeology offers is a set of links for understanding

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continuities and transformations in religious practice over the course of the 1800s and early 1900s. Since this is research that largely is yet to be done, what follows should be taken as a framework for future analyses.

HISTORY AND RELIGIOUS TRANSFORMATION IN POLYNESIA

In the Hawaiian Islands, one hurdle that must be overcome to refocus scholarship on religious transformation has to do with the chronological ruptures built into Western conceptions of history, especially the separation of pre- and post-Christian times. This division of Pacific Island religious histories is misleading, a rhetorical trope invented by the missionaries themselves that obscures the complicated realities of religious transformation and conversion processes. After missionaries arrived, indigenous religions continued to survive and structure Pacific Islander cosmologies and experiences (e.g., Adams 1984, Sahlins 1985). At the same time, Pacific Islanders often made Christianity their own, shaping the foreign religion to fit the indigenous context (e.g., Flexner in press, Flexner and Spriggs 2015). We know that reality falls somewhere between "pristine" natives who practice their traditional religions unaltered, and fully Westernised people who converted (Lydon and Burns 2010). But in many ways archaeology has lagged behind in developing better understandings of these dynamics, which is unfortunate as our unique approach to the past has much to offer to discussions of religious change worldwide (e.g., Hayden 2003, Shaw 2013).

We would argue that a practice theory based definition of religion (Bell 1992) can aid in breaking down the history/prehistory divide and the apparent gap between emic and etic views on religion. As Joyce (2012: 180) notes, "[a] pragmatic archaeological approach asks not what religion *is*, but what it *does*, and how the material and historical basis of archaeology might change our view of religion". This contemporary view attempts to move away from a habitual tendency amongst archaeologists to default to a functionalist view of religion that failed to engage past, or present, peoples' religious beliefs on their own terms (Fowles 2013). Importantly for this topic, the more contemporary perspective sees religion as entangled with and inseparable from other components of society, such as politics and economics.

In our analysis we do not separate Hawaiian religion as distinctive from other aspects of culture, but rather see it as embedded in a range of beliefs and practices. *Kapu* 'the sacred', *mana* 'spiritual essence or power' and *akua* and *'aumakua* 'gods, ancestors and spirits' were integral parts of the Hawaiian universe (Kamakau 1976, 1991, Malo 1951). *Kapu*, which is generally translated as 'sacred', was used to refer to a variety of strictly enforced social rules based upon supernatural beliefs. These included gendered restrictions relating to food (e.g., women were not to eat pork, bananas or certain fishes;

food to be consumed by males and females was cooked in separate ovens or *imu*); and class restrictions (e.g., commoners were to prostrate themselves before chiefs and were not allowed to look directly upon certain rituals) (see Kamakau 1976, Kirch 2010, Malo 1951, Valeri 1985).

Religious belief and ritualised practices were integral to the emergence and evolution of archaic Hawaiian states (Hommon 2013, Kirch 2010). In the kingdoms that emerged over the course of the 16th and 17th centuries, royal courts relied on religious specialists to assert and maintain their legitimacy within the cosmic order (Valeri 1985). Assertions of power by Hawaiian kings were reflected in a built landscape of *heiau* 'temples', *ko'a* 'shrines', *ki'i* 'god images' and other objects. What is crucial to remember is that for the people of all ranks, from the *maka'āinana* 'commoner' to *mo'ī* 'king', the gods and spirits were real entities within their universe. We assume that there would have been some individual variability among individual predispositions towards religiosity or scepticism. That said, a recent archaeological study found that the influence of the *kapu* system on household architecture across multiple sites within a Hawaiian community was ubiquitous (McCoy and Codlin 2016).

When Christian missionaries arrived in the Hawaiian Islands in 1820 (see below), it was simply impossible for them to "purify" the islands of existing beliefs, practices and sites (Keane 2007). As with other missions, the old order was always going to adapt to, and exist alongside, within, and around the new. Lyon's (2011) recent examination of how Nathaniel Emerson chose to translate Kānaka Maoli historian David Malo's works regarding behaviours that were traditionally socially sanctioned and correct (*pono*) and those that were not correct (*hewa*) is a good example of the complexities of unpacking meaning from 19th century English and Hawaiian documents. The material culture that is the focus of archaeological investigations offers a different kind of interpretive potential when compared with the documentary record. Using these multiple lines of evidence together provides an important opportunity to move beyond the colonial narrative.

We take inspiration from a recent critical reading of Polynesian history. In an analysis of what he calls the Polynesian iconoclasm, Sissons (2014) traces a series of dramatic Christian conversion events in Polynesia, which he argues originated in Tahiti and then spread throughout the region, including to the Cook Islands and Hawai'i. These events were read by the missionaries as a downfall of heathenism, a replacement of the old with the new as native chiefs embraced the true religion of Christianity, burning idols and throwing down the old temples. Sissons interprets these events as following an ancient Polynesian structure for maintaining the cosmic order, based on a seasonal duality measured by the rise and fall of the constellation Pleiades (see

Kirch and Green 2001: 260). 'Pleiades Above' was a time of *communitas*, feasting, dancing, celebrations and a relaxation of hierarchy. 'Pleiades Below' was a time of order, when the strict rules governing relationships between commoners, chiefs and gods were restored and enforced. This structure also served to allow for integration of new beliefs into Polynesian religion, both before and after European contacts in the region. The timing of apparent iconoclasm events followed Pleiades Above, while church building and conversion took place during Pleiades Below.

Sahlins (1992) made a similar argument for Hawai'i, in examining both royal and commoner relationships to Christianity in the early days of the Hawaiian Kingdom. The Makahiki (Pleiades Above) was "a structure of the long run, an enduring organising principle of Hawaiian history" (Sahlins 1992: 121). It shaped the cycle between apparent widespread conversion and church building activities carried out by the chiefs, and the carnivalesque backsliding that periodically gripped society. In these studies, the written record in the form of missionary correspondence, newspaper reports and other documents provides the information to make these interpretations. Sissons (2014) argues that the structuring of Polynesian iconoclasms according to Pleiades Above/ Pleiades Below occurs because of a tendency he calls "rituopraxis", that is the habitual, periodic, repetitive embodied as well as cognitive elements of religious experience.

A BRIEF HISTORY OF THE ARCHAEOLOGY OF HAWAIIAN SACRED SITES

As is the case elsewhere in Polynesia, archaeological research on "religious" sites focuses primarily on the period before Christianity arrived on the islands in the 1820s. The study of religious architecture in the Hawaiian Islands, including *heiau*, *ko'a* and other ritual structures, featured prominently in the beginnings of the discipline of archaeology in the archipelago. While the first scientific interest in sites of religious ritual dates back to the 1841 Wilkes Expedition to Ahu a 'Umi Heiau, the systematic study of Hawaiian religious sites started in earnest with Stokes' 1906 and 1909 surveys of religious sites on Hawai'i Island and Moloka'i (Stokes 1991). Stokes was struck by the strength of traditional religious practice and knowledge, especially in the Ka'ū District, Hawai'i Island. Somewhat ironically, Stokes committed a ritual infraction at a sacred site that prevented him from working closely with the Ka'ū community (Dye 1991: 11-12), thus he lost a golden opportunity to document still vibrant traditional knowledge. Stokes and other subsequent researchers, including Bennett, Kekahuna, McAlister and Walker, made surveys aided significantly by Kānaka Maoli informants when possible, as well as local non-Hawaiians. They also based interpretations on oral traditions written down in the 19th century, called *mo'olelo* in

Hawaiian (e.g., Kamakau 1976, Malo 1951), to interpret particular features in *heiau* sites as well as their overall functions and histories. So in one way the archaeology of *heiau* has always been "historical", in the sense that it ties together multiple lines of evidence, documentary as well as physical, to understand the past.

Earlier studies were often concerned with culture historical puzzles, especially whether changes in architectural form could be linked to traditions about the arrival of the Tahitian priest Pā'ao to Hawai'i (Stokes 1991), and the evolution of temple architecture across Polynesia (e.g., Emory 1928). Pā'ao is known from oral traditions as a Tahitian priest who was said to have introduced the cult of the war god Kū and the practice of human sacrifice to Hawai'i (Kamakau 1991: 97-100, Kirch 2010: 86). There was a theory that the appearance of walled *heiau* (as opposed to platforms) was associated with this transformation of belief (Dye 1989). The evidence proved too complicated to answer these questions in a straightforward manner (see also Cochrane 2015 for a phylogenetic analysis of *heiau*). Hawaiian archaeologists remained "extremely hesitant to deal directly with religion in a serious scholarly fashion" during the earlier part of the 20th century (McCoy 2014: 74). For many scholars in Oceania and elsewhere, religious beliefs were simply too difficult to discern from the static material record (see Hawkes 1954), an attitude that in some ways continues to echo through more functionalist interpretations of the past (cf. Fowles 2013).

Starting in the 1970s, research questions in Polynesia began shifting to concerns with environmental adaptation and the emergence of socio-political complexity. *Heiau* were seen as an important class of site to be investigated as part of the overall settlement pattern (Kirch 1985: 247-83). By the 1990s, scholarship on temple architecture and sites of religious ritual began to apply an energy-expenditure model (Kolb 1994) where the stone foundations of sites became a proxy for the scale of labour marshalled for construction. Ordering architectural styles through seriation, combined with radiocarbon dating, has been attempted to address more subtle changes in temple architecture (Graves and Cachola-Abad 1996, Kolb 1994, 2006, McCoy *et al.* 2011, Mulrooney and Ladefoged 2005, Phillips *et al*. 2015). More recently, archaeological scholars have considered *heiau* in relation to the role of Hawaiian religion in providing ideological force or legitimation for rulers. Recent studies focus on the role of priests as keepers of the social order (Kirch *et al*. 2010, McCoy 1999, McCoy *et al.* 2011); archaeo-astronomy practices (Gill *et al.* 2015, Kirch 2004, Kirch *et al.* 2013, Ruggles 2000); and temple construction chronology, with high-precision uranium series dating of coral offerings indicating a notable boom c. AD 1580–1640 (Kirch *et al.* 2015, Kirch and Sharp 2005).

Just as academic archaeology has matured, so has the role of archaeology in the stewardship of sites of religious ritual. The publication of regional summaries has brought traditions, historic photos and maps out of the archives and into the hands of the local community (Kirch 1985, Stokes 1991, Summers 1971). The Bishop Museum's efforts to digitise site records, such as the detailed maps by Henry E.P. Kekahuna, a Kanaka Māoli archaeologist, have continued this trend (http://data.bishopmuseum.org/Kekahuna). Archaeologists have been on the front line of recording and preserving sites threatened by coastal flooding (Johnson *et al.* 2015), earthquakes (Johnson *et al.* 2013) and recent lava flows (Masse *et al.* 1991). Unfortunately, archaeology has also drawn serious critique for failing to protect sites (Kawelu 2007, 2015), and for the discipline's part in the creation of "ghettos" of isolated cultural sites (Major 2004). On a more positive note, archaeologists have been involved with the careful reconstruction and continued use of *heiau*, and a wave of new community archaeology, often led by Kanaka Māoli archaeologists (Kawelu 2015, Kawelu and Pakele 2014).

THE ARRIVAL OF CHRISTIANITY TO THE HAWAIIAN ISLANDS

Studies of *heiau* and other traditional forms of Hawaiian religious architecture rarely examine the evidence for what happened at, or to, structures after the missionaries arrived in 1820. To understand why, it is worth outlining a few key events in Hawaiian history. In 1778, Captain James Cook made the first definitive European sighting of the Hawaiian Islands during the expedition of the *Resolution* and *Discovery*. On his return in 1779, Cook was welcomed to Kealakekua Bay, Hawai'i Island. On January 29 he read a burial service for William Whatman at Hikiau Heiau, the first Christian ceremony to take place in Hawai'i, and possibly the first non-autochthonous religious ritual in the islands since the time of Pā'ao. Several weeks later, Cook was killed in a botched attempt to kidnap the island's king. His body was taken away and divided among the elite, with a portion returned to his crew. Later scholars would debate the extent to which Cook had been taken as an analogue for the Hawaiian god Lono during these events. Valeri (1991) has suggested that the events surrounding Cook's death may reflect oscillations of power associated with Makahiki seasonality and the tensions inherent to relationships between Hawaiian chiefs and religious specialists (see also Obeyesekere 1992, Sahlins 1985, 1995).

A chief named Kamehameha, the future founder of the first archipelago-wide polity, was likely present at Cook's landing at Kealakekua. In 1791 Kamehameha sacrificed his cousin and main rival, Keoua, at the consecration of Pu'ukoholā Heiau. It is unclear if this was a re-dedication after a major expansion of an existing temple, or an entirely new endeavour. Regardless,

this event sealed Kamehameha's dominance over the Hawai'i Island kingdom, and launched his unification campaign for the rest of the archipelago. Kamehameha completed his conquest of the Hawaiian Islands by 1810, unifying what had been a number of small kingdoms into a single state ruled by a monarchical dynasty. After Kamehameha I's death in 1819, the heir to the throne, Liholiho (Kamehameha II), broke a powerful ritual proscription relating to deeply sacred beliefs about the purity of chiefly bodies and food. This event, known as the *'ai noa*, signified the breaking of the *kapu* and was immediately followed by a royal decree abolishing the practice of traditional religion. It sparked a short-lived, failed insurrection and soon after many, but not all, temples were destroyed (Ellis 1969). Within a few months, in 1820, the first wave of Protestant Christian missionaries arrived and eventually the old religion 'died out' (see Daws 1968, Kuykendahl 1965). Or so the story goes.

HISTORICAL ARCHAEOLOGY OF TRADITIONAL RELIGIOUS SITES IN HAWAI'I

There is, however, no reason to assume that Hawaiian religion "disappeared" after 1820. Religious change is never an immediate shift from one "pure" type to another but better thought of as interlocking shifts in practice and social structure (e.g., Bell 1992). These transformations can be gradual, and even where processes of change are rapid, we should expect to see "anachronisms", holdovers in belief and practice from the old cosmological order (Flexner in press, Keane 2007). To extend that line of thinking, the contemporary revival of religious and cultural practices at sites like Pu'ukoholā (Tengan 2008, see also Kawelu 2007) should be thought of as part of a continuous historical trajectory, rather than a modern "invention of tradition" (Johnson 2008, Linnekin 1991). The larger point is that any hypothesis regarding religious transformation should be tested against the material evidence rather than treated as a foregone conclusion.

Below, we highlight two archaeological case studies of activity at Hawaiian religious sites after the first Christian rituals were carried out in the islands. Our purpose is to demonstrate potential approaches to exploring post-1778 religious transformations in Hawai'i. Similar approaches could beneficially be applied to other areas of Polynesia, as well to search for evidence of indigenous religious practices during the time when missionaries had ostensibly begun converting the population. The original intent of the fieldwork described below was carried out with a primary focus on "pre-contact" (Puhina o Lono) or "post-contact" (Kalaupapa) archaeology. Our ongoing collaboration leads us to explore ways to span that divide through the examination of longer-term "life histories" at sites of religious ritual. Future fieldwork and research will be necessary to refine and strengthen the interpretations presented here.

Puhina o Lono, Kealakekua Bay, Hawai'i Island

The death of British Captain James Cook in Kealakekua Bay, Hawai'i Island (Fig. 1) has attracted interest from scholars, such as Pacific historians (e.g., Salmond 2003) and cultural anthropologists (e.g., Sahlins 1995), but remarkably it has remained *terra incognita* for anthropological archaeology. We begin our discussion of indigenous sites of religious ritual during an era of European contacts by examining a site called Puhina o Lono (also sometimes referred to as "Cook's Heiau"). Puhina o Lono (literally meaning 'to burn Lono') was succinctly first described by archaeologists as "an enclosure where the bones of Captain Cook were extracted" (Emory 1970: 30). The site provides an example of where archaeology can provide an independent line of evidence to address perhaps the best-known colonial narrative in the Pacific, the apotheosis of Captain Cook as the god Lono.

There are two written accounts of visits to Puhina o Lono in the years immediately following the abolition of traditional religion in 1819, one by the missionary William Ellis (1969: 52) and the other by the English naturalist Andrew Bloxam (1925 [1825]: 77). In 1823, Ellis (1969: 52) travelled along the coast of Kealakekua Bay and gives a second-hand account of the upcountry site of Puhina o Lono:

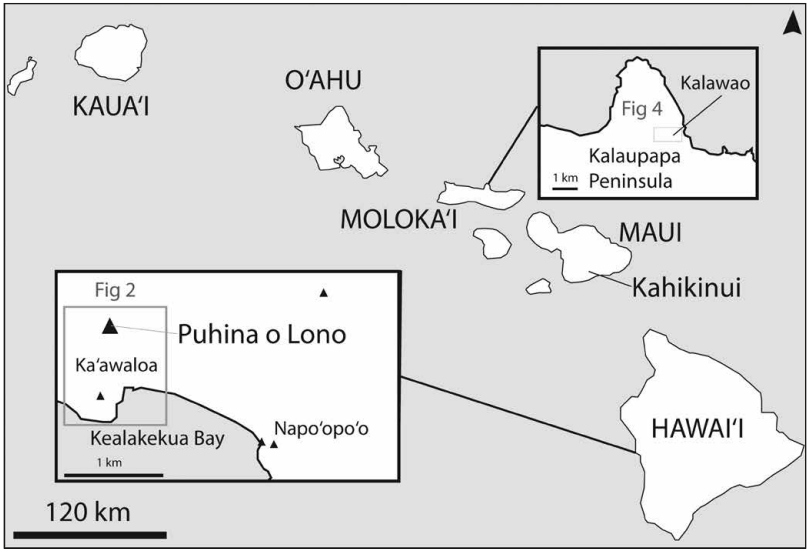

Figure 1. Locations in the Hawaiian Islands discussed in the present study.

> … Mr. Goodrich ascended a neighboring height, and visited the spot where the body of the unfortunate Captain Cook was cut to pieces, and the flesh, after being separated from the bones, was burnt. It is a small enclosure, about fifteen feet square, surrounded by a wall five feet high; within is a kind of hearth, raised about eighteen inches from the ground, and encircled by a curb of rude stones. Here the fire was kindled on the above occasion; and the place is still strewed with charcoal. (Ellis 1969: 52)

A second visit to the site on 15 July 1825 is recounted in the journal of Andrew Bloxam (1925 [1825]: 77). Bloxam describes a small group of British sailors—including himself, Lord George Anson Byron and other members of crew of the *HMS Blonde*—who were taken to the site by a local chief named Naihe (also referred to as Nahi) and told that this was the "spot where Captain Cook's body was taken and cut up immediately after he was killed" (Bloxam 1925 [1825]: 77). While both 19th century visitors give similar descriptions of the enclosure, there is no reference in this second account of the 'kind of hearth' within it. Bloxam (1925 [1825]: 77) does, however, go into great detail in his description of the creation of a monument to Cook consisting of a "stone pyramid" with a wooden post holding a brass plaque (Fig. 2):

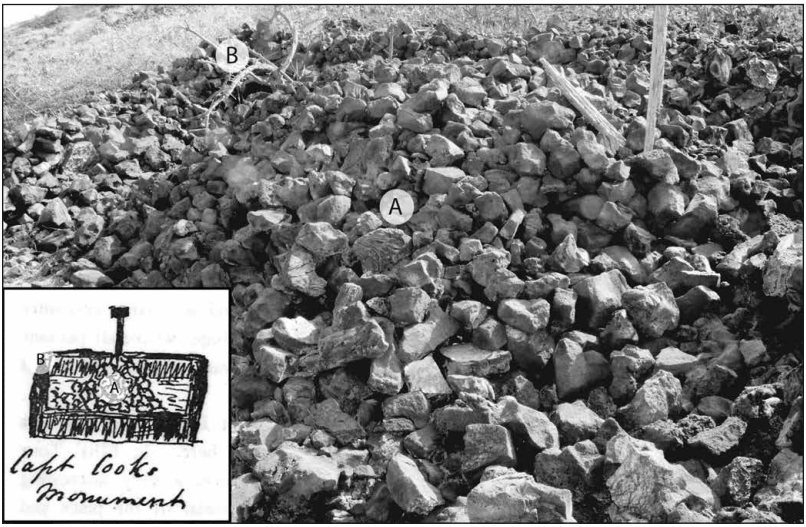

Figure 2. A photograph of "Capt Cooks Monument" today compared with a diary sketch from 1825 (inset) of the stone "pyramid" (A) within the main structure (B) at Puhina o Lono, Kealakekua, Hawai'i Island.

> In the center of this [enclosure] Lord Byron, Mr. Ball, Davis and I laid the first four stones of a pyramid to form the base of a monument to his memory. A large post was fixed in the middle of this, and on the top was nailed a brass plate, with the following words engraved upon it: To the memory of Captain James Cook, R.N., who discovered these islands in the year of our Lord 1778. This humble monument was erected by his fellow countrymen in the year of our Lord 1825. Bloxam (1925 [1825]: 77)

The site of Puhina o Lono invites two questions about ritual practices in the post-contact era: Was the site already part of the existing religious landscape when Cook's ships arrived in Kealakekua, or was it specially built in 1779 to accommodate the death of "Lono"? And why was a small group of foreign visitors allowed to remodel the site to build a monument to Cook in 1825?

In 2015, a brief survey and detailed mapping of the enclosure at Puhina o Lono was conducted (Fig. 3; McCoy 2016). The "pyramid of stone" that formed the foundation of Cook's monument can be clearly seen today and leaves little doubt this is the same location as that described in 1825. More importantly, the layout of the site and its surrounding features suggest that this was not a simple or small structure, a fact that in our view makes it unlikely it was specially built in the short time that elapsed between Captain Cook's death and when his body was partially returned to his crew. Surprisingly, the site's overall layout today does not fit well within the expected range of variation seen in temple architecture in a number of respects. For example, it is oriented to the local landform, rather than to a particular sacred direction; northeast being expected if it were dedicated to Lono (Kirch 2004). Further, there is documentary evidence to support the notion that at the time of contact the site was not used as a *heiau*. An 1883 Hawaiian Government survey map of Kealakekua Bay shows the site as a rectangular enclosure labelled as Puhina o "Lono" (Fig. 4; quotes on the original map; see also Louis 2008). While other sites on the 1883 map were identified as "Old Heiau", Puhina o Lono was not. Other early references to Puhina o Lono also do not refer to it as a *heiau* (Thrum 1908: 46). The site only begins to be referred to as a *heiau* in the 20th century, first as Puhina o Lono Heiau (USGS 1928) and later as Cook's Heiau (USGS 1959).

If the site of Puhina o Lono was not purpose-built to process Cook's body, and is also not a good fit for the architectural forms of *heiau*, there are a number of other possible roles it could have played in the ritual landscape. One scenario that we see as likely is that this structure was used in the preparation of high chiefs for burial (Green and Beckwith 1926). The close proximity of burial caves, and its placement outside both the primary coastal and upland residential zones, is circumstantial evidence supporting this interpretation. If this were the case, then in terms of the larger narrative of

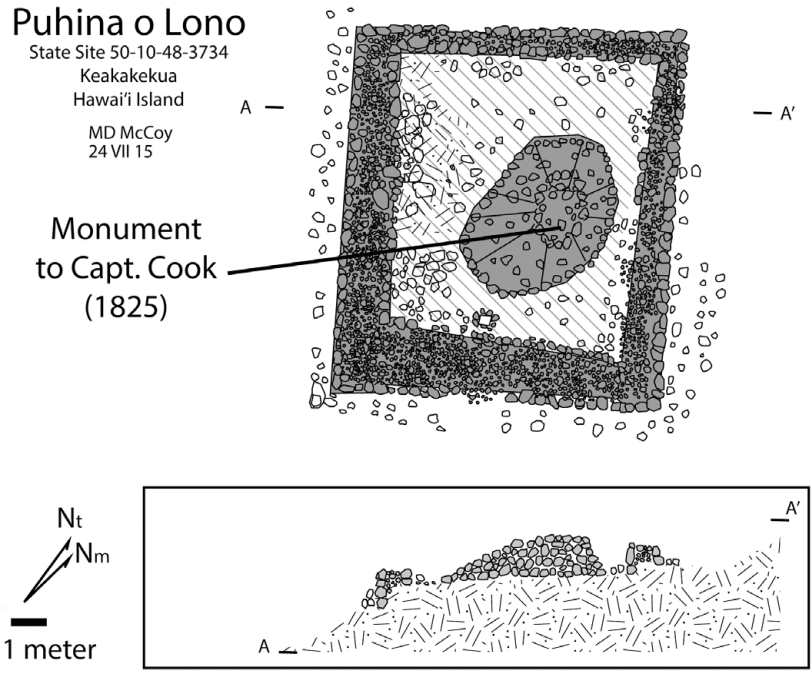

Figure 3. The main structure at Puhina o Lono. The site is registered with the State Site Inventory Number 50-10-48-3734 and Bishop Museum site number 50-Ha-C23-4 (Emory 1970, Soehren and Newman 1968). Source: McCoy (2016).

the encounter between Kānaka Maoli and Cook, it would appear that Cook's remains may have been treated in much the same fashion as a high chief, rather than requiring some new hitherto unknown and exceptional religious ritual apparatus. While this is far from definitively settling the "apotheosis or not" (Obeyesekere 1992, Sahlins 1995) debate regarding Cook, it pushes us to think about how sites of religious ritual were being used in the earliest days of the post-contact period.

Our second question is: Why was a small group of foreign visitors allowed to remodel the site to build a monument to Cook in 1825? The monument created by the crew of the *HMS Blonde* in 1825 was not the first, and certainly not the last, monument to Cook made by visitors to Kaʻawaloa. We suspect that two factors may help explain why this crew was allowed to materialise their religious ritual to Captain Cook using the stones of the original building.

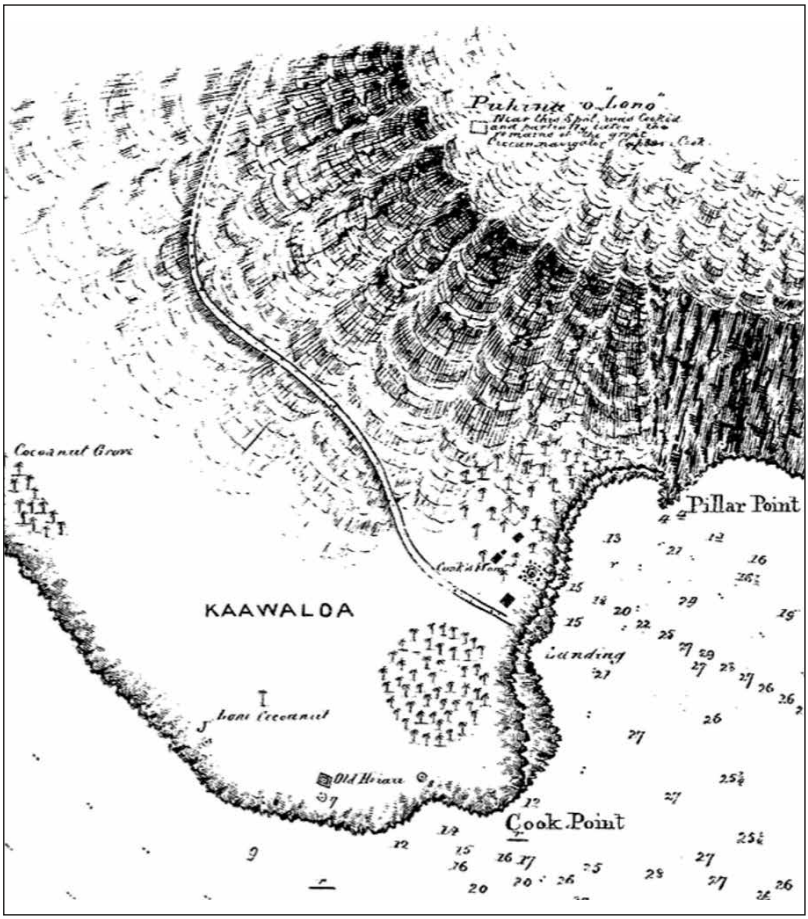

Figure 4. An 1883 map of Kealakekua Bay, Hawai‘i Island, shows Puhina o Lono located outside the main settlement at Ka‘awaloa. The site is shown as a rectangular enclosure and labelled as: *Puhina o "Lono" Near this spot was Cooked and partially eaten the remains of the great Circumnavigator Captain Cook*. Note that while other features are referred to as temples (e.g., "Old Heiau"), Puhina o Lono is not. Map by Lt. George E. Gresley Jackson, Hawaiian Royal Navy.

The timing of the *HMS Blonde*'s visit to Kaʻawaloa, so closely following the abolition of traditional religion is certainly a factor; but far more important to understanding this event is the purpose of the *HMS Blonde*'s visit to Hawaiʻi. Almost exactly a year earlier, Liholiho (King Kamehameha II) and his wife Queen Kamāmalu died from measles on a visit to the UK. The *HMS Blonde* returned the royal bodies to Oʻahu, then proceeded to Kaʻawaloa with the explicit purpose of creating a monument to Cook. The placement of the monument in the centre of the enclosure, the same location as the hearth where Cook's body was burnt, may have been deemed correct (*pono*) for the crew who had played a pivotal role in bringing the king and queen back to Hawaiʻi for burial. In sum, the monument's construction does not necessarily indicate that the site was de-sacralised in a material expression of the wholesale replacement of one set of beliefs and values with another. Rather, the specific historical context suggests the re-use of building materials in a continuously sacred, if transformed, architecture.

Kalawao, Kalaupapa Peninsula, Molokaʻi Island

A second case study comes from Kalawao, Kalaupapa Peninsula, home to a dense Kanaka Māoli population from long before European contact through the 1850s (Kirch 2002, McCoy 2006). In the early contact period, Kalaupapa's inhabitants had some connections to the capitalist world system, particularly through the export of agricultural staples in exchange for trade goods (Goodwin 1994, McCoy 2005: 351). However, Kalaupapa remained outside of direct missionary influence until the 1870s. There is good reason to believe that the traditional order would have persisted on the peninsula in some form. In 1866, the area was transformed into a leprosarium for the Hawaiian Kingdom (Greene 1985). Even in the institutional setting, missionary mythology shapes the story of religious transformation, though it is tinged with the tragic history of disease and isolation. In 1873 a Belgian Catholic Priest, Damien de Veuster, arrived in the apparently chaotic settlement. According to the myth, the "hero of Molokaʻi" worked tirelessly to comfort and aid the afflicted until he died a martyr's death in 1889 (Flexner 2010: 76-82, Moblo 1997). Archaeological and ethnohistoric evidence provides a much more prosaic account of the experiences of Kalaupapa's exiles, focusing on the Hawaiian values expressed socially and spatially in the community (Flexner 2012, Inglis 2013).

An initial examination of traditional Hawaiian religious sites in the Kalaupapa landscape suggests a variety of processes in action. One of the things that initially drew archaeologists to Kalaupapa Peninsula was the assemblage of remarkably well-preserved archaeological remains, which

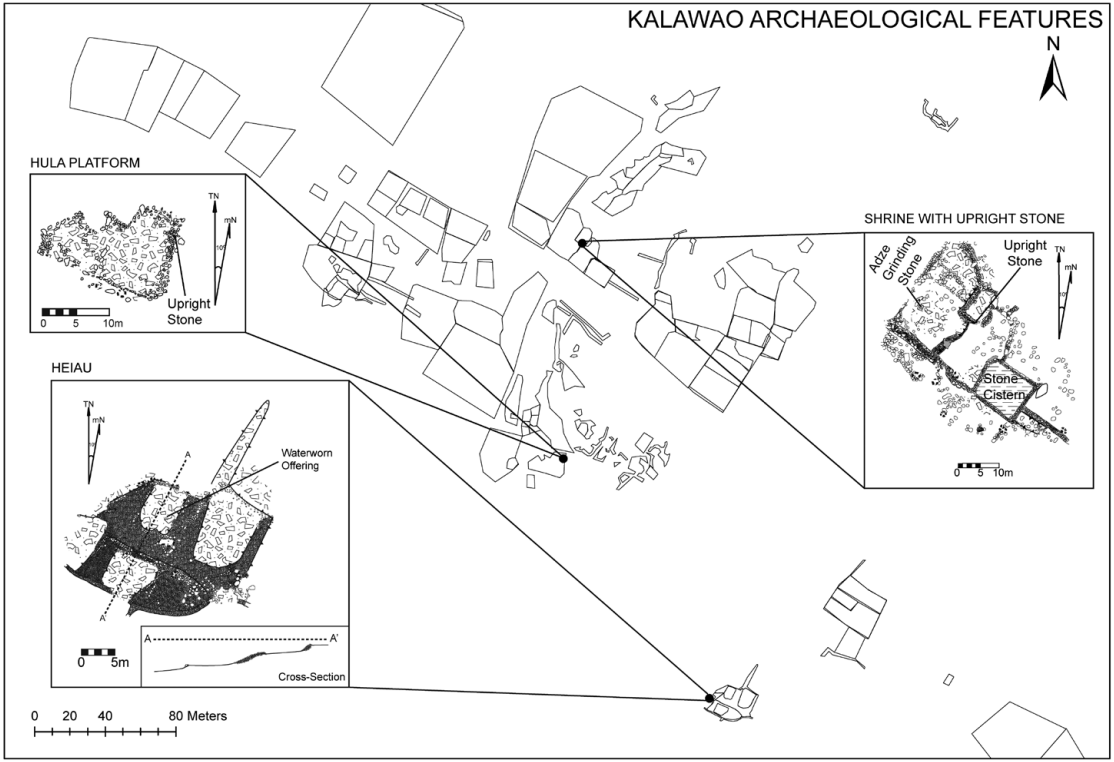

Figure 5. Nineteenth century stone walls dominate the landscape in Kalawao, Moloka‘i Island, but material signs of ritual remain. Inset maps show three sites, a *heiau*, a shrine and a possible *hula* platform. Source: Flexner (2010).

Figure 6. An anthropomorphic petroglyph on the foundation stone of a platform (Site 50-60-03-2047). The figure's raised arms could indicate *hula* or a religious ritual. See McCoy and Codlin (2015) for a recent discussion of rock art recorded on archaeological surveys in the Hawaiian Islands. Source: McCoy (2006).

ironically exist because of its history as a place of isolation (Kirch 2002). Architectural forms of religious sites range from upright stones (*pōhaku a Kāne*), to petroglyphs, to *heiau* and *ko'a*, to a rare example of a burial mound at Makapulapai (McCoy 2006, 2008). One of the well-preserved *heiau* is located on the edge of the core area of the 19th century leprosarium, abutting the talus slopes of the *pali* 'cliffs'. Two prominent upright stones are also located in the central area of the leprosarium as inhabited from 1866–1900 (Fig. 5). One is located on a relatively intact platform close to a petroglyph (Fig. 6). The petroglyph features a traditional *hula* 'dance' stance, and the nearby structure with the upright stone has been interpreted as a possible *hula* platform. The other upright stone is part of a series of terraces that were incorporated into walls built into the leprosarium's landscape of stone enclosures (Flexner 2010: 109-10, 131). Just below this feature is an adze grinding stone. On the other

Figure 7. Foundation stones of an unnamed *heiau* (Site 50-60-03-2304), Kalawao, Moloka‘i Island. All but the largest stones from the structure appear to have been removed and used to construct the nearby churchyard wall. In its original form, we presume it would have had core-filled walls and would have been about 250 m^2 (exterior footprint) and was oriented to cardinal directions to reference nearby off-shore islands. Source: Kirch (2002), reproduced here with permission.

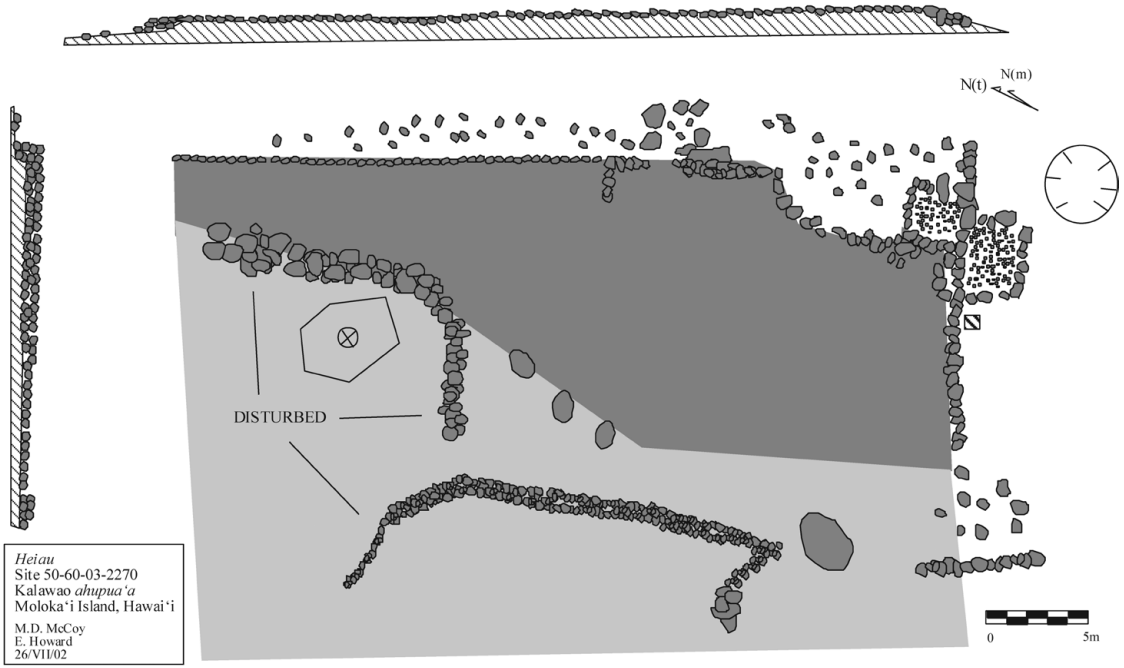

Figure 8. An unnamed *heiau* (50-60-03-2270), Kalawao, Moloka'i Island. This low platform is large (about 830 m^2) and is oriented to the northeast to reference nearby off-shore islands. It has small, formal mounds added on to the northeast corner which may be burials, and some recent disturbance, but otherwise the site is intact. Source: McCoy (2006).

side there is a stone and mortar cistern built to provide drinking water for the leprosarium. Dense scatters of 19th century artefacts relating to Kalaupapa's history as a leprosarium are found throughout the core of the 19th century settlement (Flexner 2010: 154-55). Yet such deposits are essentially absent from the sacred spaces, suggesting these sites continued to be treated as *kapu* by the mostly Kānaka Maoli population of the institution.

On the eastern (Kalawao) coast of Kalaupapa Peninsula is an un-named *heiau* on a location identified on early maps as Makali'i (literally 'Pleiades'; Fig. 7). This site's association with the Makahiki, and Lono, seems likely given its location relative to two nearby islets that served as a 'natural calendar' marking the rising and setting of Pleiades (Kirch 2002, McCoy 2014: 75). Sometime in the 1880s all but the largest stones of the *heiau* were removed, we presume to build walls for a nearby Catholic Church and cemetery. Another much larger, nearby *heiau*, also oriented to sight the rising of Pleiades, does not appear to have had any stones removed, despite a great deal of 19th century building in the immediate area and some recent modifications (Fig. 8). The removal of stones from the *heiau* at Makali'i may reflect the unusually great influence of the Belgian Catholic priest Father Damien in the institutional settlement; yet this is a unique example. For the most part, the archaeological record of Kalawao appears to show that most sacred sites were left intact through the 19th century and into the present. What is necessary in future research is the identification of potential offerings on these kinds of sites, and their chronological contexts (i.e., do they date to pre- or post-contact periods), as well as a closer examination of the archaeology to infer the formation processes (Schiffer 1987) that might indicate what kinds of specific behaviours relate to these patterns. While there is much research to be done, an initial reading of the evidence suggests that even in an "institutional" space, apparently dominated by foreign missionaries, ancient Hawaiian values, including *kapu*, continued to influence practices within the exiled population (see also Flexner 2010: 259-60, 2012).

* * *

We expect that the kinds of material evidence apparent at Puhina o Lono and Kalaupapa, while certainly special cases, do not represent isolated examples of continued engagement with Hawaiian sacred sites over the course of the 19th century. In other cases, colonial building projects integrated the fabric, locations or forms of *heiau*. Where Christian churches were built on top of *heiau*, this could be seen as an overt attempt at colonial dominance, placing the new religion above the old (though this can be an overly-simplistic interpretation, see Sissons 2011). In other cases, new relationships with

Hawaiian *heiau* emerged from colonial constructions, something Mills (2002) has suggested for the remains of "Russian" Fort Elisabeth (Hawaiian Pā ʻulaʻula o Hipo) on Kauaʻi. We note that in Kawaihae, at the site of Puʻukoholā Heiau, the conversion of Mailekini Heiau into a fortification, complete with ship's cannons, began as early as 1812. All of these represent ongoing processes of transformation in religious sites and ritualised practices, which nonetheless fit within a continuing trajectory of Kanaka Māoli belief and cosmology.

It is unlikely that beliefs about the sacredness of *heiau* and other traditional religious sites remained unchanged in the 19th century. It is certain that the ritual significance of such sites did not disappear, but rather was *transformed*. Such an observation should not be seen as taking away from the authenticity of indigenous religious practices, as it shows the creativity and dynamism of Pacific Islanders living in situations of colonialism (Flexner 2014). One transformation that is worth examining is the extent to which *heiau*, once sites of potentially great fear for Hawaiian commoners and elites, became sites of social memory and possibly nostalgia for people who were dissatisfied with the emerging colonial status quo.

Anthropological archaeology must acknowledge the continued importance of *heiau* and other cultural sites across the nearly two and a half centuries between Captain Cook's arrival in 1778 and 21st-century Kānaka Maoli. The significance of these sites and related beliefs among living Kānaka Maoli is amply apparent. Archaeologists have a responsibility to continue to work closely with living communities and to take their sacred beliefs seriously (Kawelu 2015). What historical archaeology can contribute to our understanding of this dynamic is a close analysis of continuities, as well as transformations of ritual practice as Hawaiian people's relationships to their sacred sites evolved, even as Christianity and other foreign religions were established in the islands. What this will involve is a greater sensitivity to the post-1820 materials deposited on or around these kinds of sites, including the contemporary offerings that can be common in some areas. Is there a continuous record of offerings on some sites that includes 19th and 20th-century materials? We would argue that in many cases there is, but that this is under-represented in the archaeological documentation of such places. Is there evidence that the meanings of sacred sites transformed somehow in the colonial era? What would it look like? If this did occur, how and why? These are research questions that we are still refining and revising as our understanding of this history improves.

It is our hope that archaeologists throughout Polynesia will begin to include a focus on the traces of post-contact activities on traditional sites of religious ritual. While there is much work to be done, we have an ethical, as well as

a scholarly mandate to better understand the evolution of these connections between Polynesians and the sacred, materialised through the construction of temples and other sites and the rituals enacted on the sites through time. This should include the ways sacred sites were used during the sometimes violent upheavals of the colonial era, and their ongoing engagement with Polynesian identities, beliefs and practices continuing into the future.

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ABSTRACT

Archaeology of traditional religious sites in Polynesia tends to focus on the "pre-contact" era, before religions were transformed by European influence. An historical archaeology of traditional religious sites is essential, however, for understanding the relationship between 21st-century traditional or indigenous religious beliefs and practices, and the transformations wrought during the colonial era. Traditional religion certainly did not disappear with the arrival of Christian missionaries, but there would have been some transformations. Using case studies from the Hawaiian Islands (Puhina o Lono or "Cook's Heiau" on Hawai'i Island and the leprosarium at Kalaupapa, Moloka'i Island), we explore some of the ways that sacred sites were transformed in the 18th and 19th centuries. These are initial observations and we offer a number of recommendations for future research, particularly relating to the interpretation of architectural modifications and ritual offerings. The largely unexplored colonial archaeology of traditional religious sites merits a more prominent place in Polynesian archaeology.

Keywords: Religious sites, historical archaeology, Hawai'i, *heiau*, Captain Cook

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