**THE UPIHOI FIND:**

**Wrecked Wooden Bevaia (Lagatoi) Hulls of Epemeavo Village, Gulf Province, Papua New Guinea**

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**Lagatoi dug up on Gulf beach**

Two lagatoi hulls, believed to be from the popular Hiri Moale trade between the coastal villages of Central and Gulf provinces, have been dug up along the coast of Kerema, Gulf Province. The canoe hulls, believed to be the oldest and used during the Hiri trade, were discovered by villagers of Keakea and Epemeamo. The villagers dug out the canoes from the sandy beach, buried more than two metres under ground. The hulls, forming a lagatoi, were located about 20 metres from the sea and still in good shape. Also discovered in the canoes were claypot pieces believed to be from the popular Hiri trade.

National Broadcasting Commission Kerema manager Timothy Akia said the villagers discovered the lagatoi canoe hulls in July and managed to dig them up early this month. Mr Akia said the lagatoi was very old and elders said it was one of those used during the Hiri Moale trade many years ago.

They said the lagatoi was ‘one of those two that didn’t make it back after bad weather’ from its Hiri Moale trade trip back from Central Province. ‘Locals believe that while the lagatoi found was one that didn’t make it back, the other one arrived safely but this one didn’t return home after bad weather caught up with it out at sea,’ Mr Akia said. The canoe hulls, with all the features of a lagatoi, measured 30 metres in length (Anon. 2007).

**Abstract**

On 20 August 2007, Epemeavo and Kea Kea villagers from the eastern end of the Gulf Province of Papua New Guinea reported finding two lagatoi hulls deeply buried in beach sands at Upihoi, near Epemeavo village, parts of a trading vessel associated with the renowned Motu hiri trade of former times. This paper presents results of an emergency investigation of these finds by staff of the Papua New Guinea National Museum and Art Gallery and Monash University, describing the find, its environmental, cultural and social settings and contexts of discovery, radiocarbon dating, historical assessments, and significance.

**Introduction**

On 20 August 2007, six days after Timothy Akia of Radio Gulf announced the news on the local radio station, the *Post-Courier* – one of Papua New Guinea’s leading newspapers – reported the finding of two wooden lagatoi hulls by Epemeavo and Kea villagers, between the Vailala River and Kerema in the Gulf Province of Papua New Guinea (PNG). These were findings of no small concern to the PNG National Museum and Art Gallery that administers the National Cultural Property (Preservation) Act 1965 (No.26 of 1965), as amended by the Act of 1967 (No.65 of 1967) (later Chapter No.156 of the laws of the Independent State of Papua New Guinea). This Act aims to protect cultural property in PNG. No formerly active, historical lagatoi ships are known to exist. The lagatoi and the hiri trade with which they are associated are iconic traditions of southern PNG culture and continue to be commemorated today in the Hiri Moale cultural festivals associated with the annual 16 September Independence Day national celebrations.

The hiris is an ethnographically-reported trade system involving Austronesian-speaking (Motu) ceramic pot manufacturers and traders journeying annually to coastal villages of the Gulf of Papua in fleets of lagatoi sailing ships. Formal trade transactions were made between long-standing and often hereditary trade partners. These villages then served as redistribution centres for inland villages of nearby river systems (e.g. Chester 1878:9; Dutton 1982; Herbert 1917; Oram 1977, 1982). The hiri trade journeys are well-documented in late nineteenth and early twentieth century literature (e.g. Barton 1910; Chalmers 1895; Chester 1878; see Oram 1982 for a review). Trade voyagers set off in fleets of double- or multihulled lagatoi from Central Province pottery-manufacturing villages when the southeast trade winds blew, typically in October or November, and returned with the monsoons around January in poorly manoeuvrable multihulled vessels (see Chalmers 1895:74-92 for a first-hand account of a late nineteenth century hiri expedition) (Figure 1). These trading expeditions brought ceramic pots and shell artefacts to Gulf Province villages in exchange for sago and hulls. So large were these expeditions that Fort (1886:15) wrote in his government report in 1886 that annually ‘20,000 pots were taken, for which they would bring back in exchange about 150 tons of sago’; other estimates indicate up to 30,000 pots and 500 tons of sago (e.g. see Allen 1976, 1977 for reviews). Sailing fleets of 20 lagatoi were not unusual (e.g. Barton 1910) (Figure 2).

Archaeological research since the late 1960s indicates that the ethnographically-recognisable hiri system and its associated ceramic traditions probably began around 500 years ago. Older ceramic traditions across the Gulf and Central Provinces also suggest that the historical hiri descended from a further 1500 years or more of formalised long-distance maritime trade relations across the region (e.g. Allen 1976, 1977; Bulmer 1978, 1982; Rhoads 1982; see David in press for a review and significantly expanded radiocarbon dating results). At the other end of the chronological spectrum, hiri expeditions were severely disrupted during World War II when Motu villages were evacuated and also as a result of increasing involvement in the wage economy since the mid-1900s (Ryan 1970; see also Johnston 1974 cited

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in May and Tuckson 2000:59). Formal hiri trade expeditions continued sporadically into the 1960s, although they largely ceased in the late 1950s following the sinking of a lagatoi off the coast of Boera village in 1957 (a then-predominant Motu hiri pottery manufacturing centre), when several lives were lost. However, long-held trading partnerships between villages have in many cases been maintained, despite the demise of formal hiri expeditions (Vincent Eka, Kerema resident and descendent of historical hiri trade partner, pers. comm., 2007).

With these historical and cultural details in mind, the Post-Courier report of the Upihoi find created considerable local, national and international attention, including interest from local villagers for whom the hiri voyages stirred memories of their own recent pasts and signified distant and recent social connections and cultural practices; politicians who well understood the iconic value and significance of the hiri in local identity; and academics who had long imagined the chance finding of sunken lagatoi and the potential wealth of historical information that such a find could generate. However, given the apparent disturbance of the site resulting from the extraction of the hulls from their buried contexts, and the likely fragility of the wooden objects, the reported finds also implied considerable urgency of assessment and, most probably, management and conservation. Therefore, the site from further disturbance, to stabilise the finds from potential damage and, if necessary, to plan a more extensive follow-up field season at the site and to initiate appropriate conservation work on the finds. This paper reports on this initial visit, and provides three radiocarbon determinations on the two hulls and one of the masts.

**The People of Epemeavo and Kea Kea**

The Upihoi find was made on the sand beach in the upper intertidal zone immediately west of Epemeavo village, 20km southeast of Orokolo village, 7km east of the Vailala River and 1.2km west of Kea Kea village (Figure 3). The place name ‘Upihoi’ is a compound word given by Epemeavo villagers when asked about the name of the site where the lagatoi hulls were found. It refers to Upi, the name of the general location, and hoi meaning ‘road’ in the Haula language – ‘road to Upi’ – in reference to the beach as the road along which local villagers travel (see also Williams 1940:16 for a description of the nearby Orokolo Bay beach as a ‘highway’ in the 1930s). The Epemeavo and Kea Kea villagers are close kin and identify as Keauru, speakers of the Haula language. The Keauru are part of a much broader cultural group historically-known as the Elema by seafaring Motuans (see also Holmes 1903:125). The Epemeavo villagers are all members of the Miaro clan, and show allegiance to five clan leaders and elders: Tom Haeae, Hoahe Merere, James Korea, Kora Erope and Albert Moie. These five clan leaders represent the oldest male generation of the village, the eldest being born in the 1930s. According to John Erope of Epemeavo, in the 1890s the

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**Figure 1** ‘East End lakatoi at Purari Delta’, moored off Kaimare village around Christmas 1915 (Photograph: Ernest Sterne Usher, South Australian Museum, AA835 C93; see also Pike and Craig 1999:234, 248).
ancestors of Epemeavo travelled south from inland locations to establish the original Epemeavo village along the coast. Kea Kea River which now fronts Epemeavo village in those days flowed further to the east than its present position. Epemeavo villagers generally trace their recent history back to Kaveharo, an inland village beyond a sago swamp near the mission village of Belepa, 5km inland and immediately north of Epemeavo (in 1928 John Korea, John Erope’s grandfather, became a missionary at Belepa). From Kaveharo, the ancestors moved to Helau near the present-day small village of Poiva, and from Helau to Epemeavo. Sam Nao points out that the old people used to say that the present coastline, including today’s coastal villages eastward to ‘The Bluff’ (17km east of Kea Kea village), were in the past located under the sea, the old coastline being located immediately south of Belepa some 5km inland (see Rhoads 1994:53 for similar claims of a sand ridge representing an ancient shoreline at Popo 2.5km inland, 22.5km to the northwest of Epemeavo). Based on fieldwork undertaken between 1923 and 1937, Williams (1940:28) reports that:

the coast of Orokolo Bay has evidently been making ground in recent times, and the population, who are so attached to beach life, have moved forward with it. Indeed the sites of the present villages were mostly, within living memory, under the sea.

Today, Kea Kea villagers commonly expose these buried ancient shorelines during gardening and swamp drainage channelling a few tens of centimetres below the ground surface. However, the present Epemeavo village is the fourth village of that name, the previous three being 100–200m south of the present village, under the sea as a result of now-north-migrating shorelines and a shifting Kea Kea River mouth.

Similarly, the Kea Kea villagers also trace their ancestry to inland villages. Sam Nao of Kea Kea states that local oral traditions indicate that the ancestors of today’s village came from the inland village of Popo (for discussion of the ancestral Popo site, see Williams 1940:28 for regional oral traditions and Rhoads 1994 for archaeological investigations). According to Sam Nao, in ancient times some Popo villagers went inland travelling east to establish the ancestral village of Ahia immediately to the west of the Vaiiala River; others went south to establish Orokolo and nearby villages along the coast. Ahia villagers then followed the Vaiiala River to the coast, where some people then followed the coastline westward, and others eastward to establish what is now Kea Kea village. Present-day Kea Kea villagers explain that the ancestors divided from Popo to follow different migration routes – some going inland while others southwards directly to the coast. Today, numerous languages are spoken across the region, including Haula by the people of Kea Kea and Orokolo by those of Orokolo. According to Kea Kea villagers, this is a consequence of the fissioned migration history from Popo. Bastard (1922:70–79 cited in Haddon 1937:210), writes that the ‘Keuru [Keauru] group of villages, 7 miles east of Vailala ... has made its appearance on the coast only within the past few years’. Holmes (1903:132) similarly notes that:

The Haura [Keauru, who speak Haula language] tribe has only made its appearance at the coast, with the intention of making a claim on the coast line for future settlement, within the past few years. The representatives of this tribe, now on the coast and in its immediate vicinity, are all located between the east bank of the Vailala river, and the spur of the Albert Range, known as the ‘Cupola,’ the east boundary of Kerema Bay. These communities are known in every-day parlance, by the names of the respective localities in which they live, as Helau, a village near Vailala, Keakea, another village a few miles east of Vailala.

He further notes that ‘By occasional visits to the tribes living on the east bank of this [Vailala] river, and a casual acquaintance with their movements, [Holmes] has observed for many years a marked tendency to migrate coastward’; and ‘From time immemorial, there has been a tendency among these tribes to migrate southwardly, wittingly or otherwise, toward the coast’ (Holmes 1903:132, 133). Holmes makes no mention of Epemeavo village in his 1903 paper, despite listing the coastal village names for this region (but he does mention Helau, the village from which the people of Epemeavo came according to present-day oral traditions), implying its likely more recent origins (see Holmes 1903 for details of origin stories).

In recounting ancestral migrations from inland locations, Kea Kea villagers also noted that oral traditions identified hilltops as the locations of ancestral villages for reasons of defence in the case of attack by hostile groups.

The Upihoi Find

The Upihoi find was exposed after the collapse of large coconut trees revealed the tops of the hulls in the sandy uppermost reaches of the intertidal zone (Figures 4-5). Here the subcoastal zone is of very flat gradient and thickly vegetated by an expansive coconut grove of great height. The shoreline edge of the grove is marked by a 1.2m-high erosion face of thickly-matted coconut palm roots marking the limits of high tide. South of this gully, and below the base of the matted coconut palm roots, sediments consist of the uniform dark mineral sands of the intertidal zone. The hulls were found just below the base of this matted layer of coconut roots, signalling that the lagatoi wreck predates the growth of the coconut grove.

It is not clear exactly when in July 2007 the canoe hulls were first discovered by John Erope and Moisen Iavi of Epemeavo village. However, in early August, shortly after discovery, a group of 18 local villagers dug up and emptied the hulls of...
their surrounding beach sand, and at high tide floated them to the nearby village. John Erope said that one of the hulls was buried in up to 2m of sediment. Initially only the front c.1m of the most complete hull (see below) was visible, the stern along with much of the hull resting in sand immediately beneath the coconut roots. Resting sideways in a horizontal position, this hull was dug out by the Epemeavo villagers after a coconut tree fell down, creating a space for digging between the matted roots around it. Digging by the 18 villagers began around 8am and did not stop until about 5pm when the tide came in. The hull was dug with two shovels and an old container, with seawater being constantly thrown around the hull to make the digging process easier. The sand was extracted by hand from inside the hull. The coming of high tide facilitated removal of the hull from its surrounding sands, and enabled it to be floated to Epemeavo village where it is currently displayed on low wooden rollers.

Accoding to John Erope, the uppermost 50cm or so of sediment above the complete hull consisted of a ‘black’ mineral sand (the humic surface sediments of the coconut grove), below which was found a ‘brown’ mineral sand (probably, but not certainly, corresponding to the level of the matted coconut roots). Below this and surrounding the canoe was a ‘white’ mineral sand, very slightly lighter in colour than the ‘black’ and ‘brown’ sands above. The villagers stopped digging when they reached the base of the hull; the ‘white’ sand surrounding and filling the hull continued below this level.

The second, broken hull was found completely exposed in the middle of Kea Kea Creek near the mouth of the creek, some 50m north-northeast (upstream) of the complete hull. The hull was broken when a coconut tree fell on it. Both the broken and the complete hulls were discovered at approximately the same time. The former was easily retrieved from the creek; Epemeavo villagers did not have to dig deeply to move the hull as it was largely free of sand. A rope was tied around the hull and it was pulled out of the creek and taken to the village.

In total two large wooden hulls made of *ihoea* wood (in Haula language; equivalent to *iposea* wood in Toaripi language, and *ipa-a* in Yare language), one complete and one fragmented mast made of mangrove wood, a wooden bung also of mangrove wood, and a small undecorated ceramic sherd were retrieved by the Epemeavo villagers. The masts, wooden bung and ceramic sherd were found well inside the more complete of the two hulls.

**The Two Hulls**

The two recovered hulls are here referred to as ‘the complete hull’ and ‘the broken hull’ (Figures 6-7). Both hulls are similarly shaped, consisting of parallel-sided dugout logs of slightly wider...
beam towards the bow than the stern. Vincent Eka of Kerema (pers. comm., 28 August 2007) has pointed out that in this region the root end of a tree always forms the bow (or, in local parlance, ‘head’, as opposed to the ‘tail’ or stern) of a canoe or hull as it is the thickest end which possesses the greater strength to push through the waves. The bow of both hulls is fronted by a narrow projecting beak-head at the top of the hulls, with the leading stem of the bow sloping forward over a short distance. The stern of each hull slopes backwards and does not possess decoration. Small, square holes immediately below the gunwales (the rim of the hull) were cut out to accommodate a series of transverse beams by which to link the hulls of the vessel (Figure 8). These are found at regular, parallel intervals on each side of each hull (as the gunwales of the broken hull are extensively damaged, these are not always visible on this hull). The two hulls are of comparable size. We describe each separately below. Table 1 presents measurements of each and compares them with published ethnographic canoe and hull types from southern PNG.

The larger of the two hulls (the complete hull) has a maximum length of 13.17m along the centre-line, and a beam of 80cm and outer height of 80cm at midships (Figures 6–7). The sheer-line is generally flat rather than curved, with the flat beak also horizontal and only slightly raised. The cylindrical hull’s width between the slightly tapering gunwales is 38cm at midships, and the interior hull width also at midships is 70cm. The beak-head of the hull projects from the bow by 45cm. A shallow, 5cm-deep platform is inset in the bow. The walls of the hull are of fairly uniform thickness, measuring c.5cm. The ends of the hull at the bow and stern measure 52cm and 35cm maximum thickness respectively. Each gunwale rim possesses 10 square holes (the sides of which measures 5–7cm each; Figure 8). The holes are typically located some 6cm below the gunwales. A single, 9cm-wide and 7cm-high raised transverse stiffening member is found on the floor of the hull about three-quarters along its length towards the stern. Such features are typically used as re-enforcement in thin-walled dugouts to strengthen the hull and to stop flexing and bowing of the canoe, as well as to stop the weight of the superstructure from pulling apart the walls of the hull. The hull’s outer wall surface is smooth and does not feature cut-marks; in general, the interior wall surfaces are also devoid of clear cut-marks, but the slanting interior surface of the bow and the square gunwale holes contain clear marks made by metal blades (Figures 8–9). In general the hull is complete, with only a small localised section of the stern, and a small length of the gunwale astern of midships being broken.

The broken hull is similarly shaped and of similar size to the complete hull, albeit marginally smaller (Figures 6–7). Only the front two-thirds of this hull is present, at a maximum length of 9.51m, and 70cm beam and 75cm height at midships. Like the complete hull, the broken hull’s profile tapers slightly from bow to stern. The individual features of the broken hull are like those of the complete hull, except that here the raised transverse stiffening member is found closer to the bow (here it is 6cm-wide and 5cm-high). Most of the gunwale has disintegrated, and it is therefore not possible to determine exactly how many square holes to accommodate the transverse beams were originally present; two can still be seen, similarly spaced to those of the complete hull. Like the complete hull also, the cylindrical broken hull has 5cm-thick walls. The width of the opening between the gunwales is 39cm, while the maximum interior width of the hull is 60cm at what would originally have approximated midships (based on the complete hull’s length). Again, like the complete hull, the outer surface of the broken hull is smooth, with metal cut-marks most clearly visible on the sloping interior surface of the bow.

### The Two Masts
Each of the two masts consists of a single, linear but not straight mangrove (poro wood in Haula) tree trunk with rough, outer surfaces intact. One of the masts is complete, the other fragmented. The complete mast is 4.68m-long and 9cm-wide at its base. Numerous knots are evident along its length, although these are flush with the surrounding surface of the wood.

The broken mast consists of four conjoining fragments, the longest of which is 88cm-long and 9cm-wide. Only a proportion of this mast was recovered during the extraction of the Upihoi find from its original setting by Epemeavo villagers.

### The Mangrove Bung
A small piece of tapering mangrove wood identified by John Erope as a bung to plug leaks was recovered from inside the

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**Table 1** Measurements of the Upihoi hulls compared to ethnographic hull dimensions, southern Papua New Guinea. * = Original imperial measurements converted to metric measurements. ** = Maximum dimension, rather than at midships.

<table>
<thead>
<tr>
<th>Hull</th>
<th>Max. Length (m)</th>
<th>Outer Width at Midships (cm)</th>
<th>Interior Width at Midships (cm)</th>
<th>Width between Gunwales (cm)</th>
<th>Circumference at Midships (m)</th>
<th>Length of Beak (cm)</th>
<th>Distance of Holes Below Gunwales (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upihoi complete hull</td>
<td>13.17</td>
<td>80</td>
<td>70</td>
<td>38</td>
<td>2.80</td>
<td>45</td>
<td>c.6</td>
</tr>
<tr>
<td>Upihoi broken hull</td>
<td>&gt;9.51</td>
<td>70</td>
<td>60</td>
<td>39</td>
<td>2.35</td>
<td>67</td>
<td>c.7</td>
</tr>
<tr>
<td>Gar/gem, Torres Strait (Haddon 1937:193-98)*</td>
<td>9-19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pe, Mawata &amp; Fly River estuary (Haddon 1937:200-201, 203; Landtman 1927)*</td>
<td>14.68</td>
<td>96.2</td>
<td>81.28</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Kauna of the Kaipi (Haddon 1937:211-212)*</td>
<td>12.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Haruka of Orokolo (Haddon 1937:213)*</td>
<td>15.06</td>
<td>71.1</td>
<td>55.9</td>
<td></td>
<td></td>
<td></td>
<td>7-8</td>
</tr>
<tr>
<td>1886 Motuan lagatoi (after Barton 1910:96-120)*</td>
<td>14.53</td>
<td>80</td>
<td></td>
<td>4.75**</td>
<td>69</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Upihoi Find: Wrecked Wooden Bevaia (Lagatoi) Hulls of Epemeavo Village, Gulf Province, Papua New Guinea

Figure 6 The two Upihoi hulls after they were taken to Epemeavo village, 26 August 2007 (complete hull in foreground; broken hull bow visible in background) (Photograph: Bruno David).

Figure 7 Diagrams of the two Upihoi hulls.

Figure 8 Two cut square holes from the gunwale rims on the complete Upihoi hull (Photograph: Bruno David).

Figure 9 Adze marks on the slanting interior of the complete Upihoi hull's bow (Photograph: Nick Araho).

Figure 10 (A) The Upihoi bung. (B) The Upihoi ceramic sherd (Photograph: Steve Morton).
complete hull during the extraction of the Upihoi find (Figure 10A). It measures 6.3cm x 2.3cm x 1.9cm.

The Ceramic Sherd
Also recovered from inside the complete hull during extraction was a single ceramic body sherd (Figure 10B). It measures 3.6cm x 2.8cm by a uniform 4.9–5.9mm thickness, and weighs 6.82g. The sherd is not decorated and is extensively fire-stained on its exterior surface. Systematic surveys by BD and NA together with Epemeavo villagers for c.50m around the Upihoi find location on 26 August 2007 failed to find any further cultural objects along the beach.

Discussion of the Upihoi Find
The two hulls from Upihoi are of very similar size and construction, as is typical of the hulls of multihulled vessels such as lagatoi. However, there are other kinds of watercraft from southern PNG that could potentially fit the Upihoi find. Here we discuss a range of possibilities to determine whether or not they indeed came from a lagatoi.

Among the large canoes and hulls of southern PNG, nine potential candidates can be considered (we do not explore here watercraft east of the Motuan villages of the Central Province, nor single-hulled canoes without outriggers or platforms as these can be dismissed due to their lack of holes along the gunwale rims):

1. Gar or gen hulls of western and eastern Torres Strait respectively.
2. Pe of Mawata.
3. Pe of the Fly River estuary.
5. Large kauma of the Kaipi.
8. Toarih’s olote.

The details of each of these has been reviewed in Haddon (1937:193-231) and Williams (1976:48-72), and will not therefore be described beyond their salient features here. Summary details are presented in Table 1 and discussed below.

We can discount Torres Strait canoes, the pe of Mawata and of the Fly River estuary, and the peri of the Bamu River estuary as accounting for the Upihoi find because of differences in the details of hull construction. As Haddon (1937:193) notes, rather than possessing a flat sheer-line with slightly raised flat beak as do the hulls of the Upihoi find, here the hulls ‘gradually slope up to a blunt point’ (Torres Strait gar/gen). Typically among the gar/gen of Torres Strait, and the peri of the Bamu River, the stern is cut square, whereas those of the Upihoi find incline. The pe of Mawata and of the Fly River estuary have ‘both ends raked and produced to a blunt squared point’, and in the peri of the Bamu River estuary the ‘bow has usually a more decided rake [slope] than the stern and is more or less open in the front; the stern is cut off squarely so that it looks like the cutting edge of a gouge’ (Haddon 1937:205). In contrast, both ends of the Upihoi hulls rake to a similar degree, each possessing a shallow sunken platform towards the bow, fronted by a pronounced flat beak. The large kauma of the Kaipi are elaborately carved at the bow and stern with various designs often of figurative forms, unlike the undecorated Upihoi hulls (Haddon 1937:211-212; see also Landtman 1927:210-211). In Torres Strait, Mawata, the Fly River estuary, the Bamu River estuary, and among the Kaipi, the dugout is accommodated with one or two outriggers and superimposed or central platform, but these never extend along the entire length of the hull, and the gunwales do not possess square holes from bow to stern.

The above large canoes, mostly from the west of Orokoko Bay, each possess design features that are significantly different from the Upihoi hulls, thus eliminating them as likely candidates. This leaves in question the large ships of Orokoko Bay eastward to the Motu lagatoi of the Central Province.

The peoples of Orokoko Bay-Vailala in the eastern part of the Gulf Province have a number of large sailing ships with hulls of comparable size to the Upihoi finds. One of these is the haruka or haruka-iroki (Williams 1976:50), the ‘great double canoes’ of Haddon (1937:213), which have all the characteristics found on the Upihoi hulls except that no ethnographic details are recorded of their bows (including beaks) and sterns. These traditional watercraft are said to have been originally paddled and sometimes used with temporary sails, giving way to the bevaia sailing ships of the same region in the early twentieth century (Haddon 1937:213; Williams 1976:50). Both the haruka-iroki and bevaia were used ‘for long voyages on the deep sea and for bringing in large quantities of food at feast times’ (Holmes 1903 cited by Haddon 1937:213).

According to Williams (1976:50-51) who in the early 1930s witnessed the commencement of their use (said to have started in the 1920s at the mouth of the Vailala River, and in 1930 elsewhere in the region), the bevaia sailing ships of the Aivei River-Kerema region are ‘imitation lagatoi’. Williams (1976:50-51) writes:

I do not know what the word signifies [clan leaders at Epemeavo village in 2007 translated the word to the generic ‘sailing ship’], but it is the traditional name for the vessels which the Gulf natives used to sight every year when the Motu, or as they were called, the Derai-Haera [lagatoi], arrived about September. It is often smaller: I saw none with more than three dugouts, whereas the Motuan lakatoi often sail with four or five; and in many cases as yet it is not so well put together. The names of the parts differ, the Gulf natives apparently retaining many of those that they formerly used in the construction of their own haruka-iroki; but the lakatoi pattern is followed very closely, even to the ornamental finish of the canoe lashings.

In his more detailed ethnography of Orokoko, Williams (1940:15-16) writes:

The Orokoko natives, however, are not as a rule far-penetrating bushmen, but people of the coast. Nor are they really at home in the sea. They have their small outrigger canoes for shark-fishing and in these the lone paddler will venture some miles from the shore. But of larger craft they possess very few. In the old days they would man long double canoes [haruka-iroki] with paddlers and travel along the coast to Motumotu or even beyond Cape Possession to Yule Island, their object being to trade arrows and bamboo bows for the shell ornaments which had found their way from the Melanesians
farther east. But they did not know the use of sails except in the form of a mat temporarily rigged on a couple of poles. The long expedition in which they now fairly often engage is a thing of recent times. First they adopted oars, copied from the whaleboats of traders and missionaries, and fitted their double canoes with fixed rowlocks. Then – and this is acknowledged to be quite a recent innovation – they began to copy the Motuan lakatoi which had for generations before been bringing to their shores the cargoes of pots to be exchanged for sago \[\text{hiri}\]. It is strange that this experiment should have been so long delayed, but now there is a fairly well-established series of expeditions running in the opposite direction to those of the Motuans. The Gulf mariners sail with cargoes of sago towards the end of the north-west season, and nowadays may venture far beyond Port Moresby. Their object is to trade, not for more pots, but for shell ornaments; and they return – if they have got through – with a great flourish and blowing of shell-trumpets, before the south-easterly trade winds have got up too strongly. They copy, or attempt to copy, the Motuan lakatoi in the minutest detail; but their inexperience is shown by the great proportion that come to grief. Time and again the bevaia, as it is called, overloaded and grossly over-manned with would-be travellers to the Papuan metropolis, sinks almost before the journey has begun, and this despite a great deal of magical preparation. So far the people of Orokolo Bay are not so much mariners as enthusiastic learners. It remains to be seen whether their enthusiasm will survive. During my last visit [1937] it seemed rather to have dropped off.

Williams (1976:52) further notes that the ‘frequent failures’ of their bevaia:

have been due in part to ill construction. Whereas the Motu have had generations of practice, the Gulf natives are new to the game. Not infrequently one may see the Motu visitors helping in or even supervising the construction of a bevaia; but the independent product may lack the finish in lashing and caulking which in such a craft is essential to seaworthiness. A second cause of ill-success is sheer overloading (see Figure 11; compare with Figure 1).

Williams (1976:53) lists the incidence of two bevaia wrecks from Vailala between the end of 1931 and beginning of 1932, and six from Orokolo for that same period of time (three ‘sank at their moorings’; two ‘were driven ashore and broken’; one was ‘abandoned at sea on the very day of her sailing’).

The frequency of wreckage notwithstanding, the 1930s saw a proliferation of attempts to build and sail bevaia in the Orokolo Bay-Vailala region:

The large village of Vailala, situated at the mouth of the Vailala River [7km to the west of Epemeavo], claims to have been making bevaia for the last ten years or more, but I doubt whether they have ever previously reached the pitch of enthusiasm which has caused them in this last season (i.e., the end of 1931 and the beginning of 1932) to send out twelve bevaia and one large
The famous Motuan lagatoi upon which the bevaia were based have been well-described by late nineteenth and early-to-mid twentieth century commentators. The classic and most detailed account is by Barton (1910:96-120) which is paraphrased by Haddon (1937:227) in the following way:

A lakatoi is composed of three or more asi, which are made of a soft-wood tree (ilima) of large size that grows close by rivers in their low alluvial reaches in the Papuan Gulf district. The Gulf natives fell the trees and float them to the lakatoi that have arrived on a trading expedition (hiri). The trunks are hauled on to the bank of the river, where the visitors hollow them out and shape them. Fire is not employed in this operation. An asi is a clumsy dugout with rounded or squared ends prolonged above into a projecting flat beak ...

The asi are secured together by numerous cross beams which are tied by lashings that pass through square holes cut in their gunwales. Over these beams a large platform or deck (ilaha) is constructed; this must be made very strong as it has to stand the strain of the great waves of the Gulf. The platform extends beyond the asi especially fore and aft. In 1884 the largest lakatoi which arrived at Port Moresby from the Gulf consisted of 14 asi and measured 59 by 51 feet [18.0m x 15.5m]; two smaller ones measured 54 by 37 feet [16.5m x 11.3m].

Lagatoi typically have two masts 'made of the stem of a sapling of a species of mangrove' (Pratt 1906:72; see also Chalmers 1895:76), although single-masted and various configurations of multiamasted vessels are known (e.g. Haddon 1937:227-231).

From these details, and given the dimensions presented in Table 1, it is not possible to distinguish the Upihoi hulls from the haruka-iroki, bevaia and lagatoi, as insufficient structural details have been published of the former to allow for this, and the bevaia were modelled precisely on the lagatoi, at times with direct Motuan advice and involvement during the construction process. Similarly, Haddon (1937:216, following Chalmers 1898:327), Holmes (1903) and Abel (1902:72-79), note that the large, multihulled olote sailing ships of the Toaripi ('Motumotu') towards the eastern end of the Gulf Province are also 'the same as the Motu lakatoi'. On metrical and design characteristics alone, the Upihoi find could thus relate to any of these types. However, we suggest below that other details allow a narrowing of possibilities.

The Age of the Finds
Six independent lines of evidence can be used to date the Upihoi find. The results of each support the other: radiocarbon dating; cut-marks; geomorphic evidence of an old shoreline; stratigraphic location a short distance below coconut roots; historical records; and two hulls but lack of pottery.

Radiocarbon Dating
Wood samples from the outer parts of each of the two hulls plus from a piece of the broken mangrove mast were submitted for radiocarbon dating (Table 2). In most circumstances, the 'old wood problem' (e.g. Schiffer 1986) would warrant great caution in interpretation of radiocarbon results. In our case, however, the 'old wood problem' is not significant, for in each of the three radiocarbon samples the only part dated was the outer layer of the trunk. In the case of the complete hull (Wk-22225), a 1.1mm-thick piece of wood was taken from the outer surface of the fragmented stern end of the hull (originally representing the outer layer of the tree). In the case of the broken hull (Wk-22224), a 1cm-thick piece of wood was taken from the outer surface of the fragmented stern end of the hull. A 14.8cm-long section of the broken mast was also submitted (Wk-22223); only the outer layer was extracted for dating at the Waikato Radiocarbon Dating Laboratory. In each case, the dating of the outer layer of wood only has meant a potential old wood component of a few years maximum. The radiocarbon results thus approximate the timing of death of the trees themselves.

The three radiocarbon determinations each revealed comparable results, in agreement with the assumed contemporaneity of the finds; the near-identical 13C values for the two hulls, both made of the same taxon of ihoea wood, further testify to the reliability of results (Table 2). In each of the three determinations, the highest probability 2 sigma result indicates an age of somewhere between AD 1800 and 1960—unfortunately a period of time that exhibits considerable flattening in the radiocarbon calibration curve and that thus limits more precise calibration (combining the three ages in this instance would not resolve this problem of atmospheric radiocarbon uncertainty).

Table 2 Conventional radiocarbon determinations, objects of the Upihoi find. Radiocarbon ages were calibrated using OxCal 3.10 (Bronk Ramsey 1995, 2001) and the Southern Hemisphere calibration dataset (McCormac et al. 2004).

<table>
<thead>
<tr>
<th>Object</th>
<th>Haula Language Name of Wood</th>
<th>Lab. No.</th>
<th>514C‰ (±0.2)</th>
<th>% Modern (±0.4)</th>
<th>14C Age (years BP)</th>
<th>Calibrated Age AD (1σ) (probability)</th>
<th>Calibrated Age AD (2σ) (probability)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete hull</td>
<td>ihoea</td>
<td>Wk-22225</td>
<td>-23.7</td>
<td>98.6</td>
<td>110±36</td>
<td>1700-1730 (8.7%) 1800-1930 (59.5%)</td>
<td>1680-1730 (16.1%) 1800-1960 (79.3%)</td>
</tr>
<tr>
<td>Broken hull</td>
<td>ihoea</td>
<td>Wk-22224</td>
<td>-24.0</td>
<td>97.9</td>
<td>171±35</td>
<td>1670-1740 (24.1%) 1790-1820 (6.3%) 1830-1900 (24.4%)</td>
<td>1670-1960 (95.4%)</td>
</tr>
<tr>
<td>Broken mast</td>
<td>poro</td>
<td>Wk-22223</td>
<td>-27.1</td>
<td>98.5</td>
<td>125±35</td>
<td>1680-1740 (19.8%) 1800-1890 (38.8%) 1900-1930 (9.6%)</td>
<td>1670-1780 (36.7%) 1790-1950 (58.7%)</td>
</tr>
</tbody>
</table>
However, the absence of a bomb pulse signal indicates that these samples all pre-date the period of atomic testing in the 1950s.

**Cut-Marks**

Neither of the hulls exhibits any obvious cut-marks on its exterior surface, but the slanting interior surfaces of both bows, and the square holes below the gunwales have clear marks made by metal adze and axe blades (Figures 8-9). To the immediate west of Orokolo Bay, at Ukiravi village in the Purari River delta, Williams (in Young and Clark 2001:68) captioned a photograph of a canoe hull being shaped with a metal adze in 1922 in the following way: ‘The rough work of hollowing is done with a trade axe ... When the canoe had been roughly hollowed, the finishing touches are put to the interior with an adze’. Metal became available in southern PNG well before European settlement in 1873, through trade with passing ships and internal exchange networks (e.g. Swadling 1996; see also Hughes 1977). However, metal axes and adzes did not replace stone tools along the Gulf Province coastline until the late 1800s into the early 1900s, when a proliferation of new Western administrative centres, government patrols and missionary stations saw the onset of sustained availability (e.g. Bevan 1890; Chalmers 1895; see also Salisbury 1962; Young and Clark 2001:235, 240, 242, 245, 248, 263, 273). The Upihoi hulls, manufactured by metal axe and adze blades, were thus most probably fashioned sometime after the late 1800s.

**Geomorphic Evidence of Old Shoreline**

The coastline along which the Upihoi find was made is today, as in the recent past, geomorphologically active, as evidenced by inland relic shorelines (some of which have been radiocarbon dated) and oral traditions. In particular, past villages containing rich ceramic sherd assemblages are evident along relic shorelines located well inland (e.g. at Popo, Keveoki). At Popo, a radiocarbon determination of 410±80 BP (ANU-2181) indicates the presence of the shoreline 2.5km inland in the very recent past (Rhoads 1994:53–55). Oral traditions of the coastline shifting ‘within living memory’, some discussed by Williams (1940:28) for the 1920s-1930s and others presented by Kea Kea and Epemeavo villagers in 2007 (see above), testify to the rapid southward migration of the coast during the late nineteenth into the twentieth century. In such actively aggrading coastal settings, the settling of a lagatoi wreck on or very near the present shoreline indicates a relatively recent event measurable in decades rather than centuries.

**Stratigraphic Location a Short Distance Below Coconut Roots**

The complete Upihoi hull was exposed following the collapse of large coconut palms on the presently surviving edge of an expansive coconut grove a short distance to the west of Epemeavo village. The roots of the collapsed palm trees – then-level with those of the presently standing trees nearby – lay just above the complete hull. The implication of shallow sediment build-up between the base of the coconut palm roots and the top of the hull is that the latter came to rest in its buried position shortly before establishment of the coconut grove. Lewis (1996:96) notes that coconut plantations began to be established a few kilometres away after 1908 by Donald McDonald at Vaiviri [c.10km northwest of Epemeavo]; Robert Mawson, father of the Antarctic explorer, at Orokolo [c.20km northwest of Epemeavo]. ... Mrs Ashton at Huiva on the Ie Inlet [c.6km east of Epemeavo] , and Maira on the Vailala River ‘above Vaiviri’, 6.5km north of Epemeavo. In 1937, the Vaiviri plantation was the most extensive at 350 acres. However, no coconut plantations are known near Epemeavo, the palms adjacent to Upihoi being ‘natural’ and locally planted growths.

We can estimate the likely age of the trees by reference to their great height and plant ecology. Tall palms typically grow for 60–80 years, reaching heights of 20–30m, although some are known to grow longer and taller. With these general points in mind, Epemeavo’s coconut trees near Upihoi appear to have commenced growing in the 1940s or slightly earlier. Therefore, we suggest that the Upihoi find predates the 1940s given its location below the coconut palm roots.

**Historical Records**

Historical records do not reveal direct evidence of the antiquity of this particular find. However, two points are pertinent. First, it is clear from late nineteenth and early twentieth century historical documents, ethnographic writings and present-day oral traditions that all seafaring in this region was hazardous due to the rough seas and considerable swell. Stories of hazardous seas are regularly made in the historical literature – especially when discussing bevaia and lagatoi expeditions – while those of shipwrecks abound, particularly with respect to bevaia (e.g. Chalmers 1895; Williams 1940, 1976). The bevaia of the 1930s saw particularly high rates of wreckage as a result of poor construction and insufficient handling skill (Williams 1976). Based on these accounts, a large number of bevaia are known to have founded along the Orokolo to Kerema coast in the 1930s, and therefore represent the most likely candidates for the Upihoi find, although in itself this does not exclude Motuan lagatoi from consideration.

**Two Hulls but Lack of Pottery**

The Upihoi find contains two hulls but a paucity of ceramics. If it represents a west-bound, storm-wrecked lagatoi, we would expect large quantities of ceramic sherds to have been found by the Epemeavo villagers as they dug out the hulls, and also evidence of broken ceramics in the sand below the coconut palm roots. With the single exception of the small sherd found in the complete hull, no other evidence of pottery was found at the site. The implication is that the ship was probably not laden with pots but rather with degradable materials such as is the case with east-bound trading vessels carrying sago. However, such latter ships tend to contain multiple hulls rather than two, for on their arrival in recipient villages the lagatoi are refitted with extra hulls for the return journey (as suitable trees do not grow in the Motuan homelands). We suggest that either more, yet undiscovered hulls are buried nearby, or, more probably, the Upihoi find represents an east-bound vessel with two or slightly more hulls laden with sago for trade. In the latter case, a locally-manufactured haruka-iroki or bevaia is implicated. However, the presence of two masts in the Upihoi find would suggest a bevaia is more likely than a haruka-iroki. As bevaia began to be made in the 1920s to early 1930s, such an interpretation would suggest a vessel dating to sometime after the mid-1920s, most likely between 1920s and early 1930s during their peak production, use and wreckage. The presence...
of metal cut-marks also supports the interpretation as a bevaia rather than the earlier haruka-iroki.

**Meteorological Considerations**

The Gulf region of Papua New Guinea lies within the region of influence of the Asian-Australian monsoon characterised by the seasonal alternation of trade wind easterlies with monsoon westerlies. However the northwest monsoon flow across eastern Papua New Guinea is rather weaker than it is further west over the Banda and Arafura Seas (Tapper 2002). Despite this, the coastline of the eastern Gulf is one of atmospheric convergence under northwest flow conditions (McAlpine *et al.* 1983), convergence that is exacerbated by a land breeze/katabatic flow regime associated with the high country to the north and east of Kerema. The eastern Gulf region is therefore one of four areas of atmospheric convergence and storminess around Papua New Guinea identified to be associated with monsoon northwest flow (McAlpine *et al.* 1983:48). Interaction of airflows in the eastern Gulf is known to produce quite severe squalls (short-lived bursts of high winds accompanied by thunder, lightning and intense precipitation). The ‘Gubu’ is a well-known monsoon season squall that occurs in the Gulf area, especially around Kerema (McAlpine *et al.* 1983). These squalls mainly occur in the early hours of the day and are associated with northwest winds that have been recorded up to 170km/h, with strong winds lasting for up to 30 minutes. The squalls are frequently associated with very heavy rainfall. It is likely that one of these squall events was linked to the wreck of the canoe found at Epemeavo.

**Discussion of Antiquity**

Six independent lines of evidence conclusively indicate that the Upihoi find dates to sometime between the nineteenth and mid-twentieth century. The presence of metal cut marks, and the highest probability radiocarbon calibrations narrow down the find’s most likely age to some time between the late 1800s (when metal tools became readily available) and 1950. The location of the hulls a short distance below the coconut roots suggests a pre-1940s antiquity. The two most likely vessel types are bevaia and lagatoi, of identical hull construction; the Toaripi olote can be discounted as these east-bound vessels are found some 60km to the east of Upihoi, and are not known to have ventured this far westward. The haruka-iroki are possible candidates based on size, except for the presence of two long masts, in this region most typical of lagatoi and bevaia, and that the distinctive flat beaks of the lagatoi (and presumably lagatoi-derived bevaia) have not been recorded from this region on other kinds of watercraft. We are thus left with lagatoi and bevaia as the two most likely candidates for the Upihoi find.

The presence of two masts, and probably also the distinctive beaks on the Upihoi hulls, thus point to a late-nineteenth to early-twentieth century lagatoi or bevaia as the likely ship represented by the Upihoi find. The great frequency of shipwrecked bevaia along the coastline between Orokolo and Kerema during the 1930s, precisely in the region of Upihoi, strongly suggests that the Upihoi find is one of the wrecked bevaia documented by Williams (1976) for the 1930s. We note in this regard that present-day Epemeavo and Kea Kea villagers, including the clan leaders (who are also the elders, the eldest born in the 1930s), were during our visit entirely unaware of the 1930s bevaia ‘experiments’ and wrecks discussed by Williams (1976). Nor do they recognise the Upihoi hull designs, indicating likely foreign influence or manufacture (as applies to historical bevaia and lagatoi alike, both of Motuan design; in contrast, the two-hulled haruka-iroki are of local design).

**Future Work**

The likelihood of further cultural materials associated with the Upihoi find remaining in situ is uncertain. However, given the significance of the site, its rarity, and the stratigraphically intact nature of the find spot’s immediate surroundings, geophysical survey will be undertaken in November 2007 to investigate the area surrounding the Upihoi find location and a recently discovered nearby archaeological village site to locate subsurface items of material culture and provide further locations for direct investigation.

**Discussion**

The Upihoi find represents the only known remains of once-active historical bevaia or lagatoi (of identical design). Based on morphological and metrical characteristics and historical details, the hulls and associated paraphernalia are almost certainly from a Gulf Province bevaia that aimed to copy the classic lagatoi, in either case of Motuan design. Six independent lines of evidence have been used to determine the find’s antiquity, each in close agreement with the other and together indicating that the ship was most likely built, used and wrecked in the 1930s.

The Upihoi find is an unprecedented archaeological discovery of an important aspect of PNG’s cultural history. However, the major significance of this find would be lost were it simply couched in terms of its ‘archaeological’ or ‘scientific’ criteria. Rather, to understand the value of the Upihoi hulls, masts, bung and ceramic sherds requires a broader consideration of the social contexts of trade across the Central and Gulf Provinces and an understanding of Indigenous transcultural networks, in relation to PNG’s colonial history. Such canoe hulls are known from ethnography but have never previously been found archaeologically. As such the Upihoi find represents an opportunity to further explore social and cultural contexts of long-distance maritime (hiri) trade in southern PNG during the early colonial period, including a consideration of social relationships between trading partners, acculturation processes, and traditional navigation.

Based on contemporary interviews and personal observations, Williams (1976:52) suggested that the peoples of Orokolo Bay-Kerema began building bevaia and sailing them to the Motuan homelands – and in doing so mimicking their own hiri expeditions in reverse – to access the new wage market economies of the colonial centres, in particular Port Moresby. Williams (1976:52) speculates that ‘there are two fairly obvious reasons’ as to why the Elema embarked on such a new entrepreneurial enterprise:

One is that of the tax. This may drive him afield to seek money, and it should be noted that the purpose of the hahi expedition [the eastward trading voyages originally undertaken on haruka-iroki but subsequently those of the bevaia] is not so much to collect pots (the lakatoi from the east bring enough of them) as to seek shell ornaments, trade goods and money. The other reason
is found in the after effects of the Vailala Madness, that startling religious movement which, temporarily in some parts, and (it may be) permanently in others, involved the destruction of the ceremonies. This reason applies especially to Vailala itself, which remains strangely obdurate against a revival of the old customs, though the surrounding villages have been gradually taking them up again. A number of informants at Vailala spoke with enthusiasm of the present state of affairs. Formerly they were always busy in preparation for some ceremony or festival; now they have ample time for enterprises of a more profitable nature – at least commercially. As one man literally put it, it was their ‘one thought’ nowadays to make money. Others did not lay so much stress on the money as on the actual bevaia. Previously they were peraia, ‘glad’ with hevehe, kovave, and so on (i.e. the really fine mask ceremonies of the Gulf); now they were peraia with their bevaia. And it is a truly surprising thing to see this thriving village continually at work in shaping the enormous dugouts, in lashing them together, in building the superstructures, and in rigging the masts, all with meticulous attention to detail, or engaged in the making of sago, collecting betel, or the manufacture of dyed sago-leaf skirts for cargo. Nowadays, indeed, Vailala is more a port of native trade than any Motu village. Its inhabitants have discovered, unassisted, a substitute for the interest of the old ceremonies: they are quite mad on bevaia.

The 1930s followed a period of destruction of traditional ceremonial paraphernalia and a cessation of the ceremonies themselves during that keenly followed socio-religious and economic movement known as the ‘Vailala Madness’, when in 1919 the peoples of the broader Vailala region began to expect the return of their deceased relatives and more distant ancestors ‘in a large steamer, which was to be loaded with cases of goods – tobacco, calico, knives, axes, food-stuffs, and the like’ (Williams 1976:341). ‘In some early versions of the belief the steamer was to have on board a consignment of rifles, which would be used in driving the present white inhabitants of Papua, out of the country ... it seems that vague ideas of Papua for the Papuans were current at the time’ (Williams 1976:342). A core aspect of the Vailala Madness was a conviction ‘that the old customs are no good’ and ‘the condemnation of the old customs’ by local community members, resulting in a destruction of previously important ceremonies and ritual objects (see Williams 1976:331-395 for detailed descriptions of the Vailala Madness). ‘The main teaching’, writes Williams (1976:386), ‘was that the old customs and ceremonies must be done away with ... There can be no doubt that misunderstood Mission teaching had something to do with this aspect of the Madness’.

The bevaia movement of Orokolo Bay-Kerema came in the aftermath of the Vailala Madness, when soon after the destruction of the ceremonial objects, and in the failure of the living to catch the spirits of the dead which, they said, flashed past them, came ‘a definite move to reinstate some of the ceremonies’ (Williams 1976:385). Yet many of the masks and other paraphernalia had been destroyed. The new bevaia ventures focused local communities onto a promising social endeavour that both required concerted communal efforts (the construction of the bevaia and accumulation of associated trade goods) and brought anticipated returns (Motuan objects of value, Western goods, money) to the Gulf communities. In this sense these new socio-commercial ventures can be understood only in relation to their contemporary social contexts as historical momentum. The new bevaia movement was a response to colonial period forces that at once disrupted customary ceremonial and socio-economic practices while offering the prospect of new socio-economic opportunities. They are, in this sense, an example of transcultural dynamics of the early-to-mid-colonial period in PNG, and an assertion of active Indigenous voice and agency in the face of missionary activity, colonial economics and customary socio-cosmological practices. The Upihoi Find represents this Indigenous response to colonial period disruption as a manifestation of Indigenous agency, and is an important symbol of cultural survival with change through a period of colonial rule into the post-independence period. It is an instance of what Nakata (2007) has called the ‘cultural interface’, necessitating locating Indigenous innovation and practice within local aspirations and local processes of social engagement. The Upihoi find does more than intimate cultural change and survival across a temporal frontier that was the colonial period. Rather, it highlights also the entrepreneurial and agenda-setting initiatives of local Gulf communities together with their Motuan lagatoi craftsmen, advisors in bevaia construction and trade partners – the latter arguably PNG’s most marginalised group at the proximal end of the colonial power base, Port Moresby – and for this reason its symbolic value cannot be underestimated.

Objects call on us to think and behave in certain ways. They materially connect the observer as an embodied being to an engaged world; they allow biographies to be had: cars give birth to drivers, cricket bats to cricket players, cameras to photographers. In this sense the Upihoi find is more than the material remains of an ancient ship: through navigation and the lagatoi (Motuan)-inspired bevaia experiments of the 1920s–1930s, this Gulf Province trade vessel intimates to the world a connected Elema and Motuan past, and in doing so nuances and (re)affirms the region’s history as it relates to its present-day Indigenous communities. For, after all, it is through history that we come to know ourselves and our relationships with others – our achievements, our mistakes as much as our rights. The Upihoi find presents Gulf Province as well as Motuan history not as fixed in a past glory forever changed by colonial circumstances, nor as geographically atomised, but as rich in local endeavours and actively shifting and connected in relation to the changing world. The Upihoi find couples the present with the past not simply through the static object, but more importantly through its connections with past bevaia enterprises made possible in networks of transcultural relations.

On a broader geographical and historical note, the Upihoi find and the bevaia experiments of the 1920s–1930s also allow us to better understand processes of social interaction and cultural and technological innovation and adoption between linguistic groups across Island Melanesia. The last 20 years in particular have seen complex debates between researchers attempting to understand the mechanics of the spread of long-distance ‘maritime’ (especially Lapita ceramic) industries across the Western Pacific (e.g. Bedford and Clark 2001; Bellwood 1991; Kirch 2000; Spriggs 2003; Terrell et al. 2001). The bevaia experiments of the Orokolo Bay-Kerema region illustrate well the culturally dynamic nature of recent transcultural practices between Austronesian and non-Austronesian speaking long-distance maritime trade partners in
this region, with implications for longer-term dynamics. While Motuan (Austronesian-speaking) ceramic manufacturers by all accounts appear to have initiated through their seafaring prowess long-distance maritime trade with non-Austronesian sago producers of the Gulf Province, in time the latter came to adopt the Motuan seafaring technology that so significantly influenced their lives through the annual hiri trade and the associated establishment of ongoing long-distance trade partnerships. In this instance it is neither pottery-making nor the manufacture of shell valuables that came to be adopted by the Gulf Province recipients of the maritime Motuan hiri traders – these finished products remained important trade imports – but the sailing vessels themselves, imitations of which they began to construct (as an Indigenous enterprise but with Motuan advice) and sail in a ‘reverse hiri’, demonstrating the selective nature of transcultural impacts and adoptive practices across the Austronesian/non-Austronesian divide. There are other examples in southern PNG of non-Austronesian shipbuilders, most of whom were involved in maritime trade and who perhaps learnt their shipbuilding skills from Austronesian speaking peoples (e.g. Kiwai, Maiu, Murik Lakes). Historical considerations of these promise to shed important insights into processes of information transmission across communities, regions and language groups.

As a final note, the Upihoi find is part of a collection of national icons, and in this sense resonates with Manduī’s (2006) notion that archaeology – and by extension material culture – can play an important part in nation-building. Often in PNG (as elsewhere) items of material culture attain national significance and status as a result of their scarcity, ingenuity of manufacture or creativity. However, in PNG, widespread agreement about national significance can be a difficult process given the presence of 800 linguistic groupings each of which differentially prioritises what is important to their heritage. Historically, items regarded as National Cultural Property have been defined, listed and are protected under national law by the National Cultural Property Preservation Act 1967, a piece of legislation administered by the PNG National Museum and Art Gallery. The Upihoi find is a symbol not of a common history nor of a ‘shared history’, but rather of social connectivities and social responses within and across local communities that testify to PNG’s position in local and global, and pre-colonial to post-colonial contexts. The materiality of such connections and of responses to colonialism are found in objects such as the Upihoi find, and in this lies their power to symbolise and communicate key dimensions of PNG’s history. With these concerns in mind, the PNG National Museum and Art Gallery is currently in negotiation with the people of Epemeavo for the acquisition, preservation and display of the Upihoi find.

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