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RETURNING TO THE HYPOTHESIS OF AMERINDIAN SETTLEMENT ON RAPA NUI (EASTER ISLAND)

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ABSTRACT: The hypothesis of Rapa Nui (Easter Island) colonisation by Amerindian voyagers has been largely dismissed archaeologically since the mid-twentieth-century controversy generated by Thor Heyerdahl's *American Indians in the Pacific*. The orthodox hypothesis today is that Rapa Nui was settled exclusively by Polynesians who, however, brought the sweet potato and a few other items from South America by return voyaging. This view is challenged by recent evidence that widespread admixture of Amerindian and East Polynesian DNA in East Polynesia, dated to the twelfth to fourteenth century AD, could represent Amerindian landfalls. Reconsideration, here, of putative Amerindian archaeological remains on Rapa Nui—notably the façade of the ceremonial platform known as Ahu Tahiri, circular stone structures known as tupa, and birdman motifs—in the light of recent, largely contextual, research also appears to offer more support for the hypothesis than hitherto. However, the argument is heavily constrained by the long absence of systematic analytical research designed to test such indications, perhaps because marginalising the Amerindian hypothesis suits archaeological perspectives on both sides of the southeast Pacific. The purpose of this review is to encourage new research on the archaeological material in question.

Keywords: Rapa Nui (Easter Island), Amerindians, genetic admixture, ahu (ceremonial platform), tupa structures, birdman motifs, seafaring

Questioning assumptions fundamental to the archaeology of early East Polynesian colonisation can be productive, as in Andrew Sharp's (1956) challenge to the traditionalist foundations of writing about Polynesian voyaging which prompted experimental voyaging and the development of alternative hypotheses. It can also be unproductive, as in Thor Heyerdahl's (1952) challenge to the archaeological assumption of East Polynesian isolation from Amerindian colonisation. His vision of ancient Europeans (Heyerdahl 1978) carrying high civilisation through the Americas and into the eastern Pacific met with adamant rejection by Oceanic scholars. Yet within that

hyper-diffusionist *context* was archaeological *content* comparing monumental architecture in Andean America and Rapa Nui (Easter Island), a topic discussed repeatedly from at least 1870 (e.g., Dixon 1932; Emory 1933; Palmer 1870; Skinner 1955; Suggs 1960; see also Holton 2004; Melander 2020). Heyerdahl's perspective on it persuaded few, but there was tacit acceptance that the Amerindian hypothesis remained in consideration (Melander 2020: 229–33). In fact, although later extended and elaborated (Heyerdahl 1998; Heyerdahl and Ferdon 1961; Heyerdahl *et al.* 1995) it has, with few exceptions (e.g., Anderson *et al.* 2007; Martinsson-Wallin 1994), been largely overlooked since.

One reason was that continuing fieldwork on Rapa Nui showed the initial colonists were Polynesians, rather than of Tiwanakan (Andean, AD 400–1100) culture. Only Polynesian artefacts and Pacific rat (*Rattus exulans*) bones occurred in the oldest sites (Golson 1965; Skjølsvold 1994), and initial colonisation has been radiocarbon dated to AD 1150–1280 (DiNapoli *et al.* 2020). Those data, among others, reinforced an hypothesis of exclusive Polynesian habitation in which Amerindian influence is restricted almost entirely to the sweet potato (*Ipomoea batatas*) and attributed to the agency of Polynesian seafaring (e.g., Green 2005; Irwin 2011; Métraux 1940).

Recent research on East Polynesian human DNA, however, challenges the residential exclusivity of that model. Genome-wide variation indicates admixture of Amerindian and Polynesian DNA in the Societies, Marquesas, Tuamotus and Gambiers around AD 1200 and in Rapa Nui about AD 1380 (Ioannidis *et al.* 2020). Similar genetic admixture in Rapa Nui was earlier estimated at AD 1280–1495 (Moreno-Mayar *et al.* 2014) and AD 1340 (Thorsby 2016). It is possible that Amerindians were fetched in Polynesian canoes, or that Polynesians sojourned long enough in South America to produce children of mixed descent, but the dispersal in East Polynesia of a restricted source of DNA from Colombia-Ecuador, and its probable first occurrence in the Marquesas, at the same latitude as Ecuador, but where the only feasible voyaging route is westward, led Ioannidis *et al.* (2020) to favour the Amerindian voyaging option, and Wallin (2020) to suggest a separate and later Amerindian arrival on Rapa Nui.

These results invite renewed consideration of whether putatively Amerindian cultural remains on Rapa Nui reproduced observations by voyaging Polynesians or represent direct Amerindian craftsmanship. The issue has received little systematic analysis of similarity between East Polynesian and Amerindian types or styles. As a stimulus to further such research, focused on the archaeological remains rather than the historical controversy, current evidence about the relative likelihood of Amerindian construction, initially outlined in Anderson *et al.* (2007), is brought up to date here for three Rapa Nui items in contention: the Ahu Tahiri (also known as Ahu Vinapu 1) façade, *tupa* 'circular stone structures' and birdman petroglyphs. Their transfer by alternative maritime technologies is also discussed briefly.

POSSIBLE AMERINDIAN MATERIAL CULTURE

Ahu Tahiri Façade

In 1774, Johann Forster wrote that *ahu* ‘ceremonial platforms’ at Vinapu, Easter Island, were constructed “as regularly & as finely as can be done by a Nation even with good tools” (Hoare 1982: 468–69). Ahu Tahiri has attracted repeated interest because it has a seaward façade that recalls Amerindian architecture. Contrary to earlier notions of Tiwanakan inspiration, however, Ahu Tahiri can now be seen to exhibit many characteristics of high-status walls of the Inca state period, AD 1400–1532. These are as follows: (1) construction in the coursed, encased style of fine masonry found in early Inca perimeter walls (Hyslop 1990), (2) slight curvature in plan shape with rounded corners, features notable in outlying Inca regions (Hyslop 1990), (3) basalt blocks that are precisely fitted and rectangular or trapezoidal in shape (Protzen and Nair 1997), (4) blocks laid in Inca “quasi-courses” in which the height of a single course is never perfectly uniform, and no line of joints is strictly horizontal (Nair and Protzen 2015; Protzen and Nair 1997), (5) pillowfacing (convex curvature to outer face of the stone) on the blocks with chamfering to emphasise the pattern of joints (Hyslop 1990) and (6) some large blocks having corner cutouts fitted with shaped blocks (Protzen and Nair 1997).

In addition, one block has a shaped boss, an Inca feature. Contrary to Golson’s (1965: 56) contrast between “the solid, cyclopean masonry of Peru and the veneer-like use of slab facings on Easter Island” (based on Skinner 1955), the Ahu Tahiri stone thickness (0.5–0.7 m) in the façade overlaps the usual Inca range of 0.65–1.0 m. The Ahu Tahiri wall batter of 12° is also within Inca standards of 3°–15° (Hyslop 1990). Although understandably lacking sockets to secure blocks with metal cramps, the facing stones and construction of the Ahu Tahiri façade are strikingly similar to Inca examples, and the point is emphasised by an absence of comparable evidence from elsewhere in East Polynesia. It should be noted that Inca and Polynesian methods of shaping blocks were the same, by pounding with stone hammers, so new techniques were not required.

Is the structure, however, of Inca age? The two Vinapu ahu were built on a surface bearing charred remains of the original forest for which palm nuts dating AD 1280–1410 at 2 sigma (Ua-19463 at 610±40 BP; Ua-19464 at 605±45 BP; Martinsson-Wallin 2004: 8) provide a secure but approximate *terminus post quem* (Martinsson-Wallin 2004; Martinsson-Wallin *et al.* 2013). Unidentified charcoal from above the Ahu Tahiri ramp (Mulloy 1961: 160) offers an uncertain *terminus ante quem* about the sixteenth century. Ahu Tahiri, therefore, was probably built during the Inca state period (AD 1400–1532) or slightly earlier, and the fidelity of complex architectural detail suggests Inca craftsmanship. If of that age, it was made after the arrival

of Polynesians and their own ceremonial structures. It is quite possible that Ahu Tahiri is younger than Vinapu 2, as Golson (1965) argued, and that the Ahu Tahiri façade was built over an earlier ceremonial structure.

Tupa

On Rapa Nui, 27 circular structures of piled stone, each 3–7 m in diameter and constituting “a slab-roofed masonry tower with a very small and generally square entryway near the ground on one side” (Heyerdahl 1961: 517), are called *tupa*. Variation in size, form and functions does not clearly separate some *tupa* from *hare moa* ‘hen houses’ and elliptical stone buildings (Ferdon 1961: fig. 88 c–f; Ferdon 2000). There are no clear dates on *tupa* and their functions are uncertain. By late historical consensus, they were turtle watchtowers, yet few are well positioned for marine observation, and they seldom have formed access to the roof (Heyerdahl 1961: 517–19; Métraux 1940: 189). An astronomical role has been proposed (Edwards and Edwards 2013: 186), but it does not explain the internal architecture of *tupa*, in which a narrow passage through thick walls leads to an interior chamber of informally corbelled stone. The chamber was suited only to occasional shelter, and Ferdon (1961: 331) noted a general absence of domestic fire pits.

Observations in 1774 could suggest a mortuary function. Europeans were allowed into the residential longhouses but not into smaller stone structures; “the natives always denied us admittance into these places” (George Forster in Thomas and Berghof 2000: 307). These included *tupa* which may have been tabooed as the larger sites of surface burial, a common mode represented on Rapa Nui by numerous small stone mounds. There was human bone throughout the interior deposit of one *tupa*, and an “isolated tomb” at Vinapu (Mulloy 1961), with the internal structure of a *tupa*, contained an extended burial. *Tupa* and *hare moa* have been proposed as burial sites (Heyerdahl 1997; Ferdon 2000), and in East Polynesian languages *tupa* has mortuary connotations, including *tūpāpaku* as the common Māori word for ‘corpse’.

In the northern Andes, the similar-sounding *chullpa*, meaning “containers in which they placed their dead” (Morales *et al.* 2013: 2394), referred to structures, dated twelfth to seventeenth century, made for communal above-ground burial (Stanish 2012). Late Andean *chullpa*, AD 1450–1550, were often of dressed stone, but earlier, AD 1100–1450, they were relatively rudimentary: circular, domed structures, 3–5 m in diameter, of undressed stone surrounding a chamber accessed through a narrow entrance and passage (Hyslop 1977). *Chullpa* were tombs associated with ancestor veneration and served as territorial markers (Bongers *et al.* 2012; Epstein and Toyne 2016). In construction and probable functions, therefore, *tupa* are very similar to early *chullpa*, and they have no parallel elsewhere in East Polynesia. An Amerindian introduction is possible.

Birdman Petroglyphs

Birdman motifs are widely spread globally, but in different forms. The few birdmen identified in East Polynesian rock art outside Rapa Nui have bird heads with extended limbs lacking fingers and toes, and some Māori examples show feathered wings. There are crouching human figures in Māori rock art and, rarely, in Hawaiian, and some are paired back-to-back (Lee 1997). The almost 500 figures recorded on Rapa Nui have different features. Mainly in bas-relief, they are shown sitting with elbows and knees together, and with long, hooked beaks and gular pouches, characteristics of frigatebirds. The eyes are huge and circular, generally with a pupil shown (Lee 1992: 65–74), and the limbs often have five-digit fingers and toes. Many birdmen are shown face-to-face in pairs joined at the feet, hands or beak. Some hold a round object in their hands, possibly a ceremonial egg—the traditional interpretation. Birdman petroglyphs were made into the nineteenth



Figure 1. Top left: Late prehistoric Ecuadorian bead (after Shaffer 1985, fig. 6, masked men talking). Top right: Facing pair of birdmen (after Lee 1992, fig. 4.42). Centre: Spindle whorl from Puna Island (Anderson *et al.* 2007, Fig. 7.5). Bottom left: Ecuadorian figure holding round object (after Shaffer 1985, fig. A-1). Bottom right: Birdman holding round object (after Lee 1992, fig. 4.48).

century (Lee *et al.* 2015–2016), but how early they began is unknown. At ‘Orongo, where 86 percent of birdmen occur, the earliest houses date AD 1540–1600 (Lee 1992; Robinson and Stevenson 2017; Rull *et al.* 2018), but undated birdman petroglyphs on rock faces nearby and elsewhere could be older, including incised depictions partially erased by those in bas-relief.

Whereas there are few similarities of Rapa Nui birdmen with others in East Polynesia, there are more with those in Ecuador-Peru. A spindle whorl from Puna Island, Ecuador, has birdmen, possibly with incipient gular pouches, placed face-to-face in the Rapa Nui style. Examination of hundreds of spindle whorls in Ecuadorian and Peruvian museum collections (Anderson *et al.* 2014) failed to find a duplicate. However, seabirds, jaguars or caimans sitting alone or in facing pairs, with hands and feet, large, circular eyes, and sometimes holding a round object, traits common to Rapa Nui, are shown on spindle whorls and ceramic pots (Fig. 1). These are mainly of the Manteño-Guancavilca culture of coastal Ecuador, dating AD 1100–1530, although they also occur in earlier Guangala contexts (Ricaurte 1993; Shaffer 1985). There are similarities as well in the birdman frescoes of Túcume (Heyerdahl *et al.* 1995). As the cluster of shared traits is younger in Rapa Nui, it could have been an Amerindian introduction.

Amerindian Seafaring

Speculation about Polynesian return voyaging to South America has relied upon traditionalist perspectives that overestimate the capabilities of Polynesian seafaring (Anderson 2017) and underestimate those of Amerindian balsa rafts (Anderson *et al.* 2007; Emanuel 2013). With America lying upwind against prevailing easterlies, wind reversals infrequent and the windward ability of Polynesian voyaging canoes uncertain (Irwin 2011: 250), direct passages were unlikely, except by chance. Even the mid-latitude downwind route to Chile would have been “immensely difficult” (Finney 1994: 283). Furthermore, if sailing technology existed in the rudimentary form observed in southeast Polynesia in the eighteenth century (Anderson 2017), then long-distance passages were virtually impossible. Conversely, simulated downwind drifting by raft from Ecuador-Peru to Polynesia has a very high rate of success (Montenegro *et al.* 2008) and has been proven successful in practice by more than 20 passages on experimental sailing rafts (Anderson *et al.* 2007).

Spanish observations in 1526 described large balsa rafts propelled by crescentic cotton sails and steered by *guara* ‘daggerboards’ carrying cargo of up to 25 tonnes on long offshore passages (Sandweiss and Reid 2016: 315–17). Historical records describe them beating to windward at 4–5 knots (Heyerdahl 1955: 252–57). Engineering analysis of these data concluded that balsa rafts were 6–11 m long with a cargo capacity of 10–30 tonnes. The green balsa logs, with lashings pulled into them for protection,

remained buoyant for many months, and rafts could make several long passages in a year before re-fitting (Dewan and Hosler 2008: 36). In capacity and performance, then, Amerindian balsa rafts were at least the equal of Polynesian double canoes.

A disjunct distribution of early metallurgy between Ecuador and Mexico indicates that rafting by direct oceanic passages rather than serial coastal stages was in place by 500 BC (Hosler 2009). The measured distance was about 3,000 km (Sandweiss and Reid 2016), but sailing distances were much longer on the windward leg south and comparable to those, 3,500–5,000 km, from Ecuador to Polynesia. Whether they returned or not, balsa rafts could have made repeated landfalls in East Polynesia from the thirteenth to sixteenth century. Exploration westward might have increased as coastal traders in Ecuador-Peru were displaced from the maritime network when it came under Inca control AD 1430–1460 (Marsh *et al.* 2017).

* * *

Observed stylistic traits of some items of Rapa Nui material culture lack comparable evidence from elsewhere in East Polynesia but resemble traits of cognate items in late prehistoric Ecuador-Peru. It is implausible that such items emerged independently (Métraux 1940: 289–91) in the Polynesian island nearest to existing sources in South America. It is unlikely that multiple, intricate resemblances in material culture were reproduced in Rapa Nui from memory after fleeting Polynesian–Amerindian contact, especially if that occurred during the East Polynesian exploratory phase, AD 900–1100 (Anderson *et al.* 2019), several centuries before currently estimated ages of Amerindian influence.

The Ahu Tahiri (Ahu Vinapu 1) façade, dating earliest to AD 1300–1440, suggests Inca stonework AD 1400–1532; tupa, undated, resemble Andean chullpa AD 1100–1450; and birdman petroglyphs, beginning sixteenth century or earlier, resemble similar figures in coastal Ecuador AD 1100–1530. Conjecturally, a narrower age of Amerindian arrival could be suggested as AD 1350–1450, a period in which cultural introductions to Rapa Nui from Inca age sources, human DNA admixture, and arrival and transfer of sweet potato across East Polynesia (Anderson and Petchey 2020) appear to overlap.

As Amerindian DNA was widely dispersed elsewhere in East Polynesia about AD 1200, two phases of Amerindian arrival could be implied, with the later phase more influential in some respects. For example, chronological research on monumental ahu shows that they began earlier (AD 1300–1400) on Rapa Nui than in the Society Islands, AD 1400–1600 (Martinsson-Wallin *et al.* 2013), suggesting dispersal of this ceremonial type from the east and begging the question of what else might have been transferred.

It is essential to acknowledge that this review of the venerable Amerindian hypothesis rests upon precariously few and generalised chronological data, little comparative consideration of functional and ceremonial contexts, and merely qualitative impressions of stylistic similarity in material culture. Scarcity of precise chronology and an absence of quantitative analyses using large, paired and out-group samples of the artefact types and styles in question is not the result, however, of only scholarly neglect. Rather, it also reflects a longstanding unwillingness on both sides of the southeast Pacific to systematise research on a problem, long tainted by controversy, that lies between them. It has been too convenient to mutually accept the Polynesian return-seafaring solution in which South American prehistory is able to concede minimal cultural leakage (Kehoe 2003; Seelenfreund 2019), and East Polynesian prehistory to minimise Amerindian contact (Green 2005). Particularly wilful in this is long-standing aversion to evidence of the relative ease with which large balsa rafts could have sailed to East Polynesia.

My conclusion is that there is enough in the fragmentary data described here to question at least the completeness of the orthodox model of exclusively Polynesian contact with South America, and if—to paraphrase a well-known saw—we keep looking for our (explanatory) keys only under the same (East Polynesian) streetlight, the matter will not be resolved. As continuing to let the Amerindian hypothesis lie has not caused it to wither away, it needs to be taken seriously and the archaeological material in discussion here subjected to comparative analytical research.

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