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Are the Earliest Field Monuments of the Pacific Landscape Serial Sites?

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ABSTRACT. Explanations of the origin and genesis of Pacific field monuments commonly assume they reflect local social change in islands or island groups which were increasingly isolated following colonization. A recent review of early West Polynesian archaeology suggests that the pene-contemporaneous appearance of various kinds of field monuments from eastern Melanesia to Polynesia may be better explained as evidence of interaction and the movement of people and/or ideas, possibly associated with the colonization of East Polynesia.

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The first appearance of field monuments in the landscapes of East and West Polynesia, Fiji and parts of eastern Melanesia (Fig. 1) have been argued to reflect social changes in relatively isolated islands or island groups, long after their initial colonization. This paper argues the need to rethink this interpretation in light of a recent review of the evidence for the early West Polynesian cultural chronology (Smith, 1999, 2002). The findings suggest that field monuments may first appear in the context of pene-contemporaneous regional social change indicating a movement of ideas and/or people and in East Polynesia, this may be associated with the initial colonization of the region in the late or recent model of Spriggs & Anderson (1993).

The origin and genesis of field monuments in the Pacific landscape has been given new emphasis at meetings of experts from Pacific nations under the auspices of UNESCO's World Heritage program. The aim of these meetings, held in 1997 and 1999, was to initiate a process redressing the current under-representation of Pacific cultural (and natural) heritage sites on the World Heritage list. In Fiji in 1997 representatives of Pacific nations met to discuss this issue and identified the kinds of sites that they consider will reflect the uniqueness of the Pacific region and should be the focus of tentative nominations.

> Potential world heritage sites in the Pacific Islands region are likely to be serial sites and multi-layered cultural landscapes…[S]erial sites attest to the history of voyaging, land and sea routes, and of trade, the first landings, activities, settlements and agriculture in the Pacific Islands region. Other series of sites reflect the different waves of migrations…As serial sites they form lines crossing boundaries between countries and are therefore transborder and transnational sites. (UNESCO, 1997)

This statement recognizes that many kinds of Pacific cultural sites are not limited to islands or even archipelagos, and reflect the interconnectedness and shared history of the Pacific peoples. Although Pacific heritage managers have not precisely defined the site types that would be included as serial sites, it can be argued that they would be sites that are common over large regions in the Pacific and reflect a similar activity, belief system, social system or event.

Although monuments of earth, stone or coral are found from New Caledonia to East Polynesia they are not usually

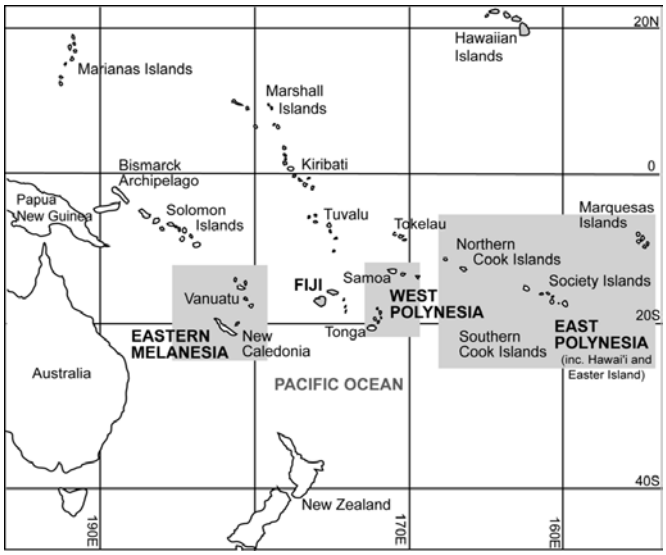

Fig. 1. Geo-cultural divisions and island groups in the Pacific.

considered serial sites that reflect the movement of ideas and people as Lapita pottery sites are thought to do. As the research discussed below indicates, it appears likely that early field monuments do offer potential for transnational, thematically linked serial nominations for World Heritage listing.

Field monuments in Pacific archaeology

Field monuments are structures in the landscape that would have taken a substantial and organized labour force to construct. They include fortifications (Fiji, West Polynesia, New Caledonia), mounds and platforms (Fiji, Tonga, Samoa, New Caledonia), ceremonial structures known as *Marae* in the Cook, Society and Tuamotu Islands and Hawaiian *Heiau* and Easter Island *Ahu*, as well as features associated with horticultural intensification such as large scale terracing and irrigation systems (New Caledonia, Fiji, East Polynesia).

At present, the chronology of the first appearance of the various kinds of field monuments is unclear. Although many radiocarbon dates associated with field monument construction may be questionable (see below), in Tonga and Samoa mound construction is dated to at least 900 B.P. (Davidson, 1974). Overall, relatively few field monuments have been radiocarbon dated but in all areas they are assumed to appear first by c. 1,500–1,200 B.P. The behavioural significance of this is unclear but it is commonly explained as tangible evidence of major social change.

Analyses of Pacific field monuments are too numerous to adequately review in this short paper but in almost all a combination of ethnohistorical data and archaeological evidence is used to interpret the function of monuments, especially in Fiji and Polynesia (Best, 1993; Burley, 1994; Davidson, 1974; Kirch, 1988, 1990*a*) and to provide a basis for regional comparisons (Best, 1993; Kirch, 1990*b*). The early field recordings of these structures provided typological classifications based on variation in the shapes and assumed functions of monuments (Emory, 1933; McKern, 1929). These were offered a theoretical context in the 1950s and 1960s by Pacific anthropologists wishing to understand the genesis of the Polynesian societies (Sahlins, 1958). It was, and is, generally accepted that the initial appearance of field monuments in Polynesia indicates change towards the kinds of social systems in place at European contact (Burley *et al*., 1995, 1999; Kirch, 1990*b*), that is, hierarchical chiefly polities the power of which is expressed through monuments on the landscape.

More recently, earlier typological analyses have been largely replaced by an emphasis on interpreting a range of evidence in the cultural landscapes in which monuments are found (Best, 1993; Field, 1998; Kuhlken & Crosby, 1999; Walter, 1998). However interpretations of cultural landscapes still rely heavily on ethnohistorical evidence, emphasizing the recent, immediate pre-contact construction of field monuments. Oral traditions and early observations by Europeans tell of local specificity in the function of the various types of field monuments in at least the last few hundred years, but we know very little about the earliest form and function of these sites or the societies in which they first appeared. In New Caledonia, where little ethnohistorical evidence exists, the function and the social structure reflected by field monuments such as terraces and fortifications remain enigmatic (Sand, 1996).

There is, however, a general acceptance that major social change took place in many parts of the Pacific during the first millennium A.D. and monumental structures in the landscape are associated with and indeed reflect these changes. This social change is not envisaged as a consequence of a flow of new ideas or technologies between interacting communities but as a local response to similar conditions in various islands or island groups. Populations rose, leading to pressure on indigenous resources and small-scale agricultural practices that in turn led to intensification in horticulture, perhaps warfare and concurrent social stratification (Kirch, 1984). In all areas, these changes, and the first appearance of field monuments, are considered to take place long after initial colonization and to be immediately preceded by a period of relative isolation and a period for which limited archaeological evidence is currently available.

A general model of increasing isolation following initial colonization in Polynesia and specifically the isolation of West from East Polynesia following East Polynesian colonization by c. 2,000 B.P. or earlier (Kirch, 1986) underlie comparative studies of field monuments, especially ceremonial mounds and platforms, in the two regions. In this model, colonization of East Polynesia takes place prior to the first appearance of field monuments (Irwin, 1992). Their occurrence in both regions is explained by a common cultural origin of all Polynesian societies in an Ancestral Polynesian Society which, in the established cultural chronology, developed in West Polynesia by c. 2,500 B.P. from the colonizing Lapita society, immediately prior to East Polynesian colonization (Kirch, 1997: 74; Kirch & Green, 1987). West Polynesian post-Lapita plainware ceramic assemblages have been considered the primary archaeological correlate of an Ancestral Polynesian Society and proto-Polynesian language, along with a suite of changes in existing artefact types and the appearance of new artefact forms. These "Polynesian" plainware assemblages have been argued to appear throughout the region by 2,500 B.P. (Kirch, 1984: 51; Kirch & Green, 1987; Kirch & Hunt, 1993).

In this phylogenetic model, similarities in Polynesian societies at European contact are argued to be evidence of their common Proto-Polynesian origin reflecting social evolutionary convergence in long isolated societies (Kirch, 1990*b*; Kirch & Green, 1987). The model also assumes a period of isolation of West Polynesia from communities further west, i.e., eastern Melanesia following the Lapita or

colonization period during which the Ancestral Polynesian Society and associated Proto-Polynesian language developed. This assumption underlies claims for the distinctiveness of Polynesian field monuments and their local development separate from those features found to the west.

Evidence for cultural change in the early West Polynesian archaeological record

A recent assessment of early West Polynesian cultural assemblages (Smith, 1999, 2002) reviewed the archaeological evidence for cultural change in early West Polynesian prehistory, in particular the evidence for an Ancestral Polynesian Society. In the established cultural chronology, this is said to be archaeologically visible in plainware assemblages throughout the region by 2,500 B.P. Regional diversity becomes apparent by c. 1,700 B.P. and ceramic manufacture ceases around this time. Around 1,000 B.P., following several hundred years of an aceramic archaeological "dark age", monuments appear in the Tongan and Samoan landscapes.

Smith's assessment investigated published archaeological evidence from excavated West Polynesian sites with at least one uncalibrated radiocarbon date earlier than 1,000 B.P., that is, evidence from colonization until the generally accepted period for the appearance of field monuments. Because of the well-recognized unreliability of many Pacific radiocarbon dates (Spriggs, 1989; Spriggs & Anderson, 1993), they all were assessed according to a number of standard protocols before a date and its associated cultural assemblage were included in the analysis. All dates were recalibrated and corrections applied where appropriate. Following assessment, 55 of the initial 137 dates from 49 sites were rejected. This left evidence from a total of 23 sites. These included midden deposits, houses and field monuments excavated in all major field projects in West Polynesia including that of Green & Davidson (1974) and Jennings & Holmer (1980) in Western Samoa, Kirch & Hunt (1993) and Clark & Michlovic (1996) in American Samoa, Poulsen (1987), Shutler *et al*. (1994), Burley (n.d.), and Kirch (1988) in Tonga, Kirch (1981) and Sand (1990) in Futuna.

Assessment of the radiocarbon chronology appears to significantly alter the established West Polynesian cultural chronology. Re-calibrated dates associated with pottery indicate manufacture in some parts of the region continuing as recently as 1,000 B.P. This effectively wipes out the aceramic "dark age" argued for the period immediately prior to mound building. Early dates associated with some plainware ceramic assemblages are contemporary with Lapita deposits and like Lapita appear to reflect the chronology for colonization of the region (Kirch & Hunt, 1993; Burley *et al*., 1999). All dates associated with aceramic deposits including those associated with construction of field monuments were rejected under the assessment protocol (Smith, 1999: chap. 4, 2002). This is principally because the charcoal submitted for dating was taken from deposits beneath the structure itself and can provide an age for only the deposits beneath the mound and not the time the mound was constructed.

The site structure and stratigraphic evidence were used by Smith (1999, 2002) to establish intra-site analytical units, providing a relative chronology for cultural material. The associated radiocarbon determinations were used in combination with the analytical units to provide an absolute chronology for the dated deposits in the site. Unfortunately, in many instances the entire site has not been published, limiting usefulness of the published data. Commonly, the focus is deposits containing ceramics and especially those containing Lapita sherds. This makes comparison of stratigraphic units and assessment of change through time difficult. However, intra-site change through time in more than one of various classes of cultural material—ceramics, adzes, other artefacts, and faunal remains—could be investigated in 19 sites. A summary of Smith's (1999, 2002) findings for each class are described in Table 1.

Overall, Smith found that from initial colonization to c. 1,000 B.P. the only marked changes in the West Polynesian archaeological record appear to be the disappearance of dentate-stamped ceramics and complex vessel forms that identify assemblages as "Lapita". Associated with the loss of decorated and complex vessels, and also evident in the earliest plainware deposits, is a decline in the diversity and amount of indigenous terrestrial fauna. This is a common pattern in early Pacific sites and most likely explained by the targeting of these species during the colonization phase and their consequent extinction, extirpation or decline in local availability (Burley *et al*., 1995).

Given that early plainware and Lapita assemblages appear contemporary and can also be argued to be a part of the colonization phase, the continued association of plainware assemblages with an Ancestral Polynesian Society now seems implausible. Plainware assemblages are locally and regionally consistent throughout the sequence, although Smith found the number and distribution of dated plainware deposits is significantly less between 2,000 and 1,000 B.P. than for the previous 1,000 years. This may reflect an emphasis on radiocarbon dating basal ceramic deposits rather than an actual decline in ceramic manufacture.

The assessment of the West Polynesian evidence indicated that in many respects, the pre-1,000 B.P. cultural assemblages can be considered a regional archaeological signature characterized by plainware ceramics in both fully plainware assemblages and the undecorated component of Lapita assemblages. Except for certain adze types, most shell and other non-ceramic artefacts are consistently found in sites throughout the region. Variability in adze morphology can be explained at least partially in terms of raw material availability. Most other sources of variability in excavated assemblages can be accounted for through differential preservation of organic material (Smith, 1999: chap. 8, 2002). Change through time in faunal assemblages was limited to the early deposits in a decrease in indigenous, especially terrestrial, fauna. The small amount of evidence for domesticates—chicken, pig and dog—limited investigation of change through time in their abundance. Of the three, only chicken is present in earliest sites. There is no unequivocal evidence for pig prior to 2,000 B.P. and very limited evidence prior to c. 1,000 B.P. Pig is also absent from the early Fijian (Best, 1984: 544), New Caledonian and Southern Vanuatu (Spriggs, 1997: 146) deposits.

Smith's findings make it is difficult to see the archaeology of the West Polynesian plainware period as significantly different to that which went before. In general, there is a consistency in the West Polynesian archaeological record from shortly after colonization to around 1,000 years ago that does not indicate distinct cultural change over this period as is suggested in the phylogenetic model of Kirch & Green (1987). The major disjuncture in the West Polynesian archaeological record takes place c. 1,000 B.P.

with the appearance of monuments and the disappearance of ceramics. Along with other kinds of change (discussed below), this is suggestive of regional social change.

Spriggs (1997: 152) argues that there is a continuity similar to that seen in West Polynesian assemblages in many aspects of the Island Melanesian archaeological record from Lapita to post-Lapita indicating a cultural continuity until c. 2,000 B.P. The precise chronology is unclear, but sometime after this a suite of changes in the archaeological record indicates the appearance or origins of the diverse Melanesian societies evident at contact. Spriggs (1997: 152) considers evidence of cultural change to include the cessation or rearrangement of long-distance exchange networks, shifts in settlement pattern or general abandonment of previously occupied sites, loss of pottery and/or other significant changes in the material culture inventory, and changed subsistence practices or the use of the landscape.

This is precisely the kind of evidence seen in the West Polynesian record c. 1,000 B.P. There is little evidence for interaction between West Polynesia and communities to the west until c. 1,000 B.P. What evidence exists, is insufficient to infer any change through time in interaction during the colonization or plainware periods (for a review see Davidson, 1977; Green, 1996). After 1,000 B.P., at least in Samoa, increasing external interaction is evidenced by the movement of basalt sourced to American Samoa west to Fiji by 900 B.P. and to Taumako, north to Tokelau and Tuvalu and to the Southern Cooks c. 600 B.P. (Clark, 1996; Walter & Sheppard, 1996). In Fiji, Best (1984: 494) notes the re-establishment of long distance interaction with contact between Fiji and Vanuatu after 1,700 B.P., although contact with West Polynesia is unclear. In the late prehistoric period, Clark (1996: 454) describes Fiji, Tonga and Samoa as "linked in a network of social and economic interactions".

Changes in settlement pattern, in particular the spread of sites away from the coast and the appearance of new site types, have been cited as evidence for social change in West Polynesia and Melanesia (Best, 1984, 1993; Sand, 1996). In his review of the Western Samoan evidence, Clark (1996: 452) found no secure evidence for inland occupation earlier than 2,000 B.P., with a number of inland sites dating to c. 1,500 B.P. but most dating after 1,000 B.P. He considers that the pattern of continuous dispersed settlement evident in Western Samoa at European contact may date only to the last few centuries (Clark, 1996: 453). Clark (1996: 452) also suggests that large mounds appear c. 900–800 B.P. on the coast and in some valleys.

Evidence for the early Tongan settlement pattern is based almost exclusively on the distribution of surface scatters of ceramics. Lapita sites are located adjacent to, or on, a protected bay or lagoon and, according to Burley (1994: 382), are "middens in which habitation is both restricted and aggregated" and apparently village-based. Spennemann (1986: 10) described the distribution of plainware sites as "a dense but dispersed settlement" similar to that observed at European contact. Burley (1994: 389) contests such an interpretation, finding that the configuration of plainware sites, at least in the Ha'apai Group, differs little from Lapita. His view agrees with Kirch's (1988: 242) conclusions for Niuatoputapu that although the number of settlements increases, settlement pattern does not change during the ceramic period. The chronology for the development of the settlement pattern described at contact is unclear but falls within the last millennium.

Finally, it appears that it is not until after c. 1,000 B.P. that pig, usually associated with or a signifier of horticulture becomes prominent in West Polynesian assemblages. Kirch (1988: 253) has made a correlation between the social importance of pig and the rise of socio-political hierarchy in Fiji and West Polynesia in the last millennium.

Although a precise chronology is lacking, the apparent similarity of changes in the archaeological record of eastern Melanesia and Fiji after 2,000 B.P. and West Polynesia c. 1,000 B.P. suggests wide-spread social change indicative of interaction throughout the region.

"Late" colonization of East Polynesia

Spriggs & Anderson (1993) propose a model of "late" or recent East Polynesian colonization based primarily on an assessment of East Polynesian radiocarbon determinations. This suggests East Polynesian colonization was unlikely to have taken place until after c. 1,300 B.P. Subsequent research in East Polynesia (Anderson *et al.*, 1994; Rolett & Conte, 1995) and an absence of earlier, securely dated cultural deposits from the region have lent support to this model. If East Polynesian colonization did not take place until after c. 1,300 B.P., it was pene-contemporaneous with the appearance of field monuments in West and East Polynesia. In this model, is the colonization of East Polynesia associated with or even a consequence of social change evident in the archaeological record of the southwest Pacific between 2,000 and 1,000 B.P.? Rather than being an example of convergence in related but long isolated societies, the construction of field monuments in East Polynesia may have been a characteristic of the colonizing groups derived from West Polynesia or indeed further to the west. In this model, colonization of East Polynesia appears to take place suddenly and rapidly and is not unlike the pattern of Lapita colonization a millennium or more earlier.

Conclusions

There is currently insufficient archaeological evidence available to address the question of whether the first appearance of field monuments reflects social change in the context of interaction across the southwest Pacific and is associated with initial colonization of East Polynesia. We currently lack data from the crucial period between c. 2,000 and 1,000 B.P. to understand whether these regional changes are related in a behavioural sense, that is, reflecting a flow of ideas, people and social system from eastern Melanesia to West Polynesia or perhaps the reverse (Sand, 1996). In other words, whether the earliest field monuments, or at least some kinds of monuments such as mounds or fortifications or irrigations systems are truly serial sites. Current evidence cannot address this issue because: (*a*) the chronology for the first appearance of field monuments is unclear; (*b*) although field monuments are a regional phenomenon, individual research projects are commonly restricted to an island or island group. No detailed comparison of the field monuments throughout Remote Oceania, or of the cultural landscapes in which they exist, has yet been undertaken; and, (*c*) analyses commonly interpret field monuments according to the dominant paradigm of Pacific archaeology in which the development of Polynesian societies is seen as independent of social change to the west.

Table 1. Key findings from an assessment of change through time in West Polynesian cultural material by Smith (1999, 2002).

material evidence	the sample	evidence for change through time in excavated assemblages	references (see below)
CERAMICS	**Lapita** Dentate stamp sherds recovered from at least one stratigraphic unit in 7 sites, only 3 are fully published.	—Evidence for a decrease in sherd density equivocal due to reported disturbance of deposits. —No evidence for change through time in decorative technique or location of decoration on the vessel. —No evidence for change through time in vessel form.	1,2,3,4
	Lapita to Plainware Three sites or sequences of sites have Lapita and plainware. deposits. Only one is fully published.	—No site demonstrates a transition from Lapita to plainware through a decrease in decorated sherds, changes in decorative technique or location on the vessel. —Similarity in plainware assemblages from Lapita and non-Lapita contexts. —The only significant difference between Lapita and plainware ceramics is the absence of dentate stamp decoration and complex vessel forms.	5,6
	Plainware Seven sites have more than one stratigraphic unit containing plainware sherds. All are Samoan sites.	—An expected change through time from a thin fine to a thick coarse ware (Green & Davidson, 1974) is evident in two sites but over vastly different time spans. This pattern is contradicted in two other sites. —In two sites, sherd density decreases through time. The reverse is evident in two other sites. —Plainware assemblages span c. 2,000 years. —Assemblages throughout the region are characterized by globular pots.	7,8,9, 10, 11
ADZES	141 adzes excavated from 15 sites however 55 come from only two Western Samoan sites	—Small numbers of adzes per site or their concentration in a single stratigraphic unit did not permit assessment of intra-site change through time. —Change through time in adze morphology is evident in the introduction of several new forms after 2,500 B.P., all from Samoan contexts and likely to reflect the availability of different stone sources once people colonized Samoa, east of the Andesite line.	1,2,7,8, 9,10
OTHER ARTEFACTS	All sites contain some non-ceramic artefacts, including shell, coral and bone artefacts and flaked stone but often in small numbers. Intra-site change through time could be assessed in 9 sites	—Diversity in assemblage composition reflects differences in preservation of organic material and the availability of stone and shell as a raw material. —Comparison of Lapita and plainware middens suggest continuity in artefact forms. However, the range of shell ornaments from pre-2,500 B.P. deposits (Lapita and plainware) is slightly greater than post-2,500 B.P. —There is insufficient evidence to infer any change through time in fishhook manufacture.	1,2,3,5, 7,8,9,10
FAUNAL REMAINS	**Indigenous** 11 sites contain faunal material	—Indigenous fauna including turtle and terrestrial birds was concentrated in the pre-2,500 B.P. deposits in Lapita and plainware sites. —Some regional diversity and local change through time in shellfish assemblages likely to reflect exploitation patterns and environmental change.	1,2,8, 10,12
	Non-indigenous Seven sites contain limited evidence of domesticates (for 5 sites faunal evidence is not published)	—Chicken present in earliest sites across the region. —Very small amounts of pig bone found in 7 sites, all from disturbed and/or recent contexts. There is no unequivocal evidence for pig in pre-2,000 B.P. contexts. —Evidence for dog limited to a single tooth from a context dated c. 2,000 B.P. (Kirch, 1981)	1,2,5,8, 9,10,13

(*1*) Poulsen, 1987; (*2*) Dye, 1987; (*3*) Shutler *et al*., 1994; (*4*) Burley, n.d.; (*5*) Kirch, 1988; (*6*) Groube, 1971; (*7*) Green & Davidson, 1974; (*8*) Jennings & Holmer, 1980; (*9*) Clark & Michlovic, 1996; (*10*) Kirch & Hunt, 1993; Sand, 1990; (*12*) Burley *et al*., 1995; (*13*) Kirch, 1981.

The UNESCO aim of redressing the under-representation of Pacific sites on the World Heritage list will depend upon Pacific nations having the resources and expertise to put forward successful bids for nomination. To begin this process, participants at the meeting in Vanuatu in 1999 (UNESCO, 1999) recommended the urgent preparation of: (*a*) a desk-top review of all data relating to cultural places and cultural landscapes (including serial sites) which may warrant World Heritage status; (*b*) national comparative and Pacific-wide thematic reviews of potential World Heritage properties (including serial sites).

This will provide a basis for the nomination of field monuments for world Heritage listing. However, as this paper has sought to stress, knowing whether these sites, in their earliest manifestation can be considered truly serial, transnational sites requires field research specifically investigating their first appearance in the Pacific landscape.

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