

Two millennia of socio-cultural development in Luwu, South Sulawesi, Indonesia

F. David Bulbeck and Bagyo Prasetyo

Abstract

The Origins of Complex Society in South Sulawesi project has recorded some 50 sites contemporary with the meteoric rise of the Bugis chiefdom of Luwu, Indonesia, between AD 1300 and 1600. Six earlier sites, dated between 2000 and 900 years ago, trace the first importation of glass beads and other exotic goods, the discovery of Luwu's sources of high-grade iron ore, and the genesis of a local smelting technology. These formative developments evidently preceded any substantial immigration of Bugis to Luwu. Hence the Luwu chiefdom developed on a previously established economic basis. Luwu was not the oldest of the Bugis chiefdoms, but it does provide our first evidence of the aggressive organizational skills for which the Bugis became renowned in later times.

Keywords

Luwu; Bugis; iron; forest produce; chiefdoms.

Introduction

Luwu is widely regarded as the oldest and most prestigious chiefdom in South Sulawesi. Certainly, Luwu contrasts fundamentally with the other Bugis chiefdoms to the south (see Fig. 1). Linguistically, the latter were dominated numerically by speakers of Bugis, the most widespread and populous language of the South Sulawesi 'stock'. But in Luwu prefecture, Bugis prevails only along the coastal strip, and the other nine languages include several belonging to the Central Sulawesi 'stock' (Grimes and Grimes 1987). The economy of the southern Bugis chiefdoms has been based on the intensive cultivation of monsoon-fed wet rice throughout their written history. However, across most of the Luwu lowlands, the perhumid climate and ubiquitous swamps have nurtured an abundance of sago, which was traditionally the major carbohydrate staple (Pelras 1996: 229).

Most critically, Luwu conforms to the concept of a 'dendritic chiefdom', as developed by Bronson (1977) for polities based on river systems where produce, from the mountainous hinterland, was traded downstream in return for exotic goods. Critical nodes in the network include the collecting centres, at the convergence of the tributaries which drain the highlands, and the coastal centre at the mouth of the system. Bronson's ideal model needs to be adapted to the local circumstances, but it is appropriate for Luwu with its resource-rich hinterland, and its canalization of the traffic between coast and hinterland to a small number of well-plied routes.

Although Luwu's unique status as a dendritic Bugis chiefdom may be implicated in its reputation as the oldest Bugis polity, the latter claim is not really supported by the available texts. Starting with Sultan Muhammad Wali Muzahir, who became the first Bugis ruler to embrace Islam in 1605, Caldwell (1998) can retrace the succession of Luwu rulers only as far back as 1370. Though he recognizes two earlier rulers, who would now be dated to around the middle fourteenth century (Caldwell, pers. comm.), Luwu falls short of Soppeng, a Bugis agrarian kingdom, whose royal genealogy can be traced back to around 1200. Further, following the development of the Bugis script at c. 1300, the agrarian chiefdoms sponsored a flourishing literary tradition which dwarfs Luwu's meagre offerings of pre-Islamic texts (Caldwell 1995, 1998). Recognizing the importance of the archaeological record to illuminate the origins and pre-Islamic development of Luwu, Caldwell (1993, 1994) discovered Luwu's pre-Islamic palace centre at Malangke, and the two upland locations with a history of smelting iron ore (see Fig. 1). We acknowledge Caldwell's instigation of the 'Origins of Complex Society in South Sulawesi' or OXIS project, which allowed us to survey and excavate various Luwu sites in 1998 and 1999. As will be discussed, Luwu clearly became a mighty chiefdom in pre-Islamic times, but there is no hard evidence that it had originated before AD 1300.

Overall, 107 square metres were excavated in 29 sites. Almost all excavation employed one square metre test pits. Our excavation units are either stratigraphic layers and features, or 5 cm spits when stratigraphic layers were over 5 cm thick. All radiocarbon dates here are calibrated with the CALIB 3.03 computer program (see Stuiver and Reimer 1993), and expressed in terms of the 95.4% confidence interval corresponding to two standard deviations. The Australian National University (ANU) provided the conventional dates, while the OZD (Lucas Heights, Sydney) and Wk (University of Waikato) laboratories supplied the accelerated mass spectrometry (AMS) dates. Imported high-fired ceramics or 'tradewares', made in China, Vietnam and Thailand, are our major means of dating sites from the thirteenth century onwards. Full details on excavation methodology, tradeware identifications, and the available radiocarbon dates can be found in Bulbeck and Prasetyo (1999). In this article we shall limit our discussion to the evidence relevant to our argument.

Pre-Islamic mortuary sites and settlements in Luwu

We introduce our main mortuary sites and habitation sites as a preliminary step to seeing whether they show a similar pattern of change in material culture. This approach neutralizes any potential biases associated with grave goods versus occupation debris. Further, the variation in mortuary practices is relevant.

Cremation appears as the most widespread method of treating the corpse in pre-Islamic Luwu (Fig. 1). Its earliest recorded occurrence is at Pontanoa Bangka where cremation was practised between approximately 500 and 1000 AD (Table 1). The test pit here produced three successive features with substantial to abundant charcoal, which we interpret as the remains of funerary pyres. This interpretation accounts for the lack of any excavated human bone, which would otherwise be expected to survive given the neutral pH of the sediments, as well as the association of burial goods with all three charcoal-rich features. Intriguingly, at least three sites in the southwest corner of Sulawesi (Leang Burung 1, Leang

Pette Kere, Talaborong) contain the remains of cremated corpses dated to around the first millennium AD (Bulbeck 1996-7). As those three sites lie in a Makasar-speaking area, and as the indigenous language at Pontanoa Bangka is Padoe (Grimes and Grimes 1987), the oldest cremations in South Sulawesi were apparently undertaken by groups other than the Bugis. Hence, while the Bugis almost universally cremated their dead in immediately pre-Islamic times (Hadimuljono and Macknight 1983), they had probably adopted this practice from other South Sulawesi peoples.

Virtually all other evidence on pre-Islamic cremations in Luwu depends on looters' reports of charcoal and burnt bone fragments buried in large jars and other tradeware vessels. The reliability of these reports is confirmed by their consistency across the area now inhabited by Wotu, Baebunta and Bugis speakers. In addition, Kande Api (Wotu) means 'burnt by fire', and we excavated two fragments of calcined human bone, associated with semi-complete fifteenth to sixteenth century ceramics, at Pinanto. Tambu-Tambu, near Wotu, yielded such a large surface collection of thirteenth to fourteenth century sherdage, that we suspect the burial ground was already in use when archaeologically visible quantities of tradewares began arriving in Luwu. Hence, Wotu speakers would appear to be associated with the second-oldest recorded cremations in Luwu. The cremation sites in the region of Malangke, the Bugis palace centre, date from the thirteenth-fourteenth through to the sixteenth centuries, while those near Baebunta are dated from the fourteenth to the sixteenth centuries (Table 2).

The oldest recorded burials in the Baebunta area, or indeed in Luwu, appear not to have been cremations, however. We refer to the massive earthenware jars at Sabbang Loang, first excavated as a cluster of 11 urns by Willems (1938). From the clues in Willems's paper, and our own excavation of two fragmentary urns, they would appear to have been in the order of a metre tall and a metre in diameter. The acidic sediments at Sabbang Loang (pH 5 to 6.5) would have dissolved any human bone interred within. The urns could have held primary burials, had they been cut at their midriff to admit the corpse, or they could have been filled with previously defleshed human bones, as suggested by Willems. One of the fragmentary urns we excavated would date to between 400 BC and AD 300 (Table 1), according to the radiocarbon assay for charcoal associated with the base of the urn. The other would date to between 50 BC and AD 300 (OZD850, Table 3), or slightly earlier, based on the AMS date from soot on sherds lying above the urn. Hence, at around 2000 years ago, the Sabbang Loang occupants apparently interred complete corpses, or else a large selection of the bones of the deceased, in locally made urns. The modern villagers report digging up further, isolated examples of these urns over an area of approximately two hectares. The importance of Sabbang Loang in the oral history of the Baebunta speakers, who constitute a linguistic enclave in the area between Sabbang Loang and Puang Balubu (Fig. 1), suggests that Sabbang Loang is a proto-Baebunta site (prior to the adoption of cremations among the Baebunta).

East-west extended inhumations occurred as a rare variant in Luwu (Figs 1 and 2), usually associated with fifteenth to sixteenth century tradewares (Table 2). East-west inhumations are the only burial mode in evidence at Tampinna, attributable to Bajo sea gypsies. The nearest settlement today, Turun Bajo, is inhabited by villagers who claim Bajo descent even though they speak Bugis (Caldwell and Druce 1998). The Bajo sea

gypsies apparently introduced the practice of east-west inhumations, sometimes placed in wooden coffins, to the south coast of South Sulawesi at around AD 1300 (Bulbeck 1996-7). As this practice was quickly taken up by the local Makasars (see Hadmiuljono and Macknight 1983), the occasional instances of east-west oriented coffins and richly furnished graves in Malangke (Table 2, Fig. 2) could be associated with either Bajo or Makasar speakers. There was even some intermingling of the coffin and cremation traditions at Malangke. This is best represented by the Arateng 1 coffin, which has a radiocarbon date between 1400 and 1630 (Table 1), and reportedly contained antiques and cremated remains. This variation in Malangke supports other evidence that a cosmopolitan society flourished here.

Table 1 Radiocarbon dates from mortuary sites in Luwu

Site, square, excavation unit	Lab. No.	Material	Date (BP)	2-sigma calibration
Sabbang Loang, 1-4, 115 cm depth	ANU-11106	Charcoal	2020±140 BP	380 BC-AD 320
Pontanoa Bangka, square 1, unit 12	ANU-11107	Charcoal	1520±70 BP	AD 410-660
Pontanoa Bangka, square 1, unit 7	ANU-11108	Charcoal	1010±60 BP	AD 900-1190*
Arateng 1 coffin (looted)	ANU-11109	Wood	450±60 BP	AD 1400-1635*

* Between 98% and 99.9% of the area under the 2-sigma probability area

Table 2 Mortuary sites in Luwu dated by associated imported ceramics

Site	Centuries represented					Burial mode
	13 th	14 th	15 th	16 th	17 th	
Tambu-Tambu*						Cremations
Kande Api (Wotu)* †				16 th	17 th	Cremations
Puang Ma'tene †		14 th	15 th	16 th		Cremations
Puang Balubu* †		14 th	15 th	16 th		Cremations
Pinanto [#]			15 th	16 th		Cremations
Tompe †	13 th	14 th				Cremations
Tampung Jawa* †	13 th	14 th	15 th	16 th		Cremations
Lindrunge*	13 th	14 th	15 th	16 th		Cremations
Pattimang Tua* †		14 th	15 th	16 th	17 th	Cremations
Dadekoe* [#]		14 th	15 th	16 th		Cremations
Panasae*			15 th			Cremations
Dato Sulaiman* †			15 th	16 th		Cremations
Tanatede*			15 th	16 th		Cremations
Lopa †			15 th	16 th		Cremations
Arateng*				16 th		Cremations
Lengkong Ulaweng*			15 th	16 th	17 th	Cremations
Pincang Pute*		14 th		16 th		Cremations, east-west inhumation
Walewalae †			15 th	16 th		Cremations, east-west coffins
Mangge †			15 th	16 th		Cremations, east-west coffins
Malangke Beccu* †				16 th	17 th	Cremations, Islamic coffin
Tampinna* †			15 th	16 th	17 th	East-west inhumations & coffins
Kuburan Ussu* †		14 th	15 th	16 th	17 th	Unclear

Salabu*			15 th	16 th		Unclear
Balambano Indah [†]				16 th	17 th	Unclear
Pa'angkaburu* [#]				16 th	17 th	Unclear

*: surface collections, #: excavated sherds; †: pieces in villagers' possession.

At four pre-Islamic burial sites to the east of Tampinna, the mode of burial could simply not be ascertained from the scanty evidence (Fig. 1). (One of these, Pa'angkaburu, also apparently had syncretist Islamic burials where ironstone grave markers shaped like 'yoni' and 'linga', and anthropomorphic grave markers of limestone, were associated with seventeenth to eighteenth century grave goods.) In addition, the limestone hills near the southwestern shore of Lake Matano contain many chambers with secondarily disposed human remains, and 'antiques' which include brass and European ceramics. Thus the speakers of Pamona and Padoe (Central Sulawesi stock), who are numerically dominant to the east of Wotu, probably followed a variety of mortuary practices during the second millennium AD. There is certainly a major contrast with the lowlands between Wotu, Baebunta and Malangke, where cremations prevailed at the time of the entry of Islam.

Habitation sites show the same chronology as the burial sites do (Tables 3 and 4). The basal radiocarbon date at Bola Merajae, and the dates from cooking pots at Sabbang Loang, are indistinguishable from the Sabbang Loang jar-burial date. Charcoal excavated in the layer beneath the iron-working levels at Rahampu'u 1, and the radiocarbon determinations from Katue and Nuha, together span the period represented by the Pontanoa Bangka cremations. Interestingly, tradeware sherds may have started to be deposited in habitation contexts approximately a century after the first burial of tradewares as grave goods. The Pattimang Tua ceramics start a century after those at Tampung Jawa, as do the Wotu ceramics compared to Tambu-Tambu, and the Pinanto ceramics compared to Puang Ma'tene and Puang Balubu (Tables 2 and 4). This would suggest that initially only small quantities of imported ceramics were available, and these were closely guarded for interment with the deceased.

Table 3 Radiocarbon dates from pre-Islamic habitation sites in Luwu

Site, square, excavation unit	Lab. No.	Material	Date (BP)	2-sigma calibration
Bola Merajae, square 1, unit 16	OZD843	Firestone soot	1980±90 BP	200 BC-AD 320
Sabbang Loang, 3-1, unit 9	OZD850	Soot on sherds	1910±70 BP	50 BC-AD 320
Sabbang Loang, 1-3, unit 4	OZD851	Soot on sherds	1780±50 BP	AD 130-390*
Sabbang Loang, 1-2, unit 5	OZD852	Soot on sherds	1750±50 BP	AD 160-420*
Rahampu'u 1, U12B5, unit 14	ANU-11081	Charcoal	1400±110 BP	AD 420-890
Katue, square 5, unit 11	OZD845	Carbonized shell	1100±50 BP	AD 780-1025
Nuha, square 1, unit 15	ANU-11105	Charcoal	960±70 BP	AD 980-1260*
Pandai Besi, U1T3, unit 13	ANU-11083	Charcoal	480±130 BP	AD 1280-1670*
Pandai Besi, U1T3, unit 14	ANU-11084	Charcoal	410±70 BP	AD 1420-1640
Rahampu'u 1, S6B10, unit 16	ANU-11074	Charcoal	350±70 BP	AD 1430-1670*
Rahampu'u 1, S6B10, unit 17	ANU-11077	Charcoal	430±120 BP	AD 1290-1805*
Rahampu'u 1, S6B10, unit 18	ANU-11076	Charcoal	310±90 BP	AD 1430-1955
Rahampu'u 1, S6T5, unit 13	ANU-11080	Charcoal	400±60 BP	AD 1440-1620

Rahampu'u 1, S6T5, unit 15	ANU-11079	Charcoal	310±90 BP	AD 1430-1955
Rahampu'u 1, S6T5, unit 17	ANU-11078	Charcoal	410±80 BP	AD 1400-1660
Salabu, S4T1, unit 3	Wk-7336	Bone and teeth	400±60 BP	AD 1430-1640

* Between 98% and 99.9% of the area under the 2-sigma probability area

Two observations are useful at this stage. First, there is no sign of an increase in settlement size during the first millennium AD. The Sabbang Loang settlement may have extended across two hectares, based on the area of distribution of the burial urns, even if a clear concentration in the area of Willems's trench (also the area where we recovered evidence of early habitation) is apparent. This exceeds the area of 0.6 hectares surveyed for Katue, which is a late first millennium AD site. It also exceeds the maximum area under habitation at Pinanto (0.8 hectares) or the area of the Tampinna shell midden (0.6 hectares), both dated to between the fifteenth and seventeenth centuries. The first clear increase in site size is registered at Malangke, where the old palace centre of Pattimang Tua spread across 5.3 hectares, and the slightly later palace centre at Utti Batue (Ware') was at least 4 hectares in extent. Thus we have found evidence for the pre-Islamic development of true 'central places' only at Malangke. Earthen fortresses constructed during the Islamic period point to the development of even larger political centres. These include Benteng Baebunta, which enclosed about 8.5 hectares, and Benteng Tompottikka, which enclosed some 200 hectares (Irfan Mahmud 1993). (The iron smelting debris at Matano extends across approximately ten hectares, which is a large area, but to some degree this reflects centuries of expansion during Islamic times.)

Table 4 Luwu habitation sites dated by imported ceramics (Bulbeck and Prasetyo 1999)

Site	Centuries							Site type
	14 th	15 th	16 th	17 th	18 th	19 th	20 th	
Pattimang Tua* [#]								Palace centre
Utti Batue* [#]								Palace centre
Wotu village survey*								Trading centre
Sabbang Loang* ^{#†}								Village
Pinanto ^{#†}								Local centre
Benteng Baebunta* [#]								Local centre
Matano village survey*								Iron smelting
Matano excavations [#]								Iron smelting
Sukoyu* [#]								Iron smelting
Turunan Damar*								Trading post
Cerekang/Katue/Poloe* [#]								Villages
Ussu 1 + 2* [#]								Village
Salabu/Patande* [#]								Villages
Tampinna* [#]								Trading centre
Benteng Tompottikka [#]								Palace centre

*: surface collections, #: excavated sherds.

†: Sabbang Loang seems to have been re-occupied between the fifteenth and seventeenth centuries (and then again in modern times). Pinanto was probably occupied prior to the centuries implied by the tradewares, as indicated by the bark cloth beater and other polished stone artefacts we excavated there, which broadly resemble those reported by Willems (1938) from his trench at Sabbang Loang.

Second, iron smelting in Luwu appears to have been a second millennium development. The earliest evidence, the basal date beneath the Nuha smelting debris, falls between AD 1000 and 1250 (Table 3). Nine charcoal dates from the lower levels with smelting debris at Pandai Besi and Rahampu'u 1 (Matano) consistently calibrate between the fifteenth and the seventeenth centuries (excluding two dates with large standard errors). They fully accord with the fifteenth to sixteenth century dating for the oldest tradewares from Matano (Table 4). Sukoyu, a small iron-smelting site on the north shore of Lake Matano, has tradewares dating between the sixteenth and nineteenth centuries. The northwest sector of Pattimang Tua produced evidence of iron working (or possibly smelting) which we date to between the fourteenth and seventeenth centuries on the evidence of the ceramics. The higher area of habitation at Pinanto, immediately beneath the cremation burials, contained clear evidence of iron working (Len Hogan, pers. comm.), here dated to the fifteenth or sixteenth century. The occasional traces of iron smelting we found at Sabbang Loang also probably relate to its immediately pre-Islamic phase of occupation. Thus, Luwu's iron, already famous in Java by the fourteenth century (Maisey 1988), may not have been locally smelted and worked much before that date. (Unfortunately, detailed study of the Bukit Porreo' and Bukit Pangiwanen iron ore sources in Rongkong was impossible as the heavy rains in 1998 washed away the access road.)

Nonetheless iron ore was traded at a much earlier date. A confirmed gravel of ironstone from Sabbang Loang (Len Hogan, pers. comm.), associated with the 400 BC-AD 300 date, presumably derives from Rongkong. A lump of iron ore from Katue is visually similar to the ore from the ultramafic formations around Lake Matano, suggesting exportation of Lake Matano ore by the late first millennium AD. Luwu it must be remembered is also well-stocked in forest produce, especially dammar gum, rattan, and fine timber such as gharu and ebony (Caldwell 1995: 411). It would seem reasonable to hypothesize that iron ore was initially transported to the coast, along with other extracted forest produce, through several 'down-the-line' networks which connected forest collectors and small maritime trading outfits. Even before the first signs of smelting, local collecting centres had emerged, as best represented by Sabbang Loang, and presumably by the settlement associated with the Pontanoa Bangka cemetery.

Imported trade goods, and metallic artifacts in Luwu

Glass beads were imported to Luwu throughout the last two millennia (Table 5). The single example from Sabbang Loang, and the four beads from the earliest Pontanoa Bangka burial, herald the hundreds of late first millennium beads in both burial and habitation contexts. In the second millennium sites, glass beads turned up sporadically in a pattern consistent with

increased rarity over time. It should be noted that the three looted Mangge beads which a villager showed us would represent only the tip of the iceberg, given the reports by looters of enormous quantities of glass beads at the Malangke cemeteries. Nonetheless our data as they stand do suggest that the use of glass beads in personal decoration was a particular focus of the late first millennium AD. This may be because glass beads were then available in the appropriate quantities for their display to exhibit an individual's status, especially if ranking in the status stakes was still fluid. Alternatively, other means of exhibiting status through personal attire, e.g. silk clothing, may have taken over the leading role during immediately pre-Islamic times.

Imported ceramics became increasingly available from the thirteenth though to the sixteenth century (Tables 2 and 4). Glass vials seem to have followed a similar trend. They are absent from first millennium sites, but present in small numbers at Utti Batue (one sherd), Sukoyu (one sherd), and in association with the Pinanto cremations (two sherds), not to mention a glass jarlet shown to us from Mangge. These are not the oldest vessels imported to Luwu; on current evidence, that honour would go to an earthenware vessel with lime-infilled decorations excavated at Katue.

Katue also produced the only semi-precious stone jewelry, a fragmentary agate bead, recorded by OXIS. The earliest import of all would probably be the obsidian flake excavated at Sabbang Loang at a level slightly beneath the base of the burial jar in square 3-1. Single instances of Chinese cash were collected from the surface at Pontanoa Bangka (presumably first millennium AD) and Tampinna. A miniature star from Katue, and a tiny swastika from Pa'angkaburu, are the only jewels of gold we recovered. However, gold was reportedly found commonly during looting operations, for instance at Wotu (Pelras 1996: 60), Puang Ma'tene, Puang Balubu, Kawasule, Pattimang Tua, Dato Sulaiman, Lengkong Ulaweng, and especially Tampung Jawa. Some of this gold could have come from the traditional gold-producing areas in the highlands west and southwest of Palopo (cf. (Mappasanda and Hafid 1992/3: 15). Textiles were presumably a major import but the only example that has survived archaeologically is cotton associated with the deepest cremation at Pontanoa Bangka, dated to AD 400-650.

Table 5 Glass beads recorded from Luwu sites

Site	Context	Number	Association	Dating (AD)
Sabbang Loang	Square 3-1, unit 14	1	Jar burial	Early centuries
Pontanoa Bangka	Square 1, unit 12	4	Cremation	c. 500
Pontanoa Bangka	Square 1, units 1-4	262	Cremation	c. 1000
Katue	Excavation and survey	208	Habitation	c. 800-1000
Tambu-Tambu	Surface collection	11	Cremations	c. 1000 (?) - 1600
Dadekoe 2	Square 1, unit 6	1	Cremations	1300-1600
Pattimang Tua	Excavations	2	Habitation	1300-1700
Utti Batue	Square 2, unit 15	1	Habitation	1400-1600
Mangge	Looted	3	Cremations	1400-1600
Pinanto	Sq. U177B11, units 6-8	2	Cremations	1400-1600

Pa'angkaburu	Square 1, unit 4	1	Grave good	1500-1800
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Table 6 Bronze artefacts recorded from Luwu sites

Site	Context	Objects	Association	Dating (AD)
Pontanoa Bangka	Square 1, unit 12	3 rings, 2 plaques	Cremation	c. 500
Pontanoa Bangka	Square 1, unit 9	1 ring, 1 bracelet	Cremation	> 500, < 1000
Katue	Squares 1 and 2	2 fragments	Habitation	c. 800-1000
Wotu	Surface collection	Statue (?)	Habitation	800-1400 (?)
Puang Ma'tene*†	Looted	Censer, bracelets, bowls, wire	Cremations	1300-1600
Pattimang Tua	U39B76, unit 9	1 ring fragment	Habitation	1300-1700
Pinanto	U181B51, unit 3	1 fragment	Cremations	1400-1600
Mangge†	Looted	2 bracelets	Cremations	1400-1600
Salabu†	Looted	2 bracelets	Grave goods	1400-1600
Tampinna	Surface collection	Bowl sherds	Inhumation	1400-1700
Rahampu'u 1	U12B5, unit 7	Bracelet fragment	Habitation	> 1500
Pandai Besi	U1T3, level 2	Fragments	Habitation	> 1500
Pa'angkaburu	Square 1, units 1-2	Bowl, bracelet, 3 rings, fragments	Grave goods	1500-1800

*: after Bulbeck (1996-7: 1041); †: pieces in villagers' possession.

Perhaps the most intriguing import is a small bronze fragment from the Wotu survey, identified by Ian Glover and Jan Wisseman-Christie as probably belonging to a classical bronze statue. This statue would quite possibly have been made in Java, with a best guessed date between the ninth and fourteenth centuries (cf. Fontein 1990). Indeed, quite an assortment of bronze ornaments, vessels and unclassifiable fragments were recorded at Luwu sites dating between AD 500 and 1700/1800 (Table 6). Much larger quantities were reportedly recovered during looting operations, especially at Tampung Jawa. There is certainly no evidence that the popularity of bronze phased out over time, if anything the reverse. Some of these bronze items could have been produced in the Sulawesi central highlands, where an industry of *cire-perdue* bronze metallurgy lasted between at least the seventeenth and early twentieth centuries (Bulbeck 1996-7: 1044).

The recorded iron artifacts are similar to bronze in their chronological profile: small numbers dating to the first millennium AD, succeeded by larger quantities in the second millennium (Table 7). The pattern is confirmed by looters' reports of numerous krisses, machetes and other weapons found in the Malangke and other immediately pre-Islamic cemeteries. Indeed the oldest evidence of iron slightly pre-dates the first evidence of bronze, though this iron need not have been smelted locally. (Chemical analysis of the Pontanoa Bangka wares should provide a check on whether they could have been made from Lake Matano ore or whether they were more probably imported.) In stark contrast to the bronzes, all of the identifiable iron artifacts are actual or potential weapons. In addition the heirlooms which we saw, made of Bukit Porreo' and Bukit Pangiwanen iron, consisted

of spearheads, swords and a dagger, confirming the report by Caldwell and Druce (1998: 16) that the Rongkong iron was used solely in producing weapons. There seems little doubt that the Luwu iron industry was dedicated first and foremost to weaponry, even if the same implements were also often used in bush whacking, carpentry, butchery, etc.

Iron was not the only product exported from Luwu. Archaeological evidence of the trade in forest produce comes from the dammar excavated at Turunan Damar, Katue, Pinanto, Patande and Utti Batue. Turunan Damar further adduces toponymic evidence for the dammar trade, notwithstanding the current lack of a satisfactory means to date the site's beginnings. These isolated records could represent a voluminous trade, given the generally poor to abysmal preservation of plant remains at our Luwu sites.

To summarize the evidence, a variety of manufactured goods were imported into Luwu throughout the last two millennia, and possibly longer (depending on the age of the obsidian flake). Sabbang Loang, at the confluence of several major highland rivers, appears to have been an early collecting centre (subsequently succeeded by Pinanto). Pontanoa Bangka, at the terminus of a series of trails linking Lake Matano to the north coast of central Sulawesi, probably represents another early collecting centre. Katue had evidently emerged as some sort of coastal centre by the end of the first millennium. Wotu, which lies at the terminus of a major trail leading through central Sulawesi (Pelras 1996: 60), seems to have emerged as a coastal centre by possibly 1000 years ago. The available evidence points to an exponential increase in Luwu's maritime trade throughout the first millennium AD and the centuries immediately prior to Islamization. This exponential growth would clearly have been linked to the flourishing industry in smelting iron, especially weapons, during the second millennium. In the few centuries up to 1600, Malangke arose as THE coastal centre, to the point where other coastal locations (Wotu, Tampinna, Salabu/Patande) would have become staging posts between Malangke and the Luwu interior.

Table 7 Iron artefacts recorded from Luwu sites (excluding modern iron)

Site	Context	Objects	Association	Dating (AD)
Sabbang Loang	Square 3-1, unit 8	1 fragment	Jar burial (?)	Early centuries
Pontanoa Bangka	Square 1, unit 12	Knife/cleaver	Cremation	c. 500
Pontanoa Bangka ¹	Surface collection	2 machetes	Cremations	c. 500-1000 (?)
Katue ²	Excavations	Knife blade	Habitation	c. 800-1000
Puang Ma'tene ³	Looting	Dagger	Cremations	1300-1600
Pattimang Tua ³	Looting	Dagger	Cremations	1300-1700
Pattimang Tua ²	S49T71, unit 9	Kris (?)	Habitation	1300-1700
Pattimang Tua	U20B50, unit 7	Machete	Habitation	1300-1700
Utti Batue	Surface collection	Knife/cleaver, machete, tang	Habitation	1400-1600
Pinanto ²	Excavations	Knife fragments Rod fragments	Cremations, Habitation	1400-1700
Sabbang Loang ⁴	Willems's trench	Spearheads	Habitation	1400-1700 (?)
Mangge	Looting	Cannonball ⁵	Cremations	1400-1600

Kande Api	Looting	Cannon ⁵	Cremations	1500-1700
Pa'angkaburu ²	Square 1, unit 3	Rod fragment	Grave good	1500-1800
Rahampu'u 1 ²	S6T5, unit 5	Steel spoke ⁵	Habitation	c. 1600-1800
Rahampu'u 1	S6T5, unit 3	Knife fragment	Habitation	c.1600-1800

¹ The Pontanoa Bangka cemetery clearly had a second millennium AD phase, probably associated with the Sukoyu iron-smelting site. The two machetes, being surface finds, could belong to the latter phase of burials.

² Nondescript iron fragments also excavated.

³ After Bulbeck (1996-7: 1041).

⁴ To go by the report by Willems (1938), these spearheads could belong to either the early habitation phase associated with the jar burials, or the later phase associated with imported ceramics. The later dating seems more likely given the production of spearheads at Rongkong until recent times.

⁵ Presumably imports.

The growth of Malangke and the 'La Galigo' ideology

Malangke lies within an enormous delta formed by the anastomosis of several major highland rivers (Fig. 1). From our survey of the looted pre-Islamic cemeteries in Malangke (Fig. 2), we estimate that the area dedicated to burials grew from five hectares in the fourteenth century, to 17 hectares in the fifteenth century, and 26 hectares in the sixteenth century (Bulbeck and Prasetyo 1999: Table 4). A set of assumptions (one adult on average buried every three metres, an average life expectancy of 25 more years following the attainment of adulthood, and equal numbers of adults and children in the living population) allows us to estimate that the population of Malangke approximated ten thousand people in the fifteenth century, and fifteen thousand in the sixteenth. In addition to the sheer size of the population, the fabulous wealth of the reported grave goods suggests great prosperity. Certain traditional Bugis arts were already practised, as indicated by the reports of a *kacapi* 'mandolin' looted at Mangge (along with the burial of a skull), and a boulder from Utti Batue engraved for playing *macang*, a game similar to chess. The multi-ethnic composition of Malangke has already been mentioned with reference to its variation in mortuary practices. Here we can point out that several ethnic groups besides the Bugis, such as the Wotu and the Baebunta, also used to cremate their dead before receiving Islamic, and so are probably represented among the cremated burials at Malangke.

The most significant of these groups may have been the Javanese. Tampung Jawa ('Javanese graveyard') includes a unique monumental complex. Two earth mounds, about 30 metres in diameter and six metres high, had reportedly been ransacked for a 'king's ransom' of metallic and ceramic wares. The looters also reported finding antiques both above and below one or more buried brick structures, adjacent to the mounds, across a 30 metre by 70 metre area. Though we have little idea how the bricks were precisely used, Tampung Jawa is the only pre-Islamic site with brickworks known in Luwu. There is every reason to associate the site with a prosperous Javanese enclave, especially as Luwu is the sole Bugis polity mentioned among the late fourteenth century 'vassals' of the

Javanese empire of Majapahit (see Robinson 1995). Moreover, Tampung Jawa and Pattimang Tua are spatially isolated from the other Malangke sites strung along the probable pre-Islamic coastline (Fig. 2). Given the relatively early dating of the tradewares from Tampung Jawa and Pattimang Tua (Tables 2 and 4), our evidence suggests a strategic alliance between the Javanese immigrants and the early Bugis rulers, in a well-buffered location from where they could also superintend activities along the coast.

Textual evidence also allows for a Javanese-Bugis political alliance. The *Lontara'na Simpurasia* derives the third mythical ruler of Luwu (Wé Mattengngaémpong) from the marriage between the second mythical ruler (Anakaji) and a royal woman from Mancapai, i.e. Majapahit (Caldwell 1988). The fourth and seventh non-mythical rulers of Luwu had the Sanskrit titles Batara Guru and Dewa Raja (Caldwell 1998), in sharp contrast to the absence of Sanskrit titles among the historical rulers of the other Bugis kingdom. Other signs of Indic influence among the Bugis, such as the names of the months, the pre-Islamic *bissu* ritual specialists, ceremonial aspects of rice cultivation, and certain ritual weapons (Caldwell 1995: 403), may have been introduced to the Bugis via Luwu (cf. Pelras 1996: 82-84, 93). However, there is no evidence that Hindu-Javanese literature or concepts of kingship ever took root in Luwu, or any other Bugis chiefdom (Caldwell 1991, 1995: 403). Given also the meagre corpus of Luwu's pre-Islamic literature, the Javanese who settled in Malangke would have been practical people _ traders, artisans (including ironworkers?), and presumably experienced fighters _ rather than literary or religious specialists.

Malangke's status as the entrepot for Luwu's trade, including the evidently important trade in Luwu iron to Majapahit Java, would not however encompass the entire range of long-distance initiatives. There are strong suggestions that Luwu was the overlord of much of the Bugis realm by the fifteenth century. In the late seventeenth century, Cornelis Speelman (the chief ally of the great Bugis warlord Arung Palakka) noted that the whole east coast of the South Sulawesi peninsula had formerly been subject to Luwu (Caldwell 1988: 190). At approximately AD 1500, the two Bugis agrarian chiefdoms closest to Luwu (Wajo and Bone) forced Luwu to surrender its territories in the central peninsula. Nonetheless Luwu managed to maintain its occupation of Cenrana, at the mouth of the peninsula's major river, until 1563 (Caldwell 1988: 191-194; Pelras 1996: 112-114, 132). As pre-Islamic Luwu had such a weak literary tradition, and as the chronicles of the other Bugis chiefdoms avoid mentioning Luwu's conquests, we can only speculate on the nature of Luwu's occupation. It may have involved straight-out raiding, or the expansion of trade (e.g. iron for rice), or an attempt to dominate the entire trade operations along the peninsula's east coast (cf. Caldwell 1995: 410). Clearly, however, Luwu's territorial initiative would have involved a massive mobilization of troops, which was probably channeled through Malangke.

We need to mention the 'La Galigo' mythology, given its importance to the Bugis (Pelras 1996), even if space forbids a detailed consideration. The transmitted La Galigo material is the direct product of an eighteenth to nineteenth century copyist tradition, though the concept of a bygone 'La Galigo age' was already present by the late seventeenth century. The stories follow the descent to Luwu of Bataru Guru, prince of the Upper World, to marry the princess of the Lower World, and the deeds of their immediate descendants (Macknight 1993). The single main character is Sawérigading, who conquers

Cina (a chiefdom in the Bugis heartland) to enforce his marriage with his cousin Wé Cudai. Their daughter, and the son of Sawérigading's twin sister, marry and become the ruling couple of Luwu, whereas all the other participants return to the Upper or Lower World (Pelras 1996: 89). The Luwu of the La Galigo is clearly centred in Ussu and Cerekang, just as La Galigo traditions remain powerful in these places today (Pelras 1996). Indeed, OXIS was barred from working in any Cerekang sites locally associated with the La Galigo, so we can neither confirm nor deny whether the stories correspond to any palpable historical reality, e.g. the eleventh to thirteenth century 'La Galigo age' proposed by Pelras (1996). However, there must be some association with the fact that any iron from Lake Matano transported southwards would have come out through Ussu and Cerekang (Pelras 1996).

There is absolutely no evidence Luwu was founded particularly early, apart from the apocryphal La Galigo. Irrespective of any historical correlates of the La Galigo mythology, its promulgation would have been advantageous to the Luwu elite. It invests rule over Luwu with the authority of direct descent from the original marriage between Upper and Lower World personages. Confusingly, perhaps, the *Lontara^cna Simpurasia* traces Luwu's first rulers back to Simpurasia (Sanskrit for Lion Man), who is also portrayed as the archetypal ruler in several Bugis genealogical texts. However, this story too paints Simpurasia as a La Galigo figure (Caldwell 1988). The La Galigo material apotheosizes Luwu to the extent that the *tomanurung* (those descended from heaven), who supposedly inaugurated the other Bugis chiefdoms, appear to belong to later or 'real' time (cf. Pelras 1996: 168-175). These points suggest the Luwu elite promoted the La Galigo precisely to appear primordial, a particularly useful device as Luwu expanded across the territories of other Bugis chiefdoms with their *tomanurung* traditions already in place. Until some evidence emerges of a mighty Luwu polity at the time of the formation of the other Bugis chiefdoms, the conventional belief among both Bugis and foreign scholars in Luwu's primordial status (e.g. Pelras 1996) would merely seem to underline Luwu's success in exporting the La Galigo mythology.

Conclusions

Our confidence in our conclusions is necessarily limited by the scope of our research. The antiquity of smelting iron at Rongkong could not be researched owing to weather conditions. Local taboos prevented us excavating or properly surveying Ussu and Cerekang sites which may have been key locations in pre-Islamic Luwu. OXIS did not undertake archaeological work along the coastal stretch south of Palopo which, according to subsequent historical research, would have been an important region (Caldwell and Druce 1998). Further work may produce surprises even in the relatively intensively studied areas (Malangke, Baebunta, Lake Matano). Most of the excavated materials have been barely inspected, and several specialist studies (ironwares, phytoliths) are still in process. So while OXIS has illuminated certain aspects of Luwu's late prehistory to an unanticipated degree, we should remain circumspect on the degree to which absence of evidence is taken as evidence of absence.

Nonetheless, our evidence finds against the Malangke Bugis having brought anything palpably new to Luwu. The importation of manufactured items had been proceeding for at

least a millennium, as iron ore and, presumably, forest produce were exported in return. Cremations were practised in Luwu well before the settlement of Malangke; inchoate 'Indic influences' may have infiltrated Luwu at a similar date. Local smelting of the Matano iron ore probably pre-dates Malangke. The La Galigo mythology is readily interpreted as earlier than Malangke in its inception. Even Malangke's meteoric rise could arguably be attributed, in large part, to the trading connections and technological skills of the Javanese who settled there. Further, the origins of Bugis writing should be sought somewhere other than Luwu, for instance, among the several agrarian chiefdoms whose ruling lineages were evidently founded before Luwu's (Bulbeck 1993).

On the other hand, even a minimalist interpretation of the role of the Malangke Bugis must acknowledge the unprecedented organizational skills of their rulers. They established Malangke as the focus of what had previously been several small, competing dendritic networks operated by a range of ethnic groups. They maintained the peace among a closely packed multi-ethnic population of 10-15,000 Malangke residents, and established some level of law and order across the vast expanse of the Luwu lowlands. The Malangke Bugis further extended Luwu's suzerainty across much of the South Sulawesi peninsula. The popularity of the La Galigo, and perhaps many other major features of Bugis high culture, can arguably be traced back to this circa fifteenth century development. From a historical viewpoint, Luwu's expansion clearly galvanized the other Bugis chiefdoms to develop more effective military outfits.

In summary, no single material cause can be identified to explain the rise of Luwu; rather, the organizational capacity to articulate the advantages of a newly colonized land seems to have been the key to Luwu's success. If the heartland of the Bugis lay in the fertile rice belt southwest of Luwu, then Luwu was the nursery of the Bugis capacity to develop new, profitable enterprises in distant lands. Malangke provides our first evidence of this versatility and adaptability which, as noted by Pelras (1996: 5), have allowed the Bugis to spread right across the Indo-Malaysian Archipelago.

*David Bulbeck, Department of Archaeology and Anthropology,
Australian National University*

*Bagyo Prasetyo, Department of Archaeometry,
Pusat Penelitian Arkeologi Nasional*

Acknowledgements

The field work was funded by a large Australia Research Council grant to Bulbeck and Ian Caldwell (Hull University), and a Wenner-Gren Foundation International Collaborative Research Grant to Bulbeck and Mas'ud Darmawan Rahman (Institut Keguruan dan Ilmu Pendidikan Ujung Pandang). The Department of Archaeology and Anthropology, and the Centre for Archaeological Research, both at the Australian National University (ANU), helped to fund radiocarbon dates. The Australia-Indonesia Institute assisted laboratory and field work costs. Hasan Ambariyanto and Truman Simanjuntak, of Indonesia's National

Research Centre for Archaeology, sponsored the project at the national level, while Moh. Ali Fadillah (Balai Arkeologi Ujung Pandang) acted as our local sponsor. Peter Bellwood (ANU Department of Archaeology and Anthropology) has reviewed this manuscript among his other supporting activities as Bulbeck's research supervisor. Adrian Di Lello and Glenn Summerhayes of the same department identified the Sabbang Loang obsidian flake. Judith Cameron (ANU Department of Archaeology and Natural History) identified the Pontanao Bangka cotton. Ian Glover (London's Institute for Archaeology) and Jan Wisseman-Christie (Hull University) identified the bronze fragment from Wotu. Special thanks are due to Len Hogan (Department of Mining, Minerals and Materials Engineering, University of Queensland) for his several reports, and ongoing work, to identify and analyze the iron and ironstone specimens. Finally, we acknowledge our productive discussions with all the above mentioned, as well as Geoff Hope (ANU) and Campbell Macknight (University of Tasmania).

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FIGURE CAPTIONS

Figure 1. Pre-Islamic and early Islamic sites in Luwu referred to in the text.

Figure 2. Results of the site survey and excavation in Malangke.