Nearly 50 years ago Robert Suggs (1961) conducted the first modern archaeological study in the Marquesas, on the island of Nuku Hiva (Fig. 1). Using stratigraphic and architectural sequences, and artefact assemblages, along with nine radiocarbon dates, he constructed a five phase, island-wide cultural historical sequence. Suggs’s framework has in large part been extended to the archipelago as a whole and it continues to structure scholarly thinking on many aspects of Marquesan prehistory (e.g., Kirch 2000:257-65, Sinoto 1966, Thomas 1990). It is debatable, however, whether this framework has stood the test of time and whether it has been sufficiently “tested”. Among the issues of concern are the timing of key cultural processes, the possibility of regional variation and the empirical basis of some aspects of the original framework.

Most controversial have been Suggs’s ideas about when the Marquesas Islands were settled. Drawing on two radiocarbon determinations from the coastal dune site of Ha’atuatua, Suggs placed initial colonisation of the archipelago between 150 B.C. and A.D. 100. These dates, along with other early evidence from the Hane site on Ua Huka, led Emory and Sinoto (1965; see also Sinoto 1968, 1970) to model the Marquesas Islands as a primary dispersal centre for East Polynesia generally. Accumulating evidence now challenges these ideas and has raised the possibility that settlement could be much later (e.g., Anderson and Sinoto 2002, Anderson et al. 1994, Conte and Anderson 2003, Rolett and Conte 1995, Spriggs and Anderson 1993, in the Marquesas and in East Polynesia as a whole (but see also Kirch and Ellison 1994).

Among Suggs’s other important ideas were those related to socio-political change and the rise of monumental architecture, two processes he linked to resource stress and population growth. These core issues have seen further elaboration, refinement and recontextualisation, as in the work of Thomas (1990) and Kirch (1991). Unfortunately, the historical data on which they are based (primarily Suggs 1961) is limited in several respects. The problems are not so much with Suggs’s study per se, in many ways a remarkable achievement for the time, but with the limited number of subsequent
excavations, particularly on Nuku Hiva. Among the more pressing concerns is our poor chronological control of architectural developments (see also Rolett 1998:255-56). Suggs did not directly date his structures and most subsequent research has emphasised surface mapping, and stabilisation and reconstruction of megalithic monuments (e.g., Ottino 1986). Furthermore, given that Suggs’s architectural excavations were largely confined to a single valley, Taipivai Valley, the chronology of architecture found here may not represent that of the island as a whole, much less the archipelago. It is also notable that despite the critical role attributed to resource stress, detailed subsistence analyses were not undertaken by Suggs and ancillary
palaeoenvironmental data was unavailable at the time. This is not surprising given theoretical interests in the 1950s, but subsequent studies of this kind have also been limited or otherwise narrowly focused on single faunal classes (e.g., Davidson et al. 1999, Leach et al. 1997), with Rolett’s (1998) Tahuata study being an important exception (see also Kirch 1973). In short, the timing and development of megalithic architecture, a key marker of socio-political change in the Marquesas Islands, remains poorly understood and the degree to which its appearance is regionally variable is unknown. Further, particularly in Nuku Hiva, the largest island in the chain, its relationships to resource use and palaeoenvironmental change is largely hypothetical.

Ongoing research at Anaho Bay on the northeast coast of Nuku Hiva is making a modest contribution to our understanding of these issues. Importantly, this is the first excavated assemblage from a new Nuku Hiva locality since Suggs’s seminal study in the 1950s. Anaho Bay is unusual for the presence of a moderate-sized coral reef, the largest on the island. This feature might have attracted early settlers accustomed to the abundant reef resources of islands to the west. While Anaho itself is not well known in the literature, the neighbouring valleys are. To the south lies Ha’atua which, though recently redated, can still lay claim to being one of the earliest known sites in the Marquesas (Rolett and Conte 1995). To the west is Hatihe’u, a locality where megalithic architecture and ceremonial complexes abound (see Millerstrom 1997, 2001, Ottino 2003). Results from preliminary field studies at the coastal site of Teavau‘ua, Anaho Bay are presented here and a historical sequence outlined in relation to the significant ecological and social processes previously identified by Suggs (1961). The article concludes with a broader discussion of the Marquesan sequence in light of new data from both within and outside of the Marquesas Islands, and a revised chronological framework is presented.

ENVIRONMENTAL AND CULTURAL BACKGROUND

Nuku Hiva Island

The Marquesas Islands lie at the eastern edge of central Polynesia, 1370km from the Society Islands to the southwest and 480km from the Tuamotus to the south. They consist of ten main islands, five within the southern group and a northern group made up of Ua Pou, Ua Huku and Nuku Hiva, along with a set of smaller islands to the northwest (Fig. 1).

Nuku Hiva, centred at c.8° 52’ S latitude and 140° 7’ W longitude, is the largest of the group at 330km². It is also the site of the most comprehensive archaeological study to date (Suggs 1961). A large central basin occupies the island’s centre at 800m, an area known as To‘ovi‘i Plateau. Mountainous
ridges, rising to a maximum elevation of 1227m, radiate from this basin and define the island’s numerous and deeply-eroded valleys. Two large rivers originate in the central basin, forming the well-watered, long and narrow valleys of Hakaui and Taipivai. The northwestern side of the island, known as henua ataha, is quite dry and lacks significant bays, while elsewhere bays are typically deep and well protected. Dramatic amphitheatre-headed valleys are common, as for example at Anaho Bay on the northeast coast. Prehistorically, habitation was focused in the lower valley areas, along waterways and on the coast (Handy 1923, Suggs 1961). The rugged terrain of Nuku Hiva inhibited movement and communication between valleys and travel along the more exposed coastlines would also have been difficult in small traditional craft. While interaction between communities was certainly possible (see Thomas 1990), it was nonetheless costly in terms of time and effort.

Steep cliffs, formed by wave action and faulting, characterise much of the Nuku Hiva coast; sand or boulder beaches are found mainly at the mouths of valleys. Another common feature is the prominent palaeo-shoreline notches, which reflect the region’s projected c.1m high Holocene stand. Late Holocene hydro-isostatic draw-down is thought to have initiated in this region of the Pacific around A.D. 700 (Dickinson 2003, Pirazzoli and Montaggioni 1988), suggesting that current shorelines were unavailable for habitation before this time. In contrast to other central Polynesian islands, coral reefs are rare in the Marquesas but, occasionally, small fringing reefs occur in protected localities. Near-shore waters are usually deep because shallow submarine platforms are lacking. Relative to conditions elsewhere, marine resources in the Marquesas were less accessible, species diversity was lower (Kirch 1991), and some suggest that marine biomass was reduced.

The Marquesan climate is considered mesic-tropical (Mueller-Dombois and Fosberg 1998:446). Much of the island’s precipitation is brought by southeast trade winds. As a consequence, the eastern regions are comparatively lush and well watered, while western areas are arid. Annual variation in rainfall is not particularly marked, but May to September is relatively wet and October to April tends to be dry, with an annual range between 700 and 1500mm (Cauchard and Inshauspe 1978). In contrast, inter-annual rainfall can be quite variable. Mueller-Dombois and Fosberg (1998) note that alternating wet and dry year periods occur every three to ten years. Droughts may persist for several years and are often severe, in the past leading to famines (Crook cited in Ferdon 1993:2, Kellum 1968:36-40, Robarts 1974). Ferdon (1993:4-5) suggests that the irregularities in Marquesan precipitation may be tied to El Niño and La Niña events. This highly variable and unpredictable rainfall made the management of agricultural resources, in particular, a risky and uncertain proposition.
Much of the current vegetation is introduced, particularly in the lower and mid-elevation regions (Decker 1970, 1992, Florence and Lorence 1997, Wagner and Lorence 1997). The indigenous flora is relatively limited, numbering just under 340 species, but with a large proportion of endemics (42 percent). Unfortunately, introduced herbivores, particularly goats (currently) and sheep (in the past) have wreaked havoc on Nuku Hiva’s native vegetation, and the coastal slopes are often stripped to bare ground. In light of these factors, archaeological wood-charcoal assemblages are important sources of data for reconstructing the lowland vegetation of the prehistoric past. The loss of native vegetation with the introduction of exotic herbivores had a dramatic effect on erosion, topsoil stability and terrigenous sediment loads to coastal areas.

The traditional Marquesan economy centred around 36 varieties of breadfruit (*mei*). However, taro (*ta'o*), sweet potato (*kuma'a*), banana (*meika*), three species of yam (*Dioscorea* spp.), coconut (*'ehi*), sugar cane, kava (*Piper methysticum*), paper mulberry (*ute*) and numerous other medicinal and supplementary species were also important (as summarised in Ferdon 1993:86-89 and Kellum 1968:31-34). There were three main breadfruit harvests and the fruits were often processed and stored in anaerobic pits, and techniques were used that allowed preservation for several decades. Taro, a secondary staple, was grown in irrigated terraces on valley bottoms and elsewhere using dryland techniques (Kellum 1968:87-91, Suggs 1961:185). Kellum’s (1968:33) review of ethnohistoric sources suggested that sweet potato, with its lower water requirements and shorter maturation period, was a more important secondary crop at Western contact. Simple stone features have been observed in the Anaho interior, suggesting that dryland farming was practised there, with sweet potato, gourd and possibly dry taro being likely crops.

Chicken, pig, dog and the Polynesian rat (*kio'e*) were among the commensal species introduced by Polynesian colonists (Suggs 1961). Dog is said to have become increasingly rare over time and some have suggested it became extinct. Pig, in contrast, is thought to have increased in importance in the late prehistoric period (Suggs 1961), but was generally reserved for special occasions. Chickens were apparently more valued for their feathers than as a source of meat (see Kellum 1968:34 and references therein, Rolett 1998:98). Polynesian rats were eaten during periods of scarcity by “some of the poorest people” (Crook cited in Rolett 1998:93, Robarts 1974:248) and fed to young pigs along with breadfruit paste (Porter 1822:54).

Anthropologists have been intrigued by the fluid and dynamic nature of Marquesan socio-political structure (Goldman 1970, Kirch 1991, Sahlins 1958). By Western contact, an atypical Polynesian social-political system
had evolved, one characterised by a low level of socio-political integration, shifting centres of power and authority and a high level of achieved authority. The factors underlying the breakdown of traditional chiefly rule are not known, but Thomas (1990) suggests environmental disaster, for example an extended drought, could have played a role. At contact, the most important socio-political group was the mata‘eina’a or tribe, often the community of a single valley (Thomas 1990:20). Society was essentially divided into the landless commoners and those with status. Three status groups were recognised: the hereditary high chiefs (haka‘iki), the inspirational priests (tau‘a) and specialists in traditions (tuhuna o‘ono), and chief warriors (toa). Additionally, there were the landed ‘akatia, who were independent of the hereditary chiefs.

Aspects of this socio-political hierarchy, as well as ritual and community life, are preserved in the remarkable Marquesan stone architecture. Some outstanding examples on Nuku Hiva have been described in detail by Linton (1925), Suggs (1961) and, most recently, by Ottino (2003) and Millerstrom (2001). These include temples (me‘ae) for religious and burial rites, community assembly places and dance arenas (tohua) and domestic platforms (paepae) for sleeping and other functions (Fig. 2). The Nuku Hiva tohua are

Figure 2: Megalithic architecture at Anaho Bay, Nuku Hiva.
said to be the largest of the archipelago, several being 300 to 400ft (c.90 to 120m) long (Linton 1925:27, Suggs 1961), and Nuku Hiva may have been the epicentre of the archipelago’s dry stone masonry developments (Suggs 1961:185).

Neither the archipelago nor individual islands were ever politically unified. On Nuku Hiva, two main political groups held power at contact and many smaller valley polities were allied with one or the other of these: the Taipi of Taipivai and allied valleys to the east and northeast (including Anaho), and the Te‘I‘i of Taiohae and allied valleys to the southwest and Pu‘a and Akapa‘a on the north (Suggs 1961:188, Thomas 1990:23).

The islands became known to the Western world through the 1595 visit of Alvaro de Mendaña, who named the group. His stay was brief and tumultuous, and confined to the southern group. The archipelago was not observed again until 1774, when Captain James Cook relocated it. The northern group, however, was not identified until 1791 when Joseph Ingraham of the American trading ship *Hope* sighted the islands but did not land. Face-to-face contact did not take place until 1792, when Richard Hergest of the *Daedalus* visited four of the main Nuku Hiva valleys (Dening 1980:24). Rallu (1990:49) provides the most considered estimate of Marquesan population size at contact, conservatively suggesting a figure of 43,000.

Western contact resulted in drastic population loss, largely due to the introduction of Old World diseases. Drought-induced famines also played a role and occurred with great frequency, at least in the historic period. Documented examples are known from c.1800-3 (Thomas 1990:169-73), between 1806 and 1812 (Suggs 1966:229), in 1820 and 1862 (Kellum 1968:38-39). On Nuku Hiva, a series of devastating epidemics occurred between 1838 and 1861 (Suggs 1966:227). By 1842, the population had declined to c.20,000 (Du Petit-Thouars cited in von den Steinen 1925:12). The introduction of smallpox in 1862 and again in 1863 led to an archipelago-wide epidemic that resulted in further losses. By 1872, only 6,045 people were recorded and the decline continued to an all-time low of 2,075 in 1929 (Suggs 1966:220).

The foregoing discussion highlights the environmental context of Marquesan settlement and aspects of Marquesan society as currently known from early historic accounts and archaeological study. The islands’ rugged topography, limited flat land, drought-prone climate and poor coral reef development were all challenges for the first settlers who arrived from more benign environments to the west. These conditions may have ultimately led to the competition, warfare and atypical Polynesian socio-political system seen at Western contact. The patterns outlined above are considered below in relation to the recent findings from Anaho Bay.
Anaho Bay

The Anaho region, with its deep, well-protected bay (Fig. 3), was initially selected for archaeological study following a reconnaissance of the north coast of Nuku Hiva in 1997. Of particular interest was the coral reef found here and its potential attraction to early colonists. Further, the valley was poorly known archaeologically, having been overlooked by Linton (1925), Suggs (1961) and more recent scholars. Initial investigations identified an artefact-rich area along the northwestern shore of the bay, where basalt and pearlshell debitage had been exposed by crab activity.

Steep and sometimes mountainous ridges enclose the valley of Anaho, culminating in a 789m peak identified as Anaotako by the Service de l’Urbanisme topographic map. The eastern side of the bay is defined by a long seaward-extending ridge with steep sea cliffs along its western border. The coastal flat of Anaho is generally narrow but widens at two points, along the northwest shore of the bay in an area known as Teavau‘ua and to the southwest where a trail leads over the mountain to Hatihe‘u Village. There are at least two intermittent drainages, one found at Teavau‘ua and a second at Teonepoto to the south.

Anaho’s coral reef, measuring 1300m in length, is the largest on Nuku Hiva and one of the largest in the archipelago (Brousse et al. 1978). The extensive shallow water region found here, with its coralline substrate, supports a variety of inshore marine species that are elsewhere less accessible. Among

Figure 3: Anaho Bay with beach at Teavau‘ua and coral reef platform on left.
the important molluscs is pearlshell (*Margaritifera* sp.), a taxon whose valves were used for fishhooks, tools, such as coconut graters, and for ornaments (Handy 1923:285-89, Linton 1923:138, Suggs 1961).

While the archaeology of Anaho had not been explored previously, it lies between two other valleys of known historical importance. To the southeast is Ha‘atuatua, a much larger valley and one that differs in its exposed coastline and well developed beach ridges (see Fig. 1). These ridges were the focus of prehistoric occupation, investigated first by Suggs (1961), followed by Sinoto (1966:303, 1970) and more recently by Rolett and Conte (1995). Two early radiocarbon dates and a variety of artefact forms led Suggs to believe that initial settlement at Ha‘atuatua dated to c.2000 years ago. More recently, Rolett and Conte (1995:224) have revised the age estimates for the basal Ha‘atuatua cultural stratum to the beginning of the second millennium A.D. They suggest that the early determination obtained by Suggs probably does not provide an accurate date for human occupation. The samples could have been composed of long-lived species or old driftwood. Alternatively, and less likely, they argue that the occupational deposit they derive from may have been fully excavated by Suggs or recently destroyed by coastal erosion (see also Sinoto 1970:106). Rolett and Conte’s work has also demonstrated that the main settlement at Ha‘atuatua (as evidenced by house sites, burials and shrines) dates to the period between A.D. 1300 and 1650, considerably later than originally thought.

Little is known about later use of the Ha‘atuatua catchment. Late prehistoric settlements may have been concentrated along the major drainage at the southern end of the dune-field, where stone structures are quite plentiful and extend inland for a considerable distance. This would be consistent with trends outlined by Suggs (1961), who argued that the late prehistoric period saw populations moving into the interior valleys as competition increased and warfare became rife.

To the east of Anaho is Hatihe‘u, a much larger and well-watered valley that was a late prehistoric centre of power (see Fig. 1). Numerous examples of megalithic architecture are found here, including as many as seven tohua (Linton 1925:117, Millerstrom 2001, Ottino 2003). Historically the people of Anaho were dependencies of the more powerful Hatihe‘u tribe, as were the people of Ha‘atuatua (Handy 1923:32), who in turn were allied with the Taipi of Taipivai. Kellum (1968:203) records a raid on Ua Huka c.1800 by combined forces from Hatihe‘u and Anaho, followed by a peace covenant between the same parties in 1844 (1968:205). Evidently the relationship between Anaho and Hatihe‘u held through the 1800s because several decades later the Hatihe‘u chief, Kooamua, was able to place a restriction on Anaho’s “devilfish” when their numbers started to decline (Stevenson 1987:46).
While Hatihe‘u figured prominently in late Marquesan prehistory, little is known about initial settlement in this valley. Recent test excavations by Michael Orliac (2003) produced a calibrated date of A.D.660-1015, suggesting that initial settlement here was a few centuries earlier than at Ha‘atuatua.

In the historic period, Anaho Bay apparently lay outside the major routes of travel and commerce; hence there is limited ethnohistoric information for the area. However, one source reports that the bay was “much used by whalers” (Naval Intelligence Division 1943:288), with whaling flourishing between 1845 and 1860 (Dening 1980:245). In the 1860s a productive cotton plantation was established here (Stevenson 1987:97, 104), part of a global cotton boom that followed the American Civil War (Dening 1980:232, 236). When Robert Louis Stevenson (1987:16) visited Anaho he found a “hamlet” located on a “margin of flat land between the west of the beach and the spring of the impending mountain”—a locality that is most likely Teavau‘ua, the focus of our recent archaeological study (Fig. 4). He makes reference to dispersed “native style houses” and a grove of palms, suggesting that the aging coconut grove seen today may have been in place at that time. However, the community was in decline. A few years before drought had killed many of the breadfruit and banana trees in the valley and Anaho was known as “the country without popoi” (Stevenson 1987:49). Also, sometime

Figure 4: View of the Teavau‘ua coastal flat looking south-southeast.
between the late 1860s and 1888, a tidal wave hit Anaho and a second locality known as Taahauku on Hiva Oa, both areas where entrepreneur John Hart had established cotton plantations. The plantations were destroyed and according to Stevenson (1987:104) “with his [Hart’s] fall the prosperity of the Marquesas ended. Anaho is truly extinct, Taahauku but a shadow of itself….”Today only a few families live in the valley, most on a transient basis.

THE FIELD STUDY AREA

In 1997, two areas were briefly tested for their archaeological potential: the small isolated stretch of beach known as Teonepoto (Site AHO-2) on the south shore of Anaho Bay and Teavau‘ua (AHO-1) along the northwest shore (Fig. 1) where surface artefacts are common (Allen and Addison 2002). The aim of the 2001 study was to define more fully the spatial, temporal and functional character of the archaeological record at Teavau‘ua.

The locality of Teavau‘ua, as referred to here, consists of a coastal flat of several hundred metres length (in a north-south direction), bisected by an intermittent drainage and a permanent coastal spring. The name Teavau‘ua literally translates as ‘the passage or channel (ava) of the Giant Trevally or the Big-headed Jack fish (u‘ua)’, which is a member of the Carangidae family, a species found on the adjacent coral reef. Today the area is dominated by ageing coconut trees that continue to be harvested for copra. In the past, a more typical coastal strand vegetation was present, as indicated by the excavated wood charcoal assemblages (see Table 2).

There are few archaeological surface remains on the Teavau‘ua coastal flat. The northernmost portion has been recently modified by the construction of several bungalows, outbuildings and a restaurant. The latter was reportedly built over a large traditional stone house platform or paepae. Immediately in front of this building is a low pavement of large basalt and coral slabs, a feature we tested in 2001 (see below). Seaward of this pavement is a historic structure consisting of a three-course high boulder platform. The exterior stones show evidence of once having been cemented and an informant suggested that this particular type of cement dates to the “missionary period”. Local residents refer to this structure as the house of Anaho’s chief. It seems likely that it is the “fine new European house” described by Stevenson in 1888 (1987:18), reputed to be the only modern one in the valley and identified as belonging to the traditional local chief, Toma (Fig. 5).

To the south of Teavau‘ua, on the opposite side of the stream, is a cluster of low stone platforms that have been loosely associated with a warrior of some renown and noted as a fishing shrine. Further inland several more stone platforms are found, including some large examples (see Fig. 2). Northwest
of the Teavau’ua coastal flat, on the low slopes it abuts, is an extensive scatter of basalt debitage, broken adzes and preforms in association with low earthen terraces of undetermined function. These remains are in among modern homes and gardens and have not yet been systematically studied.

ARCHAEOLOGICAL INVESTIGATIONS

The archaeological study was focused on the land north of the spring (Fig. 6). Topographically this a remarkably featureless area, except for a modern beach ridge of c. 1.5m height and a related swale on the inland side, the latter being an area much disturbed by land crabs and close to the water table. This flat was probably inundated during the aforementioned mid-Holocene sea-level high, which has been dated in the Tuamotu Archipelago to shortly before c. A.D.700 (Pirazzoli and Montaggioni 1988; see also Dickinson 2001, 2003).

In 1997, three 1m² excavation units were opened, two in the near-shore area (TP-1 and TP-3) and a third much further inland (TP-2) on what is referred to below as the coastal flat. These units were excavated with trowels, three-dimensional control was maintained and the excavated sediments were screened through at least ¼ inch (6.7mm) mesh. Natural strata or layers were

Figure 5: House foundation associated with the contact-period chief of Anaho.
Figure 6: Map of the primary cultural features and archaeological excavations at Teavau'ua.
numbered consecutively, top to bottom, with Roman numerals (Layers I, II, III etc.), while arbitrary excavation spits or levels were identified with Arabic numerals (Levels 1, 2, 3 etc.). Every attempt was made to follow the natural stratigraphy, but thick layers were sub-divided into multiple arbitrary levels (I/1, I/2, I/3 etc.) of c.10cm. Three shovel pits (SP-) were also opened. For these tests, notes were taken on the sub-surface stratigraphy, associated fauna, and artefacts and significant finds were collected (e.g., adzes, fishhooks, etc.). Shovel Pit 2 was opened off the face of a modern trash pit in order to sample an earth oven that was exposed in profile. In this particular case, the upper sediments were removed with a shovel down to the top of Layer III and from this point onward the unit was handled as a controlled excavation unit.

![Figure 7: Typical stratigraphic profile, Teavau’ua coastal flat (dotted lines indicate gradual boundaries).](image)
In 2001 two transects were established, perpendicular to one another, and running roughly east-west (120m length) and north-south (80m length). Shovel pits were placed at 5 to 10m intervals along these transects to assess the subsurface stratigraphy, following the procedures outlined above. Initial work on the east-west line indicated the presence of cultural deposits extending from behind the modern beach berm (30m inland of high tide mark) to c.140m inland. The area between 50 to 70m inland had been extensively reworked by land crabs and there was no apparent sub-surface stratigraphy. Cultural remains were most abundant in the area between c.60 and 120m inland.

The north-south transect line was laid out roughly perpendicular to the east-west line, beginning at a point where the cultural remains were abundant. The line was only explored to the south because several new bungalows (see Fig.6) had disturbed the ground to the north. Shovel pits along this line indicated that cultural materials extended all the way to the spring, where it once again appeared that land crabs had destroyed the sub-surface stratigraphy.

Following these shovel tests, four 1m$^2$ units (TP-4 through TP-7) were opened for more controlled and detailed study. Corroborating the shovel-pit results, the four excavation units (TP-2 and TP-4 through TP-6) also demonstrated a relatively uniform stratigraphy across the central portion of the coastal flat. Units placed closer to the modern shoreline (TP-1, TP-3, and TP-7), in contrast, revealed a slightly different stratigraphic sequence.

As a whole, the shovel pits, excavation units and strata exposed in a couple of modern trash pits reveal that traditional cultural materials are distributed over most of the coastal flat. They are, however, concentrated mid-way between the spring and the steeply sloping valley wall to the north, at a distance of c.60 to 120m from the current shoreline.

**STRATIGRAPHY**

*Coastal Flat Stratigraphy*

Six layers and sub-layers were exposed in the foregoing test units, as detailed in Table 1 and Figure 7. Layer I is the modern A-horizon, a grey-brown loamy sand. Underlying this is a c.10cm layer of coarse-to-medium white sand (Layer II). The abrupt and irregular lower boundary of Layer II suggests that it relates to an erosional event followed by rapid re-deposition of sterile sands. Late 19th century historic materials recovered from the underlying Layer IIIa firmly place deposition of Layer II in the post-European period. It is likely that this layer represents the 1946 tidal wave, an event that caused extensive damage along this coast. Suggs (1961:60; see also 57, 59, 67), for example, reported that deposits along the entire length of Haʻatuatua Beach were sectioned by the wave “cutting into them for a distance of 60 yards
or more inland”. Local informants commented that this same event damaged structures in the more exposed coastal areas of Anaho as well. Alternatively, Layer II may represent a high energy storm event.

Layer IIIa is a dark brown sandy loam, varying from 10 to 15cm in thickness. It is distinguished from IIIb by a greater clay content, the presence of small amounts of angular pebbles and gravel, and a combination of traditional and historic artefacts in the former. The clay and gravel content may reflect a period of significant erosion, as, for example, the kind initiated by anthropogenic vegetation clearance and/or over-grazing by exotic herbivores.

Table 1: Description of the Teavau’ua coastal flat stratigraphy

<table>
<thead>
<tr>
<th>Layer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layer I</td>
<td>grey (10YR5/1, moist); loamy sand; weak very fine to fine crumb; nonsticky, nonplastic; many micro to fine roots; wavy, abrupt boundary. Modern A-horizon.</td>
</tr>
<tr>
<td>Layer II</td>
<td>light brown-grey (10YR6/2, moist); sand; structureless very fine to medium crumb; nonsticky, nonplastic; common micro to fine roots; irregular, abrupt boundary. Storm or other high-energy deposit.</td>
</tr>
<tr>
<td>Layer IIIa</td>
<td>very dark brown-brown to black (10YR3/2 to 10YR 2/1, moist); loamy sand; moderate very fine to medium crumb to subangular blocky; plastic, slightly sticky; common micro to coarse roots; wavy to irregular, gradual boundary. Cultural layer with 5 to 10% subangular terrigenous gravel, with common artefacts, charcoal and faunal remains.</td>
</tr>
<tr>
<td>Layer IIIb</td>
<td>black (10YR 2/1, moist); sandy loam; weak very fine to medium crumb; slightly plastic, slightly sticky; common micro to coarse roots; wavy, clear boundary. Cultural occupation layer with abundant artefacts, charcoal and faunal remains.</td>
</tr>
<tr>
<td>Layer IV</td>
<td>yellowish-brown (10YR 4/4, moist); loamy sand; weak fine to medium crumb; nonsticky, nonplastic; common fine to coarse roots; abrupt wavy boundary. Cultural layer with abundant artefacts, charcoal and faunal remains.</td>
</tr>
<tr>
<td>Layer V</td>
<td>yellowish-brown (10YR 5/4, moist); structureless medium sand; nonsticky, nonplastic; few medium to coarse roots. Sterile layer with occasional artefacts and faunal remains, which are considered intrusive.</td>
</tr>
</tbody>
</table>
Layer IIIb is similar in colour to Layer IIIa but less consolidated and it contains almost entirely traditional artefacts; the few small metal fragments recovered from Layer IIIb are thought to be intrusive, carried down by crabs or knocked in from the side walls during the course of excavation. Because Layers IIIa and IIIb were sometimes difficult to differentiate in excavation and profile, they are referred to in our records as two sub-units of a single layer. They may, however, have quite different depositional histories (see further discussion below).

The basal cultural layer, Layer IV, is a yellow-brown to light-tan sand. Below this is a sterile, slightly lighter yellowish-brown medium-grain sand (Layer V). While the below-surface depth of Layer V varies, it was typically encountered at around 70cm below the surface. Excavations were continued in one shovel pit to ensure that there were no lower cultural layers; coralline bedrock was encountered at 130cm below the ground surface.

Near-shore Stratigraphy

The cultural sequence identified in units placed closer to the modern shoreline (Fig. 6) varied somewhat from that described above. In TP-1 at the south end of the beach, three layers were encountered: a very dark grey to black loamy sand (Layer I), a grey-brown loamy sand (Layer II) and a brownish-yellow sterile sand sub-strate (Layer III). It is possible that Layer II here corresponds to Layer III on the coastal flat (the sterile storm/tidal wave sands not being preserved in this near-shore area).

Three other units were opened at the northern end of the beach and two distinct stratigraphic sequences identified, despite the relative proximity of the units. All three units lie a few metres inland of the house foundation traditionally associated with Anaho’s chief (see Fig. 5), SP6 and TP-7 being on slightly elevated ground adjacent to a boulder pavement and TP-3 lying to the north. Four layers were encountered in TP-3, a very dark grey-brown, loamy sand (Layer I), a lens of brown sand (Layer II), a dark grey loamy sand (Layer III) and a brownish-yellow sterile sand (Layer IV)—a sequence much like that observed on the coastal flat, except for the absence of the lowermost cultural layer. Although not discernable in excavation, a noticeable decline in historic artefacts was observed about mid-way through Layer III. In SP-6 and TP-7, only two layers were identified, a c.50cm thick dark-grey loamy sand (Layer I) that contained several cultural features and an underlying sterile yellowish-brown sand (Layer II); in other words, the white sand lens (Layer II of TP-3) is not represented in these two units.
RADIOCARBON DETERMINATIONS

The Teavau’ua chronology is currently based on nine radiocarbon determinations (Table 2). The earliest sample derives from an ash lens identified in Layer IV of SP-10 (see Fig. 6) which yielded a calibrated age (2 sigma) of A.D.1289-1432. While this is the lowest cultural strata encountered, it may not represent initial use of the Anaho catchment as neighbouring valleys, Hatihe’u to the west and Ha’atuutua to the south, have cultural features dating to c. A.D.1000.

Layer IIIb has been securely dated by four radiocarbon determinations. The samples form a tight cluster in the period c. A.D.1400-1670. The chronological associations of Layer IIIa, in contrast, are not well understood at present. The rarity of features in this layer has meant that datable materials from unambiguously in situ contexts are rare. Further, the cultural materials found herein (basalt debitage flakes and non-diagnostic historic crockery, glass and metal) suggest that Layer IIIa may be a palimpsest of two distinct time periods: the late prehistoric period and the late-19th to early-20th century.

Four radiocarbon samples from test units closer to the shore all produced post-1600 dates. Samples from TP-1 Layer IIa and TP-3 Layer III, both presumed to be prehistoric on the basis of largely traditional artefact assemblages, returned modern age determinations. Further excavation and radiocarbon analyses are required to determine if these results are valid or the result of post-depositional disturbances. The latter is likely in the case of TP-3 where a number of small metal fragments were recovered. In TP-7, a sample stratigraphically associated with the boulder pavement returned a modern age, while a second one from an earth oven near the base of the unit most likely dates to the period A.D.1626-1814. The more recent archaeological dates from these near-shore test units, along with the historic house foundation mentioned above, raise the possibility of a shift in habitation towards the shore beginning in late prehistory and continuing into the contact period. It is also possible that the basal features seen in TP-7 and SP-6 are contemporary with Layer IIIb of the coastal flat, given that there is some overlap in the radiocarbon age ranges.

FUNCTIONAL ASPECTS OF THE TEAVAU‘UA SITE

The excavated features (Table 3), fauna and artefacts (Tables 4 and 5) allow for a consideration of the functional nature of the cultural activities at Teavau‘ua. The findings are reviewed in relation to the stratigraphic sequence and chronology outlined above, beginning with the oldest cultural layer.
Table 2: Details of the Anaho (AH0-1) radiocarbon samples.

<table>
<thead>
<tr>
<th>SAMPLE NO.</th>
<th>MATERIAL</th>
<th>δ¹³C (%)</th>
<th>PROVENIENCE</th>
<th>CONVENTIONAL ¹⁴C AGE BP</th>
<th>CALIBRATED AGE RANGE &amp; PROBABILITY, 2 SIGMA ²</th>
</tr>
</thead>
<tbody>
<tr>
<td>WK-10644</td>
<td>wood charcoal</td>
<td>-27.1 ± 0.2</td>
<td>Coastal flat</td>
<td>635 ± 61</td>
<td>A.D. 1289-1432; 1.00</td>
</tr>
<tr>
<td>BETA-108023</td>
<td>wood charcoal</td>
<td>-26.8</td>
<td>Coastal flat</td>
<td>430 ± 80</td>
<td>A.D. 1407-1649; 1.00</td>
</tr>
<tr>
<td>WK-10844</td>
<td>wood charcoal</td>
<td>-25.6 ± 0.2</td>
<td>Coastal flat</td>
<td>395 ± 82</td>
<td>A.D. 1413-1672; 0.984</td>
</tr>
<tr>
<td>WK-10845</td>
<td>wood charcoal</td>
<td>-25.6 ± 0.2</td>
<td>Coastal flat</td>
<td>379 ± 57</td>
<td>A.D. 1780-1977; 0.011</td>
</tr>
<tr>
<td>WK-10843</td>
<td>wood charcoal</td>
<td>-26.2 ± 0.2</td>
<td>Coastal flat</td>
<td>341 ± 50</td>
<td>A.D. 1453-1645; 1.00</td>
</tr>
<tr>
<td>NEAR-SHORE</td>
<td>wood charcoal</td>
<td>-26.1 ± 0.2</td>
<td>Coastal flat</td>
<td>239 ± 48</td>
<td>A.D. 1513-1538; 0.015</td>
</tr>
<tr>
<td>WK-10842</td>
<td>wood charcoal</td>
<td>-26.1 ± 0.2</td>
<td>Coastal flat</td>
<td>299 ± 48</td>
<td>A.D. 1626-1814; 0.830</td>
</tr>
<tr>
<td>WK-10846</td>
<td>wood charcoal</td>
<td>-29.8</td>
<td>Coastal flat</td>
<td>50 ± 60</td>
<td>A.D. 1831-1888; 0.074</td>
</tr>
<tr>
<td>BETA-108024</td>
<td>wood charcoal</td>
<td>-22.4 ± 0.2</td>
<td>Coastal flat</td>
<td>101.6 ± 0.6</td>
<td>A.D. 1904-1955; 0.981</td>
</tr>
</tbody>
</table>

¹ Wood charcoal identifications provided by Dr Rod Wallace, University of Auckland.
² Calibrated using CALIB REV 4.4.2
Table 3: Excavated features.

<table>
<thead>
<tr>
<th>FEATURE ID</th>
<th>FUNCTIONAL TYPE</th>
<th>UNIT</th>
<th>LAYER</th>
<th>LOCATION</th>
<th>DIMENSIONS (cm)</th>
<th>ASSOCIATED $^{14}$C AGE BP</th>
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</thead>
<tbody>
<tr>
<td>A-97</td>
<td>postmould</td>
<td>TP-1</td>
<td>II</td>
<td>Near-shore</td>
<td>15 by 15 by 22 deep</td>
<td>None</td>
</tr>
<tr>
<td>B-97</td>
<td>earth oven</td>
<td>TP-3</td>
<td>I</td>
<td>Near-shore</td>
<td>80+ by 50 by 30 deep</td>
<td>50 +/- 60</td>
</tr>
<tr>
<td>C-97</td>
<td>earth oven</td>
<td>SP-2</td>
<td>IIIb</td>
<td>Coastal flat</td>
<td>not known</td>
<td>430 +/- 80</td>
</tr>
<tr>
<td>I-01</td>
<td>Possible pebble pavement</td>
<td>TP-4</td>
<td>IIIb</td>
<td>Coastal flat</td>
<td>1m$^3$</td>
<td>None</td>
</tr>
<tr>
<td>A-01</td>
<td>Charcoal concentration in shallow basin</td>
<td>TP-6</td>
<td>IV</td>
<td>Coastal flat</td>
<td>60+ by 50+ by 15 deep</td>
<td>None</td>
</tr>
<tr>
<td>G-01</td>
<td>postmould</td>
<td>TP-6</td>
<td>IV</td>
<td>Coastal flat</td>
<td>25 by 10+ by 12 deep</td>
<td>None</td>
</tr>
<tr>
<td>H-01</td>
<td><em>Aleurites</em> concentration</td>
<td>TP-7</td>
<td>I: level 1 &amp; 2</td>
<td>Near-shore</td>
<td>75+ by 15 by 15 deep</td>
<td>modern</td>
</tr>
<tr>
<td>B-01</td>
<td>earth oven</td>
<td>TP-7/SP-6</td>
<td>I: level 3</td>
<td>Near-shore</td>
<td>40+ by 25+ by 15 deep</td>
<td>None</td>
</tr>
<tr>
<td>C-01</td>
<td>charcoal concentration</td>
<td>TP-7</td>
<td>I: level 3</td>
<td>Near-shore</td>
<td>35+ by 30+ by 5 deep</td>
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</tr>
<tr>
<td>D-01</td>
<td>earth oven</td>
<td>TP-7</td>
<td>I: level 4</td>
<td>Near-shore</td>
<td>37+ by 40+ by 15 deep</td>
<td>239 +/- 48</td>
</tr>
<tr>
<td>FEATURE ID&lt;sup&gt;1&lt;/sup&gt;</td>
<td>FUNCTIONAL TYPE</td>
<td>UNIT</td>
<td>LAYER</td>
<td>LOCATION</td>
<td>DIMENSIONS (cm)</td>
<td>ASSOCIATED &lt;sup&gt;14&lt;/sup&gt;C AGE BP</td>
</tr>
<tr>
<td>----------------------</td>
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</tr>
<tr>
<td>E-01</td>
<td>Hearth</td>
<td>TP-7</td>
<td>I: level 4</td>
<td>Near-shore</td>
<td>65 by ? by 17 deep</td>
<td>None</td>
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<tr>
<td>F-01</td>
<td>postmould</td>
<td>TP-7</td>
<td>I: level 4</td>
<td>Near-shore</td>
<td>25 by 25 by 35 deep</td>
<td>None</td>
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<td>n.a.</td>
<td>possible firepit</td>
<td>SP-45+</td>
<td>IIIb</td>
<td>Coastal flat</td>
<td>not known</td>
<td>379 +/- 57</td>
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<tr>
<td>n.a.</td>
<td>ash lens</td>
<td>SP-35+</td>
<td>IIIb</td>
<td>Coastal flat</td>
<td>not known</td>
<td>None</td>
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<tr>
<td>n.a.</td>
<td>earth oven</td>
<td>SP-25+</td>
<td>III</td>
<td>Coastal flat</td>
<td>not known</td>
<td>None</td>
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<td>n.a.</td>
<td>ash lens</td>
<td>SP-10&lt;sup&gt;-&lt;/sup&gt;</td>
<td>IV</td>
<td>Coastal flat</td>
<td>not known</td>
<td>635 +/- 61</td>
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<tr>
<td>n.a.</td>
<td>possible earth oven</td>
<td>SP-20&lt;sup&gt;-&lt;/sup&gt;</td>
<td>IIIb</td>
<td>Coastal flat</td>
<td>not known</td>
<td>341 +/- 50</td>
</tr>
</tbody>
</table>

<sup>1</sup> Features identified in shovel pits were not assigned alpha-numeric identifiers.
Coastal Flat Area

Layer IV: The earliest cultural layer (Layer IV), dated to A.D.1289-1432, was identified only on the coastal flat. A single postmould and a shallow basin, partially outlined by basalt cobbles, and filled with charcoal-stained sand and charcoal crumbs, was seen in TP-6 (Table 3). These findings suggest a structure of some kind, as does the concentration of artefacts in this area (Table 4). The ash lens and artefacts seen in SP-10 suggests a second, more seaward, activity area at this time.

Worked pearlshell was one of the more common artefacts of Layer IV, with the findings indicating local fishhook production. The amount of pearlshell varied considerably across the four coastal flat units (Fig. 8). Along with manufacturing debitage, a small number of fishhook blanks and performs, and a single unfinished hook were recovered (Table 4). Fishhook blanks are defined here as pieces shaped on three to four sides, often with one end rounded and the opposing end cut straight across or nearly so (Fig. 9). These were differentiated from performs (Fig. 10) which were further worked to the extent that there was the beginning of a fishhook head and/or point; this often involved removing the upper corner of a blank. Although no finished fishhooks were recovered from Layer IV, examples from overlying strata are illustrated in Figure 11.

While it seems likely that most if not all of the pearlshell recovered here was probably obtained from the adjacent reef, there is also the possibility that some of the Anaho pearlshell was imported from elsewhere. Von den Steinen (in Suggs 1961:86), for example, maintained that thicker pearlshell specimens were imported from the Tuamotus. At Anaho, hinge sections from both large thick individuals and small thin specimens were recovered, suggesting that differences in valve thickness seen here most likely relate to age and, barring evidence to the contrary, the most parsimonious argument is that they are locally derived.

Coral abraders, like those shown in Figure 12, were mostly likely associated with fishhook production; a single example was recovered from Layer IV. The longitudinally worn sea urchin abrader (Fig. 12h), in contrast, was probably used for other purposes. Sinoto (1968) suggests that urchin abraders may have been used in bone-working. Their absence from areas of significant fishhook manufacture supports this interpretation (e.g., Allen 1992:214-17). In the Marquesas, there have been suggestions that urchin abraders are more commonly associated with early contexts (Rolett 1998:217-19, Sinoto 1979).

Basalt debitage is also well represented in Layer IV (Fig. 13). A small number of utilised flakes and an adze perform (Fig. 14d) were recovered. The findings suggest on-site adze manufacture and a local basalt source seems
likely. Flake debitage was most common in the TP-6 area, as measured by both flake weight and number.

The Layer IV fauna is dominated by fish, but also includes shellfish and small amounts of bird, dog and pig. Parrotfish (*Scaridae*), rockcod and grouper (*Serranidae*), and trevally (*Carangidae*) figure prominently among the fish and in general an inshore focus is indicated. The shellfish include moderate amounts of *Nerita, Conus, Chicoreus* and *Cypraea*—all rocky shore species. Chiton, which elsewhere appears to be sensitive to over-harvesting (see Anderson *et al.* 1994:49, Kirch 1973, Rolett 1998:113), were present but not abundant. Overall, the density of fauna is low. The poor representation of vulnerable species that often signal initial human use of an area, such as turtle and bird, suggest first use of this catchment probably occurred at an earlier point in time. Notably, however, domestic fauna (dog and pig) and Polynesian rat, while present, are also poorly represented.

Overall, the small number of features, the limited representation of domestic fauna, the low density of fauna in general and the low level of organic staining in this layer indicate non-intensive use of the coastal flat at this time. While the faunal remains are dominated by non-domesticated species, consisting primarily of fish and shellfish, vulnerable taxa are
Table 4: Summary of artefacts recovered from the coastal flat test units.

<table>
<thead>
<tr>
<th>Layer</th>
<th>TP2</th>
<th>TP4</th>
<th>TP5</th>
<th>TP6</th>
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<td>IIIb</td>
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<tr>
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<tr>
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</tr>
<tr>
<td>shank</td>
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</tr>
<tr>
<td>bend</td>
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<tr>
<td>point</td>
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<tr>
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<td>IIIa</td>
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<tr>
<td></td>
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<td>2</td>
<td>3</td>
<td>4</td>
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</tbody>
</table>

**Basalt**
- adze
- preform: 1
- scraper: 1
- retouched flake: 1
- flake with polish: 1
- debitage: 16 62 73 97 63 23 34 92 26 122 115 87 524 318

**Other Traditional Materials**
- chert flake, unworked: 1
- coral abrader: 1
- urchin abrader: 1
- shell scraper, *Periglypta*: 1

**Historics**
- unidentified metal: 1
- glass: 1
- ceramic: 1

<table>
<thead>
<tr>
<th>Layer</th>
<th>TP2</th>
<th>TP4</th>
<th>TP5</th>
<th>TP6</th>
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<tbody>
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</tbody>
</table>

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uncommon. In general, people seem to have been focused on the collection and working of pearlshell and fine-grained basalt. There is a notable lack of diagnostic East Polynesian “archaic” artefacts such as bone reels, harpoons, imitation whale tooth pendants, etc. (see Kirch 1986).

**Layer IIIb**

Only one ambiguous feature was attributed to Layer IIIb in the three-dimensionally controlled excavation units. However, another four to five were identified in the shovel pits in association with Layer IIIb. These were all fire features including two probable earth ovens, an ash lens and concentration of charcoal that may represent a hearth or oven rake-out. The single feature seen in excavation consisted of an uneven but concentrated collection of basalt and coral pebbles and it is tentatively interpreted as a house pavement.
Analysis of a small number of wood charcoal samples from the fire features indicated the presence of two common beach strand species (*Tournefortia* and *Terminalia*) and one typical lowland taxon (*Ficus*) (see Decker 1970, Mueller-Dombois and Fosberg 1998).

Fishhook manufacturing was again represented in two widely separated areas (TP-5 and TP-6). Pearlshell debitage, fishhook performs and blanks, and both unfinished and finished hooks and fragments were found (see Figure 10: Pearlshell fishhook performs from the coastal flat (a-e) and near-shore area (f-l): a) TP-6, IIIb/4, Acc. 188; b) TP-6, IIIb/4, Acc. 226; c) TP-6, IIIb/4, Acc. 194; d) TP-5, Layer IV/7, Acc. 201; e) TP-5, Layer IV/8, Acc. 213; f) TP-3, IIIb/4, Acc. 93.2; g) TP-3, IIIb/6, Acc. 121; h) TP-3, I/1, Acc. 59.2; i) TP-3, IIIb/5, Acc. 117.2; j) TP-7, I/2, Acc. 104; k) TP-7, I/3, Acc. 247; l) TP-7, I/4, Acc. 261.)
Figure 11: Pearlshell fishhooks from surface and shovel pits (a-e), coastal flat (f-i), and near-shore (j-w): a) hook sans point, surface, Acc. 185; b) hook sans head, surface, Acc. 169; c) shank and bend, surface, Acc. 170; d) unfinished hook, SP-4, I, Acc. 64, e) two-piece hook, point base, SP-2, IIIb, Acc. 137.2; f) unfinished bend, TP-2, I/1, Acc. 167; g) shank and bend fragment, TP-2, IIIb/4, Acc. 64; h) unfinished hook, TP-2, IIIb/4, Acc. 168; i) head and shank TP-6, IIIb/4, Acc. 47; j) unfinished hook, TP-1, Iia/3, Acc. 17; k) two-piece hook point base, TP-1, IIIb/4, Acc. 166; l) unfinished hook, TP-1, IIIb/5, Acc. 31; m) hook sans point, TP-1, III/6, Acc. 56; n) head and point sans bend, TP-7, I/3, Acc. 103; o) hook sans point, TP-3, I/1, Acc. 63; p) head, TP-3, IIIa/2, Acc. 171; q) complete hook, TP-3, IIIa/3, Acc. 87; r) unfinished hook, TP3, IIIa/3, Acc. 88; s) head and shank, TP-3, IIIb/4, Acc. 103; t) hook sans head, TP-3, IIIb/4, Acc. 100; u) complete hook, TP-3, IIIb/4, Acc. 101; v) barbed point, possibly unfinished, TP-3, IIIb/4, Acc. 99; w) possible head and shank, TP-3, IIIb/5, Acc. 118. Samples b-c, f-h, j-m, o-w left with Marquesan authorities and drawn from photographs.
Table 4, Fig. 11). A single finished fishhook head (Fig. 11i) was recovered and classified as a Class 223 (after Allen 2003). This is a form that is best represented in the Moturakau Rockshelter on Aitutaki, Cook Islands, around the mid-14th century A.D. A two-piece hook-point base (Fig. 11e) was also found, indicating some specialised offshore fishing. With two lashing holes and a “proximal base extension” (after Emory et al. 1959), this is considered a West Polynesian form. However, it occurs throughout the Marquesan sequence (see Rolett 1998:154-59, Sinoto 1967, Suggs 1961:83-84). The two coral abraders are again consistent with fishhook manufacturing.

Basalt tool production continued during this occupation as well, with debitage being plentiful (Table 4, Fig. 13). Two complete adzes (Figs 14b and 15b) and two performs (Fig. 14a and c) were recovered. The specimens are generally small, lack tangs and in two out of three cases have triangular cross-sections. Accession 310 (Fig. 14a) is consistent with the uncommon Koahi type of Suggs (1961:109-10), a form also found in West Polynesia, while Accession 134 (Fig. 14b) is the more widespread Mouaka type (after Suggs 1961:107) that had a variety of uses. Additionally, a couple of utilised flakes were found.

Figure 12: Coral and sea urchin spine abraders: a) surface, Acc. 131; b) surface, Acc. 69; c) TP-3, I/1, Acc. 61; d) TP-3, IIIa/3, Acc. 90; e) TP-3, IIIb/4, Acc. 104; f) TP-3, IIIb/5, Acc. 107; g) TP-2, IV/5, Acc. 77; h) TP-2, IV/5, Acc. 78.
Figure 13: Basalt debitage flakes by test pit and strata, Teavau’ua coastal flat.

Figure 14: Basalt tools: a) perform, butt half (TP-5, IIIb/6, Acc. 310); b) adze with polish (SP-2, IIIb, Acc. 134); c) perform (TP-2, IIIb/4, Acc. 55); d) perform (TP-6, IV/6, Acc. 304); e) scraper, TP-1, IIb/5, Acc. 25).
The faunal remains recovered from this layer are generally similar to those observed in Layer IV. One of the main differences is that bird, which was uncommon in Layer IV, is present in even smaller amounts in Layer IIIb. At the same time, pig and dog increase somewhat. Both fish and shellfish continue to be important contributors, with a limited number of taxa dominating the assemblage.

In general, Layer IIIb appears to represent more intensive use of the coastal flat, with people occupying the area for more extended periods of time. This is suggested by the number of in situ features, the abundance of food remains and the heavy organic staining seen in this layer. The increased representation of domestic animals may also signal changing settlement patterns. Pearlshell fishhook production and adze manufacture continue to be important activities.

Layer IIIa:

Based on the excavation units opened thus far, Layer IIIa is largely devoid of features, although an earth oven identified in SP-25+ could derive from IIIa. The layer produced a mixed assemblage of traditional and historic tools.
remains (Table 4). The latter includes bottle glass, metal fragments and non-
diagnostic ceramic fragments. Among the traditional materials are basalt
debitage, a basalt scraper, pearlshell debitage and a coral abrader. Figures 8
and 13 illustrate that, compared to Layers IV and IIIb, there is considerably
less pearlshell and basalt represented in IIIa across all four test units.

One hypothesis is that the traditional cultural materials reflect \textit{in situ}
deposition associated with infrequent use of the coast in the 18th to early 19th
century. This deposit in turn has been overlain by, and mixed with, historic
artefacts deposited during resettlement of the coast in the mid-1800s, when
trade and interaction with Europeans increased. Alternatively, historic period
activities, for example, clearance of vegetation for plantations and/or the
introduction of exotic herbivores, may have destabilised inland areas and led
to significant slope wash. In this scenario, the traditional materials of Layer
IIIa are redeposited, along with the clay and gravel, from the nearby slopes.
Further excavation is needed to resolve these formation issues.

\textit{Near-shore Area}

TP-1 at the southern end of the Teavau’ua near-shore area was placed in
front of an unoccupied modern house located on a low rise (Table 3; Figs
16 and 17). The excavation revealed a somewhat disturbed stratigraphy.
Historic materials were common, including metal, glass, a few non-diagnostic
ceramics and a metal button. Fishhook production was indicated by pearlshell
debitage, unfinished hooks (Fig. 10j, l), a small number of one-piece hook
fragments, a two-piece hook base (Fig. 10k) and one finished hook (Fig.10m)
(see Table 5).

Within the two cultural layers of the northern near-shore units (TP-3,
TP-7 and SP-6), several sub-surface features were identified (Table 3; Figs
6 and 17). A very dense concentration of burned \textit{Aleurites} (candlenut or ‘ama)
nutsheells and kernels (Feature H; Fig. 18) is stratigraphically associated with
the boulder platform, and radiocarbon dating of a sample indicates that the
pavement is most likely historic in age. A rusted metal bar of c.1.5cm diameter
and c.35cm length, extending from under the large paving stone of TP-7, also
suggests a historic age, although it is possible that the bar was inserted under
the paving stone after construction. Few historic artefacts other than small
metal fragments were recovered (see Table 5). The deposit of \textit{Aleurites} is
interesting as the oily kernels were a source of light and food relish, and soot
from the burnt nut shells (or testa) was used as a tattoo pigment.

All of the other features lay stratigraphically below the pavement. These
include earth ovens (Features A, B and D), a large postmould (Feature F), a
hearth (Feature E), and a charcoal concentration (Feature C) (see Fig. 17). The
postmould suggests an earlier structure in this area, while the oven features
indicate cooking activities.
Fishhook manufacture is indicated in all levels of TP-3 and TP-7. Pearlshell debitage is common and blanks, performs, hook fragments are present, as well as coral abraders (Figs 9-12). Interestingly, finished hooks are better represented here than in any of the coastal flat units (see Table 5; Fig. 10n-w). A number of the hooks are remarkable for their small size, although one quite large hook-point, with an unusual inner barb, was also found.

Only a small number of basalt flakes and no performs were recovered, indicating that stone-tool manufacturing was not an important activity in this area. However, several finished tools were found, including a couple of utilised basalt flakes, a basalt scraper and a small highly polished adze (Fig. 15d). Among the more interesting finds were three bone tubes, all immature

Figure 16: Plan view of basalt and coral boulder pavement in near-shore area and location of TP-7 and SP-6.
Table 5: Summary of artefacts recovered from the near-shore test units.

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¹The layers do not correlate across units in this area.
pig femurs that had been modified by removing the epiphyses (Fig. 19), probably intended to be decorative “ivi po’o” as shown in Ottino and de Bergh-Ottino (1991:39).

The faunal remains from this area are quite similar to those seen on the coastal flat in Layer IIIb. The main difference is a greater abundance of pig. Fish and shellfish continue to be represented but are not abundant.

The assemblage of artefacts suggests that the northern near-shore area was a place of fishhook manufacture and possible bone working. Subsequently the basalt and coral boulder pavement was constructed. Use of the nearby chiefly house site, a blend of the traditional architectural design and European construction techniques, may have been almost contemporary with this pavement. The possible indications of tattooing and the abundance of pig bone are consistent with the presence of high status individuals.

Figure 17: Stratigraphic profile of TP-7 and SP-6.
Figure 18: Examples of candlenut (*Aleurites molucanna*), testa (a) and endosperm (b, c) excavated from TP-7.

Figure 19: Immature pig femora in various stages of modification, possibly a decorative *ivi po‘o*. All samples are from TP-3: a) IIIa/3, Acc. 91; b) IIIb/6, Acc. 126; c) IIIb/4, Acc. 95.
DISCUSSION

Colonisation of the Marquesas

Archaeologists once thought the first human settlers arrived in the Marquesas Island as early as 150 B.C. (Suggs 1961). Radiocarbon dating technology was new and there was little awareness of the many and varied technical complexities that we struggle with today. Recent reappraisals of the regional corpus of radiocarbon dates, further analyses of extant collections, and renewed excavations at key sites have called into question this long-held view. Rolett’s 1989 (1998) Hanamiai study on Tahuata Island in the southern Marquesas provided the first serious challenge to the temporal depth of the Marquesan sequence. Here the basal cultural strata dated to between A.D.1025 and 1300 and was associated with an abundance of vulnerable native fauna—suggesting initial use of a previously uninhabited environment (Rolett 1998, Steadman and Rolett 1996). However, Hanamiai is a small, secondary valley on the leeward side of one of the archipelago’s smaller islands; occupation here may have post-dated that in larger catchments by several centuries. Spriggs and Anderson’s (1993) subsequent reassessment of the regional radiocarbon database not only suggested a later date for initial colonisation of the Marquesas (A.D.300-600) but further concluded that “there is nothing to demonstrate settlement in East Polynesia earlier than A.D.300-600 and then only in the Marquesas…”.

Renewed excavations at the pivotal site of Ha’atuatua followed (Rolett and Conte 1995) resulting in an improved understanding of the local stratigraphic sequence, one that supported earlier revisions by Sinoto (1966, 1970). Further, while first use was dated to c. A.D.1000, the ten new radiocarbon dates pointed to A.D.1300-1650 as the main period of cultural activity. Unlike Hanamiai, Ha’atuatua is a large windward valley with multiple streams and an extensive beach. Nevertheless, Suggs (1961:180) reasoned that Ha’atuatua lies on the margins of the most favourable regions of Nuku Hiva. Revision of the Ha’atuatua sequence, combined with the Hanamiai findings, raised serious concerns about the A.D.300-600 age estimates for Marquesan colonisation. Unfortunately, little is known about the stratum which provided the c. A.D.1000 date at Ha’atuatua.

Anderson and colleagues have more recently analysed additional materials from other early Marquesan sites. The most important of these is Hane on Ua Huka Island, originally excavated by Sinoto (1966:302) who argued on artefactual grounds that it “probably represents the earliest culture yet discovered in the Marquesas”. Seven new dates from Hane now indicate that the basal occupation here is no earlier than A.D.1000 (Anderson and Sinoto 2002:251). Kirch’s (1973; see also Anderson et al. 1994) study of the Hane fauna identified an initial focus on native birds, turtles, chiton
and sea mammals, a pattern that is consistent with exploitation of a virgin environment (see Anderson 1995, Kirch and Yen 1982, Steadman 1995). Steadman’s (1989:181) analysis of the Hane birds provided further support, with over 90 percent of the assemblage composed of seabirds, mostly colonial nesting species, and hundreds of native pigeon and parrot bones representing multiple species.

Further support for a compressed sequence is provided by new radiocarbon determinations from two other Ua Huka sites, Hokatu and Hatuana (Conte and Anderson 2003). Two internally consistent age estimates of A.D.1000-1200 for Hokatu are considered reliable, while the results from Hatuana are ambiguous. A single radiocarbon determination of A.D.660-1015 from Hatihe‘u, Nuku Hiva is also worth noting (Orliac 2003).

In further evaluating the question of Marquesan settlement it is useful to consider evidence from the region at large. Weisler and Green (2001, Green and Weisler 2002) have recently established unambiguous connections between the Marquesas Islands and Mangareva through the presence of Marquesan (Eiao) basalts, as well as shared artefact styles, in multiple well-dated Mangarevan contexts. Their data points to a significant period of interaction between A.D.1200 and 1450 which, on linguistic grounds (Fischer 2001), may begin a few hundred years earlier. This fits well with the internal Marquesan evidence for intensive intra-archipelago interaction around the same time (Rolett 1998).

The Hawaiian evidence also warrants consideration. The recent appraisal by Masse and Tuggle (1998), based on the radiocarbon record, wetland coring data and Hawaiian traditions, places settlement in the period A.D.700-900. Some of the most secure dates derive from Bellows Beach, also recently re-evaluated with new samples (Tuggle and Spriggs 2001). The authors argue that this site could be as early as A.D.700-1100, but definitely dates to before A.D.1000. If a Marquesan origin for Hawaiian colonists is upheld, and currently the balance of the evidence favours this connection (e.g., Green in prep., Marck 2000:155, 230, Pietrusewsky 1997; but see Cachola-Abad 1993 for a more cautious view), then Marquesan settlement must pre-date the current suite of widely accepted “early” Marquesan sites, all now dated to A.D.1000 or later.

The excavations at Anaho were undertaken with the idea that the extensive coral reef would have attracted early colonists. Thus far this proposition remains undemonstrated but the lack of cultural deposits with vulnerable fauna suggests that initial use of the catchment may lie outside of the areas tested to date. With respect to discussions of Marquesan colonisation, the Anaho findings broadly support the recent reanalysis of Ha‘atatuata, in that no evidence has been forthcoming to uphold the early radiocarbon determinations of Suggs (1961).
Initial Use of Teavau’ua

The earliest cultural evidence from Anaho dates to the period A.D.1250-1450 (Layer IV). While this could represent first use of the area, there are reasons to think otherwise. Most notably, the fauna associated with Layer IV does not indicate initial human entry into a previously unused territory. To the contrary, only modest amounts of fauna are present, vulnerable species such as birds and turtle are limited, and the recovered fish and shellfish are not, as a whole, of exceptional size. The c.14th century occupation appears to have been ephemeral in nature and focused on the extraction of pearlshell from the adjacent coral reef and fine-grained basalts from nearby sources (examples of the latter have been identified by Suggs 1961:67; A. Kay, pers. comm., 1995; and D. Addison pers. comm., 2003). On-site manufacture of both fishhooks and adzes is also indicated. It seems likely that earlier cultural strata will be eventually be identified elsewhere in the valley, given evidence for use of the neighbouring valleys, Hatihe’u and Ha’atuatua, by at least the 11th century A.D.

Sustained Settlement at Teavau’ua

Following a hiatus, occupation at Teavau’ua continued between A.D.1400-1600. This is a time when many defining Marquesan cultural features are said to have emerged (Suggs 1961). Among the key changes identified by Suggs were increased competition, movement of populations into the interior, elaboration of dry stone masonry architecture and increasing social hierarchy. He argued that the “beaches were shunned” and entire populations moved away from the coast and into the upper reaches of coastal valleys, seeking protection from raiding tribes. However, neither the Teavau’ua findings nor those from Ha’atuatua fit comfortably with this model. At Teavau’ua, evidence from Layer IIIb, securely dated to sometime between A.D.1400 and 1670, suggests the development of a small coastal hamlet where a range of domestic activities took place. Similarly, Rolett and Conte’s (1995) reassessment of Ha’atuatua placed an established settlement on the dunes at this time. Possibly some areas were less affected by intertribal conflicts; alternatively, increased competition may date to a later period in time.

The onset of intensified use of Anaho after A.D.1400 is interesting in light of evidence for contemporaneous declines in the flow of stone resources throughout the archipelago. Prior to A.D.1450 high quality basalts from Eiao Island, historically a tributary of Nuku Hiva (Linton 1925), were distributed as far south as Tahuata (Rolett 1998). Finished tools were reputedly carried from Eiao to Nuku Hiva and then redistributed to other islands in the chain (Linton 1925) and, recent studies show, even to Mangareva some 1600km to
the southeast (Weisler and Green 2001). The Hanamiai assemblages, however, indicate a sharp fall-off in Eiao stone tools, as well as exotic phonolites from elsewhere, after A.D.1450 (Rolett 1998; see also Weisler and Green 2001:439). These northern Marquesan stone types are replaced by local ones in a pattern that Rolett (1998) argues reflects an archipelago-wide decline in voyaging which, in turn, mirrors trends within the central East Polynesian region at large (Allen and Johnson 1997, Sheppard et al. 1997, Weisler 1998). The establishment of a more permanent settlement at Teavau'ua after the 15th century A.D. may relate to the availability of local fine-grained basalts in combination with declining access to those from Eiao. Anaho stands to offer insights into stone tool production at a second, in this case northern, Marquesan locality. Comparison of the Teavau'ua sequence with Rolett’s southern Marquesas assemblages may ultimately assist in differentiating between local versus regional causal factors, such as increasing competition versus deteriorating weather conditions.

Suggs (1961) also argued that the period between A.D.1400 and 1790 was a time when megalithic architecture (Fig. 2) including both residential and ceremonial structures flourished, developing first on Nuku Hiva and then spreading south. Stone sculpture and personal adornments also proliferated at this time—all developments Suggs relates to the onset of prestige rivalry. The Teavau'ua findings (Layer IIIb), however, are again at variance with the patterns described by Suggs. The Layer IIIb settlement, as observed through the combined core transects and test pit programme, does not include stone architecture, other than a single possible cobble pavement. On the near-shore, features below the surficial slab pavement date to the period between A.D.1490 and 1700, while the pavement itself appears to be post-European.

**Late Prehistoric Developments**

After about the 16th century, domestic activities were apparently relocated away from the Teavau'ua coastal flat. Some families may have established house sites on the near-shore, where features date to the post-A.D.500 period; others may have moved inland, where a number of megalithic house platforms are found. There is also evidence of cultural activity on the gentle slopes immediately adjacent to the coastal flat, including extensive areas of lithic debitage, performs and broken adzes, and simple earthen terraces which could be agricultural, habitation or a combination of both. The shift away from the coastal flat at this time may reflect inter-tribal warfare, as suggested by Suggs, albeit at an earlier point in time; however, there currently is no empirical evidence to support this notion and other explanations are also possible.
**Historic Period**

Europeans landed on Nuku Hiva in 1792 when the *Daedalus* crew visited four of the main Nuku Hivan valleys (Dening 1980:24). Historic records indicate that face-to-face contact brought devastating Old World diseases and these, along with droughts and famines, quickly led to significant population loss over the next 60-odd years. On Nuku Hiva, famines have been identified between 1800 and 1803 (Thomas 1990:169-73) and again between 1806 and 1812 (Suggs 1966:229), followed by a series of disastrous epidemics between 1838 and 1861 (in Suggs 1966:227). The impact of these events on the people of Anaho is not yet clear but most likely resulted in a population decline.

In the mid-to-late 1860s, in contrast, Anaho enjoyed a degree of economic prosperity, with the establishment of cotton plantations by Captain John Hart (see above); quite possibly the local copra plantation was also established around this time. Clearance of coastal vegetation for these plantations, coupled with defoliation by introduced sheep and goats, probably resulted in considerable soil instability and deposition of terrestrial clays onto the coastal flat. These activities may account for the historic component of Layer IIIa. During this period of economic revival, it seems likely that local residents were drawn back to the beach, attracted by European trade. Abandoned coastal *paepae* may have been reoccupied and new structures, such as Anaho’s chiefly residence, constructed.

Despite the many changes brought by European contact, excavations in the near-shore area witness the retention of several traditional practices. These include the continuing construction of stone foundations, use of *Aleurites* nutshells (possibly for tattooing), the on-going manufacture of pearlshell fishhooks, and use of earth ovens. The early 20th century ethnographic studies of Handy (1923) also points to continuity in many traditional practices despite significant population loss.

*       *       *

When Suggs (1961:21) developed his cultural historical scheme for the Marquesas some 40-odd years ago, he avoided an artefact-based model, noting that many types and styles persisted throughout the sequence, varying only in frequency. Instead he identified changing configurations of socio-political organisation, settlement patterns, subsistence strategies and technologies, defining five cultural periods in the process. He anchored his island-wide sequence with a small number of radiocarbon dates (N=9), two from Ha’atuatua which indicated settlement in the beginning of the first millennium B.C. Another five dates came from three rockshelters in
Uea Valley, an area he describes as marginal (1961:182). The last two were from the “later” part of the Ha’atuatua sequence, ironically now known to represent the onset of occupation at this locality. His periods, therefore, were developed largely on the basis of architectural sequences from inland localities, augmented by artefact assemblages mainly from rockshelters and coastal sites, and supported by a handful of dates, of which at least two are now considered invalid. Modern concerns of site formation processes, sampling error, and the possibility that some variation was functional rather than historical did not play significant roles in his assessments (see Allen 2003:123-24 on problematic aspects of Suggs’s fishhook seriations). Rather he considered that changes in artefact frequencies and architectural forms occurred across Nuku Hiva more or less simultaneously—even suggesting that there was “no reason to assume that the archaeological sequences established on Nuku Hiva, the largest island of the group, would differ markedly from those of the other islands” (Suggs 1961:16).

In the main, Suggs’s model is probably a reasonable account of the general processes that occurred in Marquesan prehistory. However, in attempting to place the new Teavau’ua evidence within its larger regional context, I encountered a number of difficulties. In the end, there seemed to be several compelling reasons to reconsider his framework in some detail. First, recent truncation of the Marquesan sequence by several centuries, and possibly a millennium, requires that the timing of his periods be revisited. This involves: (i) rethinking the chronology of Marquesan settlement and possibly its archaeological expression; (ii) compression of his once-lengthy Development Period; and (iii) accommodation of new and re-dated sequences which suggest that coastal abandonment, the surge in megalithic architecture and possibly other related aspects of socio-political change may have been quite late. Second, while reframing his sequence may be a useful exercise at this juncture, in the long run our aim should be a better understanding of regional variation. We now know that contra Suggs (1961:16) there were significant differences in the historical trajectories of the northern and southern Marquesas, and quite possibly variation in the timing of key processes across individual islands. The former is suggested by linguistic divergence (Fischer 2001, Green and Weisler 2002:236) and variability in architectural developments (Linton 1925:24-31), while the later remains largely unknown. Third, Suggs’s developmental scheme bundles diverse cultural processes into static periods, which is problematic if we want to understand the causal mechanisms that underlie historical change. Ultimately we may wish to discard Suggs’s overly general and essentialistic framework in favour of one that more fully accommodates spatial variability and recognises that different processes can occur at differing temporal scales. However, given
the paucity of well-dated sequences at this time, his model continues to be a useful heuristic device, and for this reason it is recast here, as summarised in Table 6, in light of recent evidence.

Marquesan Settlement (A.D. 700-1100)

Until recently, those favouring a lengthy Marquesan sequence could look to Hane as direct evidence of first millennium settlement. The re-dating efforts of Anderson and Sinoto (2002), however, leave little doubt that initial settlement at Hane, along with that seen at Hanamiai and Ha’atuatua, dates to the end of the first millennium A.D. or slightly later. These sites, and others reviewed above, demonstrate communities dispersed throughout the archipelago in a variety of environmental contexts by c. A.D.1000. But are they colonial settlements? I suggest not, for several reasons. First, with the possible exception of Hane, they do not occur in prime localities, that is, large, well-watered valleys that are reasonably sheltered and offer both abundant faunal resources and optimal opportunities for successful establishment of transported agricultural resources.

Second, the artefact assemblages found in the c. A.D.1000-1200 occupation layers reflect communities familiar with local resources, some at considerable distances from the sites in which they occur. For example, at Hanamiai, over half of the adzes are made of Eiao basalts, a quarry source 130km to the north that is physically difficult to access (Rolett et al. 1997:146). Simple phonolite flake tools, probably deriving from Ua Pou over 50km away, were also common (Rolett 1998:243). Early layers at Hane also contain these exotic stones (Rolett et al. 1997). Similarly, finds of indigenous Marquesan pottery (Dickinson et al. 1998) at Hane, point to knowledge of local sources and some degree of success in the use of local clays and temper.

Third, initial settlement sites may be quite rare given an initial focus on vulnerable and easily depleted faunal resources (Anderson 1996). If, as some have recently argued, the process of faunal depletion was quite rapid (e.g., Holdaway and Jacomb 2000, Steadman et al. 2002) and colonising Polynesians were reliant on these resources (as the archaeological records suggest they were), then first settlements may have been fairly short-lived—an argument that Anderson and Smith (1996) make for early Māori villages on the South Island. However, it is unlikely that the smaller native Marquesan fauna would have supported the kind of large permanent villages that they propose for New Zealand. If these assumptions are valid, then an abundance of vulnerable fauna may be a necessary condition of human entry into virgin territories but not a sufficient indicator of island colonisation (a point also made by Anderson 1995:125). Only as virgin territories became uncommon
would the “range expansion” (*sensu* Rolett 1998) or serial settlement process have slowed. Populations may have then returned to primary settlement areas, but with different subsistence priorities and possibly occupying different locations within these catchments. Speculatively, Hatiheu Valley, where Orliac (2003) recently secured an A.D.660-1015 date, might be an example of a rare primary settlement locality, although considerably more contextual information is needed. The Settlement Period, as defined here, also includes the dispersal of populations into secondary localities and throughout the archipelago. Hanamiai (A.D.1025-1300) and Hane (A.D.1000-1200) are suggested as examples of secondary occupation areas.

Importantly, the foregoing is not meant to suggest that plant and animal domesticates were lacking in the early Marquesan subsistence economy. However, agricultural economies probably were vulnerable initially, as crops and technologies had to be transported across long distances and then adapted to local conditions. Especially in the Marquesan context, gardening may have been particularly precarious given the irregular and drought-prone climatic conditions, coupled with the lengthy maturation required for breadfruit (the traditional staple) and the initial absence of sweet potato.

In light of these theoretical considerations, initial Marquesan settlement probably pre-dates the beginning of the first millennium A.D. by at least a few hundred years and, given the Hawaiian evidence reviewed above, most likely dates to the period A.D. 700-900. This is slightly later than the mid-first millennium A.D. date proposed by Green and Weisler (2002), but earlier than the A.D.900-1200 age estimates of Anderson and Sinoto (2002). The emergence of the Tuamotu atolls and modern Marquesan shorelines after A.D.800 could have facilitated the colonisation process (Dickinson 2003, Pirazzoli and Montaggioni 1988).

The archaeological record also shows this to have been a time of dispersals to other islands. As Anderson (1996) suggests, colonisation of other archipelagos may have been stimulated initially by a subsistence strategy centred on exploitation of abundant and easily secured wild fauna. Towards the end of this period the distinctive East Polynesian Archaic artefact forms begin to appear. Inter-community exchanges may have been initiated by access to novel raw materials, but over time may have increasingly functioned to offset faunal depletions in a central East Polynesian world with fewer emigration options. The introduction of sweet potato and white flower bottle gourd from South America towards the end of this period (c. A.D.900-1100), (Green 2000, Hather and Kirch 1991), would have enhanced agricultural stability in areas that were marginal for the more traditional Polynesian crops.
Developmental Period (A.D. 1100-1300)

Despite the great length accorded the Developmental Period by Suggs, it was not a particularly distinctive phase in his original formulation. He describes it as a time when settlements were mainly coastal and centred around stream mouths. Among the main changes were the appearance of paved paepae and an increased dependence on breadfruit, as inferred through an increase in scrapers (which presumably could be used on other tubers as well). Suggs (1961:182) further argues that “almost the entire Melanesoid complex found in the early period disappeared by the late Developmental Period”. However, as he excludes pottery and pearlshell discs from this statement, it seems that the main losses were two adze forms and Tonna shell scrapers. Sinoto (1970:110) offers a different and somewhat conflicting account, focusing on artefact changes, but also a statement that people had begun to move inland.

Drawing on the best dated stratigraphic sequences, we might reasonably recognise the onset of the Developmental Period by marked declines in native fauna and the emergence of alternative subsistence strategies. There is fairly clear evidence for increased reliance on animal and probably plant domesticates, along with native species that can tolerate anthropogenic habitats and sustained harvesting. Accompanying these shifts is the establishment of more permanent settlements. At Hanamiai, Phase II (1025-1300) is radiometrically indistinguishable from Phase I but distinct in terms of both the artefact and faunal assemblages (Rolett 1998). A massive stone pavement, associated with postmoulds and a well-defined living floor, indicates a residence of some permanence. Rolett (1998:244) notes that diagnostic East Polynesian archaic artefacts are represented at this time, including untanged adzes, a whale tooth pendant and a Pupura shell scraper.

These finds are echoed at Hane, where a rapid decline in wild fauna between the initial occupation (Layer IV) and the subsequent one (Layer V) is apparent (see above). As at Hanamiai, stone pavements appear in secondary and tertiary occupation layers, the first post-dating c. A.D.1200 and a second post-dating c.1300 (Anderson and Sinoto 2002, both dates on shell), again suggesting increased permanence.

Suggs also notes interaction with other archipelagos between A.D.1100 and 1400. Contact with Tahiti, the Tuamotus and Mangareva is thought to have resulted in the introduction of several new artefact types, including stone pounders and possibly the Koma-style adze. These early insights have more recently been confirmed through high-resolution geo-chemical approaches (Rolett et al. 1997) and detailed artefact analyses (Weisler and Green 2001:428). Further, we now know that inter-island voyaging was a
process that began with first settlement and persisted for several centuries. A particularly well-documented example is of major contact between Marquesas and Mangareva between A.D.1200-1450 (Green and Weisler 2002:233).

Expansion Period (A.D.1300-1600)

Suggs’s Expansion Period saw major population growth and movement into both interior valley regions and marginal zones. Further there was an elaboration of ceremonial centres or tohua and domestic house platforms. The timing of this period seems to derive from five basal dates from the Uea rockshelters, possibly bolstered by oral traditions (Suggs 1961:183); unfortunately there have been few subsequent excavations in inland regions that might verify the timing of these processes.

Looking to coastal sites with secure radiocarbon dates, the most intensive period of occupation at Ha‘atuatua is now placed between c. A.D.1300 and 1600. The Teavau‘u evidence, with ephemeral occupation at A.D.1270-1450 and then more permanent settlement between A.D. 400 and 1650, is also consistent with the processes identified by Suggs. At Hane, the coastal dune is used as a burial ground (Layer IV), but settlement of the inland region may date to this period given the widespread occurrence of Koma-style adzes (Kellum-Ottino 1971). At Hanamia, Phase III (A.D.1300-1450) evidences an expanding agricultural economy and a decline in pelagic and deep-sea fishing. These findings are broadly consistent with the idea of a growing population.

Lacking any dated architectural sequences or new dates for inland occupation, it is difficult to evaluate the timing of the processes identified by Suggs. Findings from coastal localities, however, in conjunction with a much reduced sequence overall, suggest they probably were initiated a few centuries later than originally proposed by Suggs (1961).

Marquesan Classic (A.D. 1600-1970)

The Classic Period was envisioned as one of marked changes in settlement patterns, architecture, monumental stone sculpture and other prestige indicators, but overall continuity in artefact forms (Sinoto 1966, Fig. 3, Sinoto 1970:112, Suggs 1961). Problematically, none of the residential or ceremonial structures assigned to the Classic Period by Suggs were radiocarbon dated. He hypothesised a relatively steady sequence of architectural change from the Development Period through the Classic, but suggested a rapid increase in the abundance, complexity, and size of ceremonial architecture (tohua and me‘ae) in the latter period. Following his own investigations at Ha‘atuatua, along with those at Hane on Ua Huka, Sinoto (1966) placed the beginning
of the Classic Period after A.D.1600, relying on a single date from MUH-2. Notably, the Hane study provided little information on the development of megalithic architecture. Substantial stone pavements were present from Sinoto’s Settlement Phase onward but the classic Marquesan raised house platforms (tohua) and meʻae were not represented in this coastal dune context. Looking to more recent studies, the Teavauʻua coastal flat and the Haʻatuatua dunefield are abandoned after A.D.1600, potentially signalling the onset of competition and the establishment of communities in interior areas. At Hanamiai, the late Phase IV was not dated but abandonment before Western contact is indicated by the absence of European artefacts (Rolett 1998).

Following from the foregoing discussion, identifying a date for initiation of Classic Period processes remains problematic. The duration as outlined by Suggs was largely speculative (in the absence of radiocarbon dates) and influenced by his understanding of when Nuku Hiva was settled. The timing proposed by Sinoto, while more likely in light of recent truncations of the overall sequence, is not firmly grounded. Further, there are indications that at least some megalithic architecture is quite late, as for example, the transformation of the Hanamiai coastal site from a “generalized habitation area into a ceremonial ground (tohua)” after Western contact (Rolett 1998:248). Similarly, the most impressive example of a megalithic paepae recorded by Suggs (1961:161) was built in 1870. The time frame offered here is largely hypothetical and clearly the recovery of securely dated architectural sequences is a high priority for the future.

Final Comments

The 1956 survey and excavations of Suggs (1961) remain the most comprehensive study of the Marquesan archaeological landscape to date. He covered more geographic ground and excavated a wider range of site types than anyone since. His work is thus an essential resource for understanding Marquesan prehistory, so it is critical that we bring some chronological clarity to his findings. The sequence he developed was a summation of his field results. The revision presented above, in contrast, is a hypothesis about the timing of the processes he identified, developed in light of recent studies that have been of much smaller scope but for which there is more rigorous chronological control, including not only the Teavauʻua research but studies by others as well. Although not dealt with at length, a further intention of this discussion has been to raise questions about the possibility of regional variation, the speed or pulse of change, and the causal mechanisms underlying varied historical processes in the Marquesas Islands.

In 2003 the Anaho Bay research was continued with support from the National Geographic Society (Allen et al. 2001). Excavations on the
Teavau’ua coastal flat were expanded, an inventory of dry stone masonry platforms (*paepae*) throughout the catchment initiated and radiocarbon samples secured from several test units. Pollen cores were extracted at three localities including multiple sites on the inland plateau of To’ovi’i, in lower Taipivai Valley, and in Hatihe’u Valley. The extent and zonation of Anaho’s coral reef was mapped, the fish resources surveyed and ethnographic interviews on local fishing technologies undertaken. A second grant (Allen 2002) supported a preliminary survey of Anaho’s agricultural landscape. We anticipate that these new field studies will aid our understanding of settlement patterns, resource use, and political ecology, not only at Anaho, but also on Nuku Hiva as a whole.

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