

Economy, Military and Ideology in Pre-Islamic Luwu, South Sulawesi, Indonesia

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A slim body of indigenous texts, comprising lists of rulers, an 'emic' political geography and various apocryphal tales, provides essential clues to the nature of the Bugis chiefdom of Ware' (Luwu) leading up to its adoption of Islam in 1605. However, to appreciate Luwu's economic history and evolving settlement patterns, recourse must be made to the archaeological record. The resulting data are interpreted in light of the distribution of Luwu's main resources and its numerous language groups. High-grade iron ore, the most important commercial resource, was smelted locally and traded for exotic goods by the first millennium AD. Between c. 1300 and 1600, Bugis settlers occupied critical coastal locations and made Malangke into the region's emporium. Luwu's Bugis elite deftly combined control over the iron industry with deployment of naval and ground troops, and elaboration of a partly mystical, partly pragmatic ideology, to transform Luwu temporarily into the most prominent chiefdom in South Sulawesi.

INTRODUCTION

Tim Earle's recent book on the paths that may lead to the formation of complex polities takes a historical perspective that recognises the roles of individual ambitions and interest groups. Earle analyses the strategies by which an emerging elite can exert control over the three main interdependent sources of power – the economy, military force, and a legitimising ideology. He illustrates his approach with protohistoric examples of 'prestige-good chiefdoms' (Denmark), 'staple-finance chiefdoms' (Hawaii), and 'hill-fort chiefdoms' (Peru).¹ This paper applies Earle's structure of analysis to the ancient Bugis chiefdom of Ware' (Luwu) in Sulawesi, the large orchid-shaped island between Borneo and the Moluccas. Ware' was the name the ruling Bugis elite applied to the polity, while the term Luwu is appropriate for the governed realm, including the political structure headed by Ware'.² The results show that Ware'/Luwu could be labelled a 'staple-good chiefdom', as it combined aspects of Earle's staple-finance and prestige-good chiefdoms.

According to Earle, the elite of prestige-good chiefdoms control the collection and exchange of highly valuable local resources, such as amber, to dominate the reciprocal trade in exotic, high-status goods. Bennet Bronson envisaged precisely this specialisation in the long-distance trade of prestigious goods when he formulated his model of the Southeast Asian 'dendritic' economy.³ Bronson's economic units are the large river systems where produce from the rugged hinterland is traded downstream for imported goods brought upstream. Critical nodes in the network include the collecting centre at the main convergence of the highland tributaries, and the coastal centre at the river's mouth. Bronson's model would appear broadly applicable to Luwu, with its resource-rich hinterland, and its concentration of traffic between hinterland and coast to a few main routes. However, as we shall see, Luwu effectively reversed the operational mode of prestige-good chiefdoms. The latter exported 'splendid trifles' to obtain goods locally perceived as indispensable, many of them manufactured, such as weapons. Ware' on the other hand monopolised an essential commodity – wares of high-quality iron – to acquire a suite of goods predominantly superfluous to the necessities of life.

The period under study extends to the early seventeenth century, when Ware' shifted its capital from Malangke to Palopo (see Fig. 1). It may also be called the pre-Islamic period because at around the same time, in 1605, Luwu embraced Islam, shortly followed by all the other major

polities in the peninsula. The Bugis script had been developed in the fourteenth century, and there are several relevant Bugis texts to assist the present study. These include lists of the pre-Islamic rulers of Ware', treaties with other Bugis chiefdoms, and a text that lays out Luwu's political structure. However, the historical record on Luwu is so sparse that no source external to Luwu names any of its pre-sixteenth century rulers and, until 1992, scholars were oblivious of the pre-Islamic capital at Malangke. Ware' clearly became a mighty chiefdom, but the illumination of its social and economic organization depends on the archaeological record.⁴ The 'Origins of Complex Society in South Sulawesi' or OXIS Project, which involved survey and excavations in Luwu in 1998 and 1999, provides the archaeological evidence utilised in this article.

BACKGROUND TO LUWU AND ITS ARCHAEOLOGICAL STUDY

Until the year 2000, when Luwu was divided into two departments, it covered a vast area at the northeast extreme of the province of South Sulawesi (see Fig. 1). Two main landforms can be identified, a coastal plain that may extend up to 50 km inland, and a mountainous interior with peaks that frequently exceed 2 000 m in altitude. Annual rainfall generally ranges between 2 500 and 3 000 mm, and varies from slightly seasonal south of Palopo to permanently humid farther north. The hot equatorial climate of the coastal plain and foothills gives way to cool days and chilly nights at high altitudes. The great majority of the population congregates along the coastal strip, although substantial settlements have also built up along the less dissected reaches at middling altitudes, such as Lake Matano. Bugis is only one among Luwu's ten indigenous languages, whose diversity reflects both the barriers to communication and an evident multiplicity of distinct colonisation episodes.⁵

Bugis belongs to the South Sulawesi 'stock' which essentially comprises the indigenous languages of Sulawesi's southwest peninsula. The spatial distribution of the eleven dialects of Bugis closely relates to the various provincial departments which, in turn, correspond to the Bugis chiefdoms that the Dutch incorporated within their colonial government about a century ago. Luwu enjoys the reputation of being the oldest and most prestigious Bugis chiefdom, but it is also the least typical. The other Bugis chiefdoms (e.g. Wajo and Bone) flourished in the central two-thirds of the peninsula where few of the inhabitants are not Bugis. By at least A.D. 1400 these were agrarian chiefdoms, based on the

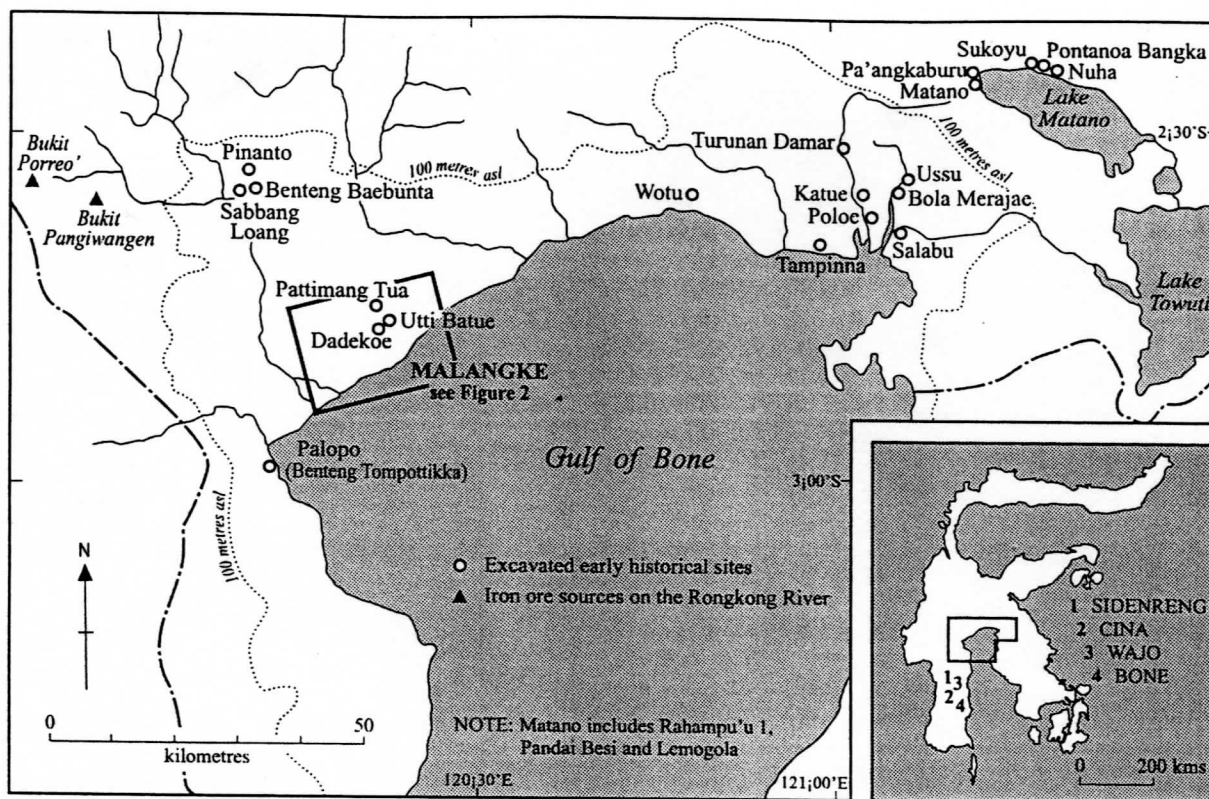


Fig. 1: Study area of the OXIS project in Luwu department (between the dot-dash lines), and its spatial relationship to the northern Bugis agrarian chiefdoms (Inset, their locations numbered 1 to 4).

intensive cultivation of monsoon-fed wet rice. In Luwu, by contrast, Bugis are numerically dominant solely along the coastal strip as far north as Malangke. Rice underpinned the subsistence economy only in Luwu's southernmost extension, the 70 km long stretch of coastal plain south of Palopo. Elsewhere in the Luwu lowlands, sago was traditionally the major carbohydrate staple.⁶ These points suggest that the Ware' polity was established in direct association with the northward expansion of Bugis speakers, from their homeland in the southwest peninsula, into an unfamiliar environment inhabited by other language groups. The magnet appears to have been the iron reserves in Luwu's hinterland.

In 1992 and 1994, Ian Caldwell surveyed the upland locations in Luwu that have a history of smelting iron, and the complex of pre-Islamic sites at Malangke.⁷ In 1997, the OXIS project surveyed these and other localities to plan its schedule of excavations.⁸ Subsequently, the iron ore sources at Bukit Porreo' and Bukit Pangi (see Fig. 1) could not be further investigated as the heavy rains in 1998 rendered the access road impassable. Our attention focused on Lake Matano, which lies in an iron-rich ultrabasic formation, and the Luwu coastal plain.

Approximately 80 sites have been excavated or surveyed, producing a large body of material the analysis of which is still at an early stage. One metre test pits were universally employed, except at the waterlogged Utti Batue site where a nine square metre test pit was excavated to prevent the baulks from collapsing. The number of test pits varied between one or two at the smaller sites, to a stratified random sample of 11 test pits at the largest site of Pattimang Tua (5.3 hectares), and a systematic sample of 22 test pits at Pinanto (0.6 hectares). The main site types were smelting sites at Lake Matano; industrial sites, along the coastal plain, where imported iron was worked; other lowland settlements involved in Luwu's trade; and six pre-Islamic burial grounds. The excavation units were features and stratigraphic layers, with layers over 5 cm

thick exhumed in 5 cm spits. Radiocarbon determinations have been obtained from all contexts considered relevant to the research problems and not adequately dated by the associated artifacts. Other details of excavation methodology are provided elsewhere.⁹ The overriding goals of the excavations were to sample the major axes in pre-Islamic Luwu's coastal-hinterland trade, and to gain a diachronic perspective on the long-term development of the economic system.

Only the dating evidence relevant to the period under discussion, beginning at about 2000 years ago and lasting till the seventeenth century, is considered here. The Australian National University (ANU) radiocarbon dates are conventional dates, and the OZD, OZE (Lucas Heights, Sydney) and Wk (University of Waikato) dates are accelerator mass spectrometry (AMS) determinations. These dates are calibrated with the CALIB 3.03 computer program,¹⁰ and expressed in terms of the 95.4% confidence interval represented by two standard deviations (Table 1). Unfortunately, the late fifteenth, sixteenth and early seventeenth centuries are virtually indistinguishable on the radiocarbon calibration curve, yet these centuries correspond precisely to the period when Ware' seems to have risen to prominence. This problem is largely offset by the large numbers of high-fired ceramics, made in China, Vietnam and Thailand, imported to Luwu between the thirteenth and seventeenth centuries. They facilitate the precise dating of sites belonging to that period.

LANGUAGE AND ETHNICITY IN SOUTH SULAWESI

The study of pre-Islamic Luwu requires a diachronic view on the dialectic between its Bugis and non-Bugis speakers. As a first step, we should summarise the ethnographic perspective on South Sulawesi. Social anthropologists working in the area treat language and ethnic group as synonymous. With few

exceptions, South Sulawesi indigenes throughout the peninsula and the abutting coastal lowlands profess to being Muslim. Bugis communities have also sprung up right across Island Southeast Asia. Their common ethnic identity, based on a shared language, a single religion, and observance of core Bugis values, overrides minor linguistic differences and local cultural variation. Nonetheless, there is also a clearly observable tendency for Bugis to identify by dialect (*to-Wajo* or *Wajo* person, *to-Luwu*, etc.), and to engage more readily with speakers of the same dialect.¹¹ In South Sulawesi, when a language is geographically circumscribed it equates to ethnic identity, while far-flung languages promote ethnic identity at the level of the dialect as well as the language.

Many of these ethnographically observed features were established by late pre-Islamic times, as reflected in the indigenous literature of the Makasars, who occupy the south and southwest fringes of the South Sulawesi peninsula, and the Bugis. All local texts in the South Sulawesi peninsula and southern Luwu are written in Makasar or Bugis, depending on which language is locally dominant, implying long-term, geographically stable, core distributions for both languages. Indeed, the spatial distribution of most Makasar and Bugis dialects corresponds to chiefdoms which feature in the pre-Islamic literature.¹² Further, in the fifteenth and sixteenth centuries, people along the south and southwest coastal plain of the peninsula inhumed their deceased in an east-west orientation, while people in the centre and north of the peninsula, and at Malangke, cremated their dead. That is, at the time of their conversion to Islam, the Makasars inhumed while the Bugis cremated.¹³ In summary, the majority of the peninsula's inhabitants (whether Bugis or Makasar) have long identified themselves at the higher level as speakers of the same language, associated with shared religious (mortuary) practices, while at the local level they identify as members of their chiefdom.

Two social strata prevail among traditional Bugis, Makasars, and some other South Sulawesi lowlanders with a similar organisation: the 'red-blooded' commoners, and the aristocrats who claim a proportion of white blood. Their white blood supposedly derives from the *tomanurung* who miraculously appeared at various places across the South Sulawesi lowlands to institute a ruling lineage. The *tomanurung* are themselves stratified into the ancestors of the rulers of the major chiefdoms, who constitute the royalty, and minor *tomanurung* ensconced within or slotted between the main chiefdoms. Demonstrating the patrilineal or ambilineal descent of a prominent ruler from a renowned *tomanurung* is a preoccupation of the indigenous literature. Some nobles demonstrate their pedigree through descent from a royal personage, i.e. with reference to the main chiefdoms known throughout South Sulawesi. Nobles who can merely trace a descent relationship to a local *tomanurung* are more geographically circumscribed in their claims on privilege. In both cases, members of the nobility rely on the suzerainty of a dominant chiefdom, either through their relation to a royal court, or as apical figures within local hierarchies that have survived the fourteenth century and later expansion of the main chiefdoms.¹⁴

In the period leading up to the seventeenth century, as illustrated in the genealogical records, royal marriages increasingly connected geographically distant polities. While it may be extreme to describe the South Sulawesi royalty as ever becoming one extended family, it would certainly be accurate to recognise royal coalitions, allied through family relationships, that committed ever larger numbers of subjects towards common goals.¹⁵ The traditional sociopolitical organization of an inter-married royalty whose members make decisions of strategic significance, and local populations dependent on their ruler, has allowed social transformations to

sweep rapidly across the landscape. This is best illustrated by the mass conversion to Islam during the six years between 1605 and 1611. All the major South Sulawesi chiefdoms officially embraced Islam, requiring only a modicum of forceful persuasion on the part of those promulgating the faith. Islam was then promoted through a loosely coordinated procedure within each realm.¹⁶

The increasing trend towards a political hierarchy has had to be balanced against safeguarding the mutual interests of the major constituents within the realm, lest insurrection destabilise the chiefdom's local structure. For instance, local traditions emphatically proclaim the status of Baebunta and Wotu as the two major players, after Ware', in Luwu's sociopolitical organisation within the area from Malangke northwards (see Fig. 1). Although Baebunta and Wotu were inhabited respectively by Lemolang and Wotu speakers, they followed the same mortuary practice as the Bugis in Malangke – cremation of the dead – in the centuries leading up to their virtually simultaneous conversion to Islam. Along the coastal plain east of Wotu, reliable evidence for cremations is conspicuous by its absence.¹⁷ These points strongly suggest that Luwu's dominant language groups employed the rite of cremation to widen the gap between themselves and the realm's minor constituents. The apparent lack of pre-Islamic cremations at Tampinna and sites directly to the east implies few if any Bugis had resided there, even if the cremations at the Baebunta sites and Wotu do not imply these were Bugis strongholds, because mortuary practices can cross language boundaries under appropriate circumstances.

One phenomenon of particular relevance to understanding language and ethnicity in Luwu is the ethnographically recorded continuing encroachment of Bugis across the borders of its distribution. Especially where Islam prevails on both sides of the boundary, Bugis families move into non-Bugis terrain, and the offspring of non-Bugis speakers often switch to Bugis. For instance, in Luwu, the Lemolang (Baebunta) community is gradually abandoning its own language for Bugis, despite proud memories of a non-Bugis heritage.¹⁸ At Turun Bajo, the settlement nearest to Tampinna, the inhabitants claim descent from the Bajau sea gypsies yet employ Bugis as their first language.¹⁹ The fecundity of the Bugis, and the opportunities that arise for individuals who link up with Bugis networks, would appear to account for this apparently spontaneous expansion of the language. The remarkable propensity of the Bugis language to expand at its margins strongly suggests that Bugis has never been more prevalent in Luwu than at the present – all of Luwu, beyond the coastal strip extending to Malangke, has a fundamentally non-Bugis past.

The Bugis additionally have a tradition of spontaneous migration to establish remote enclaves modelled along the lines of extended families, including the creation of fictitious genealogical links. At Lake Lindu in central Sulawesi, Bugis colonists have within two generations legitimised their presence by creating an elaborate spiritual landscape and redefining the indigenous culture hero as Bugis.²⁰ The Lake Lindu case documents the creation of attachment to a place as one of the essential ingredients in local ethnic identity, along with the colonists' language (Bugis) and religion (Islam, as opposed to the indigenes' Christianity). A similar development may have occurred at Cerekang (near Katue) and Ussu where an enclave of Bugis speakers call themselves the *to-Ussu*. They maintain a complex of sacred sites which they associate with the birthplace of all humanity and, by implication, the origin of their Bugis ancestors as the original people.²¹ How many centuries ago Bugis speakers colonised Ussu, and whether they originated this creation mythology or absorbed it from previous denizens, are vexatious questions that may never be satisfactorily answered (footnote 68).

Table 1: Relevant radiocarbon dates from the 1998-9 excavations in Luwu

Site, square, excavation unit	Lab. No.	Material	Date (BP)	2-sigma calibration
Sukoyu, square 1, unit 8	ANU-11271	Charcoal	2070 $\pm$ 50 BP	200 BC-AD 55
Bola Merajae, square 1, unit 16	OZD843	Firestone soot	1980 $\pm$ 90 BP	200 BC-AD 320
Bola Merajae, square 1, unit 13	OZE579	Charcoal	1870 $\pm$ 40 BP	AD 35-320
Bola Merajae, square 1, unit 10	OZD844	Charcoal	1260 $\pm$ 60 BP	AD 655-980
Bola Merajae, square 1, unit 3	OZE578	Charcoal	310 $\pm$ 40 BP	AD 1480-1670
Sabbang Loang, 3-1, unit 9	OZD850	Soot on sherds	1910 $\pm$ 70 BP	50 BC-AD 320
Sabbang Loang, 1-3, unit 4	OZD851	Soot on sherds	1780 $\pm$ 50 BP	AD 130-390*
Sabbang Loang, 1-2, unit 5	OZD852	Soot on sherds	1750 $\pm$ 50 BP	AD 160-420*
Sabbang Loang, 1-4, unit 10	ANU-11106	Charcoal	2020 $\pm$ 140 BP	380 BC-AD 320
Sabbang Loang, 1-4, unit 10	ANU-11273	Charcoal	1990 $\pm$ 200 BP	410 BC-AD 435*
Katue, square 5, unit 9	OZD847	Charcoal lump	1810 $\pm$ 40 BP	AD 90-340
Katue, square 5, unit 11	OZD845	Carbonised shell	1100 $\pm$ 50 BP	AD 780-1025
Katue, square 7, unit 12	OZE581	Charcoal	1850 $\pm$ 40 BP	AD 70-320
Katue, square 5, unit 7	OZE580	Charcoal	370 $\pm$ 35 BP	AD 1450-1640
Pontanoa Bangka, square 1, unit 12	ANU-11107	Charcoal	1520 $\pm$ 70 BP	AD 410-660
Pontanoa Bangka, square 1, unit 7	ANU-11108	Charcoal	1010 $\pm$ 60 BP	AD 900-1190*
Pontanoa Bangka, square 1, unit 12	OZE644	Cotton	50 $\pm$ 60 BP	AD 1680-1940
Nuha, square 1, unit 15	ANU-11105	Charcoal	960 $\pm$ 70 BP	AD 980-1260*
Nuha, square 1, unit 3	ANU-11278	Charcoal	130 $\pm$ 50 BP	AD 1670-1945
Sukoyu, square 1, unit 6	ANU-11272	Charcoal	830 $\pm$ 70 BP	AD 1035-1290
Rahampu'u 1, U12B5, unit 14	ANU-11081	Charcoal	1400 $\pm$ 110 BP	AD 420-890
Rahampu'u 1, U12B5, unit 13	OZE646	Soot on sherds	1000 $\pm$ 40 BP	AD 980-1160
Rahampu'u 1, S6B10, unit 16	ANU-11074	Charcoal	350 $\pm$ 70 BP	AD 1430-1670*
Rahampu'u 1, S6B10, unit 17	ANU-11077	Charcoal	430 $\pm$ 120 BP	AD 1290-1805*
Rahampu'u 1, S6B10, unit 18	ANU-11076	Charcoal	310 $\pm$ 90 BP	AD 1430-1955
Rahampu'u 1, S6T5, unit 13	ANU-11080	Charcoal	400 $\pm$ 60 BP	AD 1430-1640
Rahampu'u 1, S6T5, unit 15	ANU-11079	Charcoal	310 $\pm$ 90 BP	AD 1430-1955
Rahampu'u 1, S6T5, unit 17	ANU-11078	Charcoal	410 $\pm$ 80 BP	AD 1400-1660
Pandai Besi, U1T3, unit 13	ANU-11083	Charcoal	480 $\pm$ 130 BP	AD 1280-1670*
Pandai Besi, U1T3, unit 14	ANU-11084	Charcoal	410 $\pm$ 70 BP	AD 1420-1640
Lemogola, square 1, unit 13	ANU-11277	Charcoal	120 $\pm$ 70 BP	AD 1670-1950
Arateng 1 coffin (looted)	ANU-11109	Wood	450 $\pm$ 60 BP	AD 1400-1635*
Salabu, S4T1, unit 3	Wk-7336	Bone and teeth	400 $\pm$ 60 BP	AD 1430-1640

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

LUWU'S PRE-ISLAMIC CHRONOLOGY

Sites dated principally through radiocarbon determinations

Four sites reflect occupation by around 2000 years ago (Table 1). The forest at Sukoyu, Lake Matano, appears to have been burnt off at that time, leaving a considerable quantity of charcoal in otherwise sterile deposits. Slightly to the south, Bola Merajae has a consistent sequence of radiocarbon dates ranging between c. 2000 years BP at the base and 450-300 years ago near the top. At Sabbang Loang, where the Rongkong River meets the coastal plain, three separate samples of charred deposits on pot sherds have yielded AMS determinations dating to the early centuries AD. A massive earthen jar buried beneath the occupation deposits, presumably to accommodate one or more of the deceased, is associated with c. 2000 year old charcoal samples located both inside and outside of the jar (ANU-11106 and ANU-11273).²² Katue (near Bola Merajae) has three dates between c. 100 and 1000 AD, consistent with occupation during much of the first millennium.

Sabbang Loang and Katue contrast markedly in their range of iron fragments and exogenous goods. The c. 2000 year old deposits at Sabbang Loang yielded two iron-rich gravels (possibly manuports) and five iron artifacts including a spearhead, a blade and a possible spear shaft. The site's location immediately downstream from the Bukit Porreo' and Bukit Pangiwan sources (Fig. 1) suggests that the iron derived from the upper Rongkong River. The only clearly exotic items in association are a large glass bead and a flake of obsidian. Katue, similar in site area (about 0.6 hectares) and relevant excavated area (five square metres), yielded 216 small glass beads, a gold star, and the fragment of an agate

bead. Its iron inventory comprises eight cobbles and pebbles of iron ore, eight lumps of iron slag, two prills of pig iron, and six fragments of iron artifacts including the tip of a blade.²³ Katue thus presents evidence of the entire process of smelting ore, presumably obtained from Lake Matano, working it into artifacts, and exporting it. The differences between Sabbang Loang and Katue may reflect evolution of the iron industry and increasing levels of long-distance trade, as Katue was probably occupied until a later date. Alternatively, Katue's greater range of exotic goods could have resulted from its locational advantages for maritime trade. In terms of Bronson's model, Sabbang Loang would have been a collecting centre, while Katue would have been a coastal centre on the lower reaches of a deep tidal stream.

The northern shores of Lake Matano constitute Luwu's most important source of iron, and here we find evidence of smelting from the middle first millennium AD onwards. The critical site is Pontanoa Bangka where the single test pit revealed a metre's thickness of charcoal-rich deposit containing approximately 1.8 kilograms of iron slag and ore. Charcoal samples are dated to around 400-650 at the base and 900-1200 near the midpoint of the deposit (Table 1). The iron-smelting signature here is much fainter than at Lake Matano's later iron-smelting sites. OXIS personnel used to interpret Pontanoa Bangka as a cemetery with ancient cremations, but a recently obtained date of 1680-1940 on cotton at the base of the excavation demolishes that interpretation.²⁴ The iron smelted at Pontanoa Bangka may have been ferried to Matano, on the lake's western margin, for onward transport to Katue and possibly Bola Merajae. The evidence here is charcoal dates of c. 400-900 (ANU-11081) and 1000-1150 (OZE646) from Rahampu'u, at Matano, in habitation deposits sealed directly beneath the thick iron-smelting deposits at the site.

The smelting deposits at Nuha are dated to c. 1000-1300 at their base and 1700-1940 at the top. The smelting deposits at Sukoyu, sandwiched between a basal date of c. 1000-1300 and a seventeenth century Chinese sherd at the top, correspond to the same period (Table 1). This is also the general period of the dated grave goods from Pontanoa Bangka which include the cotton mentioned above, 262 mainly Chinese glass beads of c. twelfth to fourteenth century antiquity, an eighteenth century Chinese coin, and an eighteenth century Chinese saucer.²⁵ Accordingly, Pontanoa Bangka would appear to have become the local cemetery when the smelters along Lake Matano's northern shore established their operations at Nuha and Sukoyu during the second millennium AD.

Iron smelting evidently commenced at Matano at around 1500. Eight radiocarbon samples from the base of the smelting deposits at Rahampu'u and Pandai Besi have produced a suite of statistically indistinguishable dates whose means range between 1470 and 1640 (Table 1). The earliest securely dated tradewares recorded at Matano and Pa'angkaburu, after extensive survey and excavation, are a few fifteenth to sixteenth century sherds (Table 2). The Pandai Besi, Rahampu'u and Lemogola excavations sampled a thick formation of iron ore and slag, prills (tiny balls up to 5 mm diameter) of pig iron, charcoal, earth furnace lining, earthenware tuyères, and flaked chert strike-a-lights. This anthropogenic formation extends nearly one kilometre along the foreshore, and as much as 100 metres up the slope from the lake. Its sheer extent suggests that a group of experienced iron workers, probably from the north shore of Lake Matano, descended on Matano to set up their industry. Although the closest suitable ore lies some kilometres to the north, Matano offers proximity to arable land along the lake's southern shore, and direct access to the trade route leading to Ussu and Cerekang (via Turunan Damar). These advantages would seem to have allowed the industry to expand far beyond its earlier development in the vicinity of Nuha.²⁶

Sites dated principally through imported ceramics

Seventeenth century and earlier imported ceramics are sparse

in the vicinity of Lake Matano compared to their occurrence at sites below the 100 metre contour (Table 2; Fig. 1). The oldest reliably identified wares date to the thirteenth and fourteenth centuries, as is the general pattern across South Sulawesi.²⁷ Wotu (more precisely, its coastal satellite of Tambu-Tambu) may have been Luwu's major coastal centre during this period, as more thirteenth to fourteenth century imported ceramics were recorded here than in all other Luwu sites combined. The wealth of ceramics at Tambu-Tambu, collected during a merely cursory survey of a disturbed cemetery of cremated burials, continued through to the sixteenth century. Wotu's trading importance stems from its position at the terminus of a traditional, major overland route that crosses Sulawesi from the Gulf of Tomini (due north of Luwu).²⁸ Its long-distance trade links are clear from the status of the Wotu language as an isolate with vague affinities to Laiyolo (Selayar Island, 300 km due south of Luwu) and the Buton languages in Southeast Sulawesi.²⁹ Tampinna, the nearest site to Wotu, shows a similar maritime orientation. By at least the fifteenth century Tampinna had been established as a Bajau sea gypsy settlement, and remained so until its seventeenth century devastation at the hands of Wotu.³⁰ However, Malangke, which lies within the continuous distribution of the Bugis language, appears to have been Wotu's early counterpart. Tompe, Tampung Jawa and Lindrunge, all in Malangke, are the only three Luwu sites other than Tambu-Tambu to have clearly yielded thirteenth century imported ceramics.

Fourteenth century ceramics occur far more frequently in Luwu than thirteenth century ceramics, in terms of the number of sites and the quantity at any site. Puang Ma'tene and Puang Balubu (near Pinanto), Ussu, Pinanto, the area of Wotu's present-day township, and three more Malangke sites join the ranks of ceramic-bearing sites from the fourteenth century onwards. The pattern continues into the fifteenth and sixteenth centuries with the recovery of Ming-period ceramics at sites right across the study area, even extending to Lake Matano. This continuous increase in the importation of ceramics corresponds to the historical indications (discussed below)

Table 2: Early historical sites in Luwu dated by imported ceramics ³¹
(Bold Xs indicate major representations)

Site	Centuries				
	13 th	14 th	15 th	16 th	17 th
Tambu-Tambu (Wotu)	X	X	X	X	
Wotu township		X	X	X	X
Tampinna			X	X	X
Ussu		X	X	X	X
Turunan Damar					X
Katue/Poloe					X
Salabu			X	X	X
Matano/ Pa'angkaburu			X	X	X
Sukoyu/Pontanoa Bangka				X	X
Puang Ma'tene/Puang Balubu (near Pinanto)		X	X	X	
Pinanto		X	X	X	X
Sabbang Loang (later occupation)			X	X	X
Benteng Baebunta			X	X	X
Benteng Tompottikka (Palopo)					X
Tompe	X	X			
Tampung Jawa	X	X	X	X	
Lindrunge	X	X	X	X	
Pattimang Tua		X	X	X	X
Dadekoe		X	X	X	
Pincang Pute		X		X	
Panasae (near Tompe)			X		
Utti Batue			X	X	
Walewale/Mangge/Dato Sulaiman			X	X	
Lopa (near Mangge)/ Tanatede (near Pincang Pute)			X	X	
Arateng				X	
Lengkong Ulaweng			X	X	X
Malangke Beccu				X	X

that the peak of Luwu's efflorescence occurred between the fourteenth and sixteenth centuries.

The boom period coincided with the development of Pinanto as a major iron-working centre. This 260 metre-long granodiorite ridge on the Baebunta River has short, steep sides that combine accessibility and ease of defense. Five of the 22 test pits, from the north to the south of the site, yielded iron slag, often associated with fragments of iron artifacts and, in one test pit, two iron prills. Iron ore was not recovered, suggesting that pig iron was brought to the site. Most probably, this was ore smelted in the vicinity of the Bukit Porreo' and Pangiungen sources, and transported down the Rongkong River to its junction with the Baebunta. Pinanto would have been linked to the small sites with fifteenth to sixteenth century ceramics at Sabbang Loang and Benteng Baebunta (Table 2). The huge, looted site of Puang Ma'tenē, directly across the Baebunta from Pinanto, would have served as the general cemetery for the area's population. Cremated human remains are also reported from two smaller, elevated locations which are the probable sites of elite burial grounds – the pinnacle on the Pinanto ridge and, upstream from Pinanto, Puang Balubu. The complex of late pre-Islamic sites at the Rongkong-Baebunta junction could be considered a collecting centre, along the lines of Bronson's model, but it may be more relevant to emphasise the evident salience of iron. Pinanto's security advantages, and its association with a 'private' burial ground, certainly suggest that the operators of its iron industry enjoyed great prestige.³²

The oldest remembered Islamic grave at Benteng Baebunta is locally associated with the chief of the Baebunta people. He was reportedly the cousin of the first sultan of Ware' (Muhammad Wali Muzahir) and embraced Islam at the same time (1605).³³ The archaeological evidence summarised above strongly suggests that this Baebunta-speaking polity

flourished during the fifteenth and sixteenth centuries. However, its developments pale in comparison with Malangke, the pre-Islamic capital of Ware', to be detailed in the next section.

Major sociopolitical changes ensued after Ware' embraced Islam. Malangke was virtually abandoned, while Palopo (Benteng Tompotikka) registered its first evidence of occupation (Table 2). Local historical accounts record a succession dispute in the early seventeenth century between two incumbents to the Ware' throne, one based at Cilleleng in the south, and the other at Malangke. The outcome was the permanent relocation of the capital to Palopo, about halfway between Cilleleng and Malangke. Of relevance here, a text called the Tributary and Domain List of Luwuq, Bangkala and Binamu (TDLBB), which may be dated to c. 1600, lists the dependencies of Ware'.³⁴ Fully half of them lie along the narrow lowland strip that extends 70 km south from Palopo. Hence the relocation of the capital should be understood as a compromise between the evident concentration of population and agrarian potential in the lowlands south of Palopo, and the trade resources in the highlands to the north. Moreover, Palopo is itself advantageously located at the terminus of a major overland route that accesses resources such as gold and forest produce from the south-central highlands.³⁵

Although the archaeological evidence indicates that Luwu continued to grow, in absolute terms, throughout the sixteenth century and perhaps beyond, it was overshadowed by developments to the south. During the sixteenth and seventeenth centuries, the main agrarian Bugis chiefdoms such as Wajo and especially Bone (Fig. 1 inset), and the expanding empire of Macassar to the south, engaged in peninsula-wide warfare. These battles increasingly left Luwu as victim or neutral bystander.³⁶ Nonetheless, seventeenth century (and later) ceramics continued to be imported right

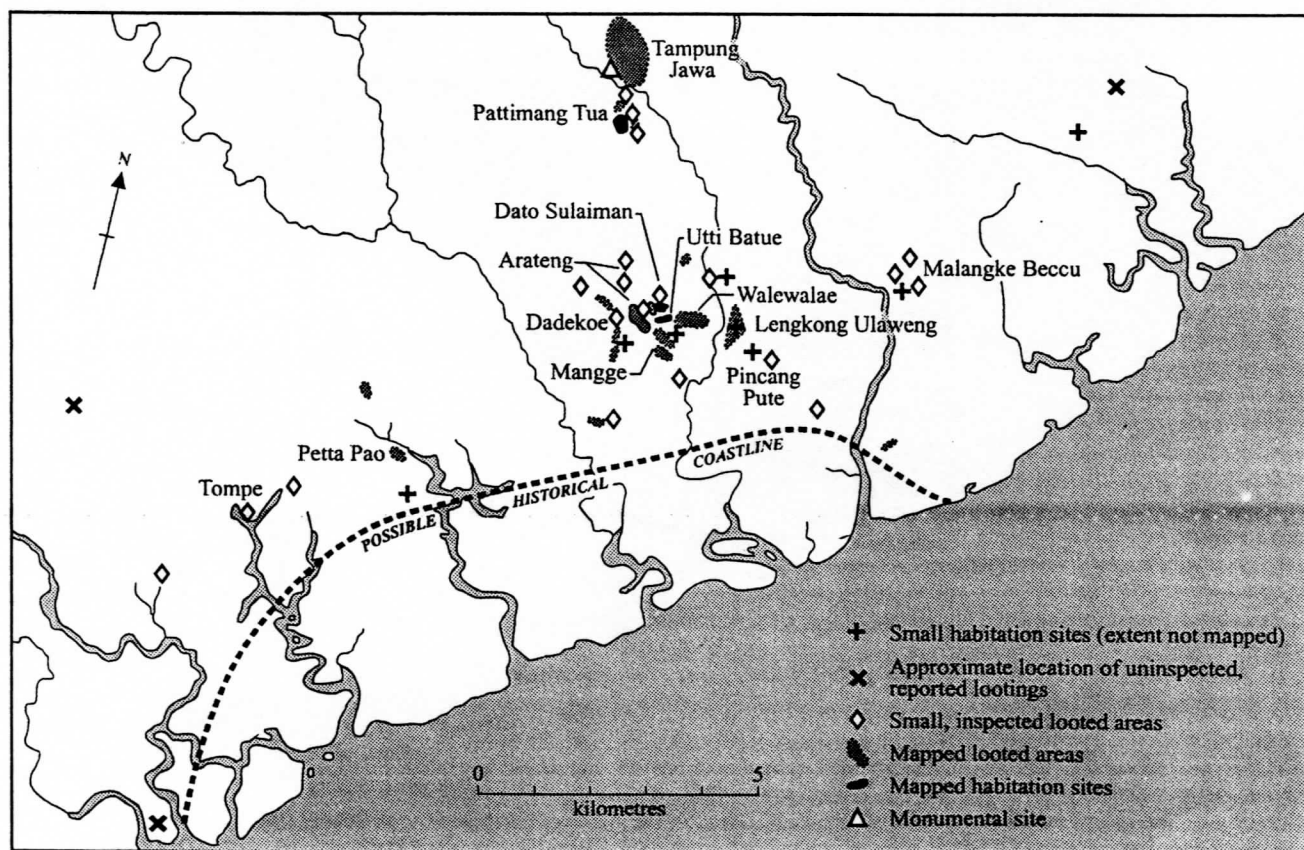


Fig. 2: Pre-Islamic sites recorded during the survey of Malangke, Luwu.

Table 3. Estimated populations (rounded off) for Malangke

Site group	14 th century	15 th century	16 th century	17 th century
Tampung Jawa/Pattimang Tua	2 000	2 000	2 000	220
Utti Batue cluster ¹	270	5 050	5 050	0
Peripheral sites ²	430	2 430	7 500	660
TOTAL (nearest hundred)	2 700	9 500	14 500	900

1 Lindrunge, Arateng, Mangge, Walewalae, Dato Sulaiman.

2 Other burial grounds not mentioned above.

Table 4. Estimated population size and density of Southeast Asian cities

City	Population size	Year	Area (km ²)	Population density (persons/hectare)
Thang-long ¹	1 000 000 ³	1640	22	455
Thang-long ¹	130 000 ⁴	1688	22	59
Mataram ¹	800 000 ⁵	1624	41	195
Banten ¹	>100 000 ³	1672	5	>200
Banten ¹	220 000 ⁵	1673	5	440
Banten ¹	700 000 ³	1684	5	1 400
Ayutthaya ¹	200 000 ³	1617-1686	15	147
Aceh ¹	45 500-52 000 ⁴	1688	12	+ 41
Macassar city ²	130 000 ⁴	1650	12	108
Patani ¹	10-20 000 ³	1690	2	+ 75

1 Reid 1993:71-74

2 Bulbeck 1994

3 observer's direct estimate

4 based on 6.5 persons per observer's estimated number of households

5 based on quadrupling the estimated number of fighting men.

across Luwu (including Katue, apparently re-occupied by this time), in association with the re-organisation of Luwu into its historically well-attested form (Table 2).³⁷

THE MALANGKE EMPORIUM

The OXIS program at Malangke included excavations at the two largest pre-Islamic habitation sites known in Luwu, Pattimang Tua (5.3 hectares) and Utti Batue (4.0 hectares). OXIS personnel also mapped numerous looted areas (invariably associated with reports of fragments of cremated human bone), and inspected the unsold antiques and surface sherds from these sites. The spatial distribution of the sites, and the burial of Utti Batue beneath half a metre of post-sixteenth century alluvium, suggest that pre-Islamic Malangke lay along a small bay (Figure 2).

Of the three sites in Malangke with clear traces of a thirteenth century commencement date (Table 2), Tampung Jawa was not only Luwu's largest pre-Islamic cemetery, but also its only definite instance of a pre-Islamic monument. Two earth mounds, approximately 30 metres in diameter and six metres high, had been ransacked by looters. These mortuary monuments reportedly yielded cremated remains, an enormous variety of gold, bronze and iron, and innumerable ceramics. Southeast of the mounds, one or more buried brick structures extended across a rectangular area approximately 30 metres by 70 metres, and looters reaped antiques here too. This would seem to be the sole pre-Islamic site in Luwu with brickwork. There is every reason to associate Tampung Jawa ('Javanese graveyard') with a prosperous Javanese enclave, especially as Luwu is the only Bugis polity mentioned among the fourteenth century 'vassals' of the Javanese empire of Majapahit.³⁸

At Pattimang Tua, across the river from Tampung Jawa, our excavations recovered 34 iron implements and fragments, and sherds from imported ceramics (some of exceptional quality) which date back to the fourteenth century. Four of the 11 test pits contained evidence of iron working, indicating that Pattimang Tua was a major industrial centre with possibly

1.6 hectares (as the best estimate) dedicated to the iron industry.

By the fifteenth century, Utti Batue had evidently emerged as Malangke's coastal trading centre. It is surrounded by looted cemeteries of predominantly fifteenth to sixteenth century antiquity (Table 2). One of these, Arateng, contained a boat-shaped coffin whose timber dates to between 1400 and 1635 (Table 1). Although this coffin had contained human ashes, the three coffins at Mangge reportedly held inhumed burials oriented east-west. These would represent either Makasars or Bajau sea gypsies. The Mangge cemetery also reportedly included a *kacapi* 'mandolin' among its grave goods (associated with a human skull). The southern area of Utti Batue is said to have produced a boulder engraved for playing *macang*, a Bugis game similar to chess. Utti Batue thus appears to have been the centre of a prosperous, cosmopolitan society where at least some of the traditional Bugis arts and pastimes were practised.³⁹

The tombs of the first sultan of Ware', Muhammad Wali Muzahir, and his religious teacher Dato Sulaiman lie at the north of Utti Batue. However, the palace had evidently shifted eastwards, to Malangke Beccu, by the early seventeenth century. The finest tradewares which date to c. 1600 occur here, along with an early Islamic coffin exquisitely carved in the 'Banten style',⁴⁰ and a tomb elaborately decorated in a 'Hindu-Javanese' style.⁴¹ The latter was the tomb of Sultan Nurussalam Petta Malangke who ruled Ware' at the time the capital shifted to Palopo. Despite these signs of conspicuous splendour, Malangke Beccu was clearly a much smaller settlement than Utti Batue, presumably reflecting the shift of sociopolitical power to southern Luwu.

The maximum population size of the Malangke site complex can be realistically estimated at approximately 10 000 residents. During inspection of the looted sites we noted that the looter's holes, when still observable, were generally spaced three metres apart. This allows an estimate of the maximum number of burials within any looted area, under the assumption that they were spread evenly across each

cemetery. A series of conservative assumptions then allows an estimate of the population represented.⁴² From these calculations, the Malangke population grew from an average of 2 700 residents in the fourteenth century to an average of 9 500 in the fifteenth century, and 14 500 in the sixteenth century, before plummeting to less than a thousand in the seventeenth century (Table 3).

These figures can be checked against the likely population size of the two surveyed Malangke settlements, based on a comparison with slightly later Southeast Asian cities. Seventeenth century European observers estimated both the population size and area of seven Southeast Asian cities, hence these cities' population densities can be derived (Table 4). Most of the resulting data points fall beneath Fletcher's⁴³ empirically derived ceiling on the maximum population density that can be sustained, for a given population size, within a single settlement (Fig. 3). In the case of one of the exceptions, Thang-long, a much lower population estimate is also available. This lower figure probably referred to the city proper, while the higher figure included the region as well as the city. A similar confusion probably affects both of the graphed estimates for Banten, though this was undoubtedly a congested city, as all sources estimate a population in excess of 100 000. The estimate of Mataram's population is perhaps also too high, as it is based on the number of fighting men (who would have been drawn from the surrounding region). All the other figures appear reliable, especially in the case of Ayutthaya with four internally consistent estimates. The six or seven reliable estimates of the population densities in these Southeast Asian cities consistently fall between 40 and 200 persons per hectare, with the higher densities indicating congested conditions (by world standards) for settlements of this size.⁴⁴

Fletcher's study emphasises that small settlements can sustain significantly higher population densities than large

settlements. Based on the 'interaction limit' and the Southeast Asian examples already discussed, the densities could have ranged from an average of about 100 person per hectare up to as many as 700 - 800 persons per hectare. In that case, for the various parts of Malangke, the 5.3 hectares in Pattimang Tua would correspond to a population size between 530 and 3 700 - 4 240 people, while the four hectares in Utti Batue would correspond to a figure between 400 and 2 800 - 3 200 inhabitants. The Pattimang Tua figure agrees well with the population estimate of 2 000 based on the Tampung Jawa and Pattimang Tua cemeteries (Table 3). The estimated number of inhabitants in Utti Batue is considerably less than the estimated population size derived from the surrounding cemeteries. However, the latter figure would include people who were attached to Utti Batue but dwelled beyond its boundaries. Similarly, up to half of Malangke's population may have resided in small settlements located away from the main centres of Pattimang Tua and Utti Batue (see the plus signs in Fig. 2). Hence the available data on settlement size confirm the feasibility of the estimates in Table 3, and indicate that the Malangke population size may have been in the 9 - 15 000 range during Luwu's fifteenth to sixteenth century heyday.

Not only was Malangke's population much larger than could be the case for any other pre-Islamic site in Luwu, but also Malangke's level of wealth must have been inordinately higher. Looters report astounding quantities of ceramics, glass beads, gold and other metals from the Malangke cemeteries. As noted above, Malangke evidently became a true entrepot which accommodated at least several language groups. Clearly, Malangke was the capital of Ware' throughout the fifteenth and sixteenth centuries. Most probably, Ware' was based at Malangke by AD 1365, when the *Desavarnana*, the Majapahit text that mentions Luwu, was composed. Indeed, all of the recorded pre-Islamic rulers of Ware' may have

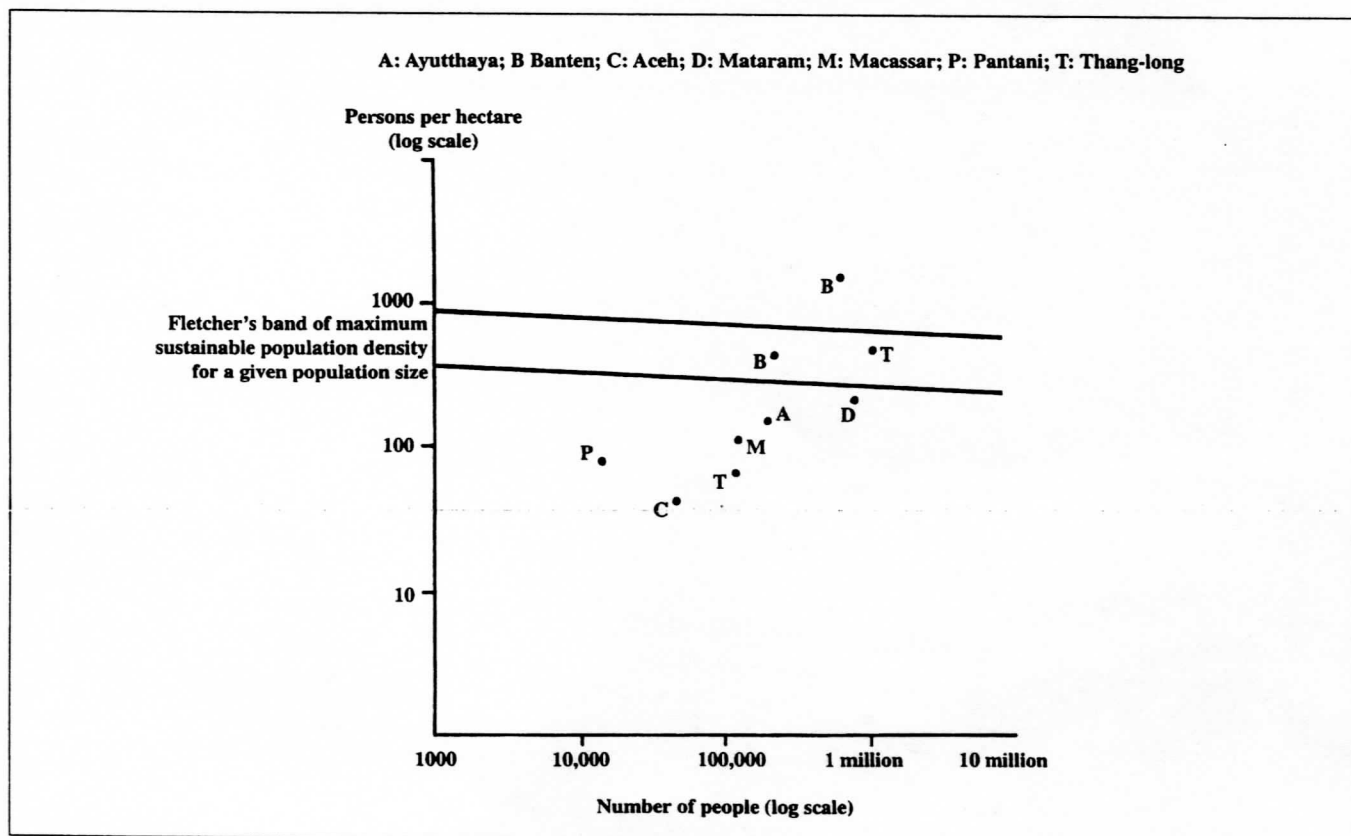


Fig. 3: Reported population size and density of seventeenth century Southeast Asian cities compared to Fletcher's ceiling on sustainable population density.

operated from Malangke. A 30-year average reign length would commence the inaugural reign of Tampabalusu to 1311,⁴⁵ a date which agrees remarkably well with the archaeological evidence on Malangke's early expansion.

Malangke is an ideal location for sago,⁴⁶ and marine resources such as fish would have thrived in the mangrove forest and adjacent bay. These resources may well have given the thirteenth to fourteenth century settlers a head start, but could hardly account for the spectacular growth of pre-Islamic Malangke. For this, we employ Earle's analysis of the chiefly manipulation of the three main sources of power.

ELITE CONTROL OVER THE LUWU ECONOMY

In contrast to the cases studied by Earle, food production would seem to have offered little scope for manipulative power strategies in Luwu. North of Palopo, the Luwu lowlands are a major destination for both spontaneous and government-sponsored transmigration, which implies that its agricultural potential has been historically under-exploited. Sago thrives regardless of human inducement across the vast swampy reaches. Only its processing would have involved a major investment of labour. In general Luwu stands out as a haven for arboriculture. Although parts of Luwu are renowned for the niggardly soils on their ultrabasic formations, this would have affected only a few OXIS sites (Salabu and the sites along Lake Matano's northern shore). The bones of large domestic mammals (water-buffalo or cattle, and pigs) are common wherever preservation conditions allow (e.g. Salabu, Tampinna, Utti Batue), suggesting abundant pasture and brush within a lightly inhabited land.

Forest produce is an important consideration and may have constituted the bulk of Luwu's export trade. Dammar gum, rattan cane, ebony and gharu wood figure as major upland resources. One variety of the abundant *bakau* mangroves produces a fine red timber, which may explain why Tampinna reportedly produced wooden sheaths for implements of Matano iron.⁴⁷ Wotu may have owed much of its earlier trading prominence to vegetable products. However, the sheer ubiquity of Luwu's forest produce would have tended to prevent elite control over its distribution, even if it had constituted a major sector of Malangke's non-elite economy.⁴⁸

The tightly sourced iron reserves in Rongkong (Bukit Porreo' and Pangiwanen) and Matano would have been more amenable to chiefly interference. Of all the toponyms in Luwu listed by the Tributary and Domain List of Luwuq, Bangkala and Binamu (TDLBB), only Rongkong and Matano lie well inland from the 100 metre contour.⁴⁹ The major product of Baebunta, which in effect lies at the head of an enormous delta occupied by Malangke, was surely forged Rongkong iron. The large iron industry at Pattimang Tua presumably utilised iron from Matano as well as Rongkong. The *to-Ussu* Bugis are ascribed a mythological significance which almost certainly relates to the importance of the Ussu-Cerekang area as Luwu's gateway for Matano iron.⁵⁰

Rongkong iron ore was reportedly used only for making weapons. Those of Porreo' iron supposedly poison the victim to death even if the blade penetrates the skin by a few centimetres. The Pangiwanen iron is also renowned as weapons-grade ore.⁵¹ According to one story in Rongkong, the Porreo' and Pangiwanen ores were blended to produce all the weapons borne by important Luwu male aristocrats.⁵² Writing in 1888, Van Braam Morris asserted that the most prized iron weapons in the entire Netherlands India were made in Rongkong and Wotu.⁵³ From the archaeological evidence, Rongkong iron would have merited a similar level of importance during the fifteenth and sixteenth centuries.

Lake Matano is the suspected source of the ore that gives *pamor luwu*, which is distinguished by silvery lines on pattern-welded kris daggers after they had been darkened with chemical etchants. *Pamor luwu* appears to have been used in Java to produce prestigious krisses since Majapahit times.⁵⁴ The fifteenth to sixteenth century establishment of a major iron-smelting operation at Matano coincides with Malangke's heyday.⁵⁵

If the high stakes in Luwu's economy revolved on iron, as appears likely, how could Ware' have employed economic incentives to concentrate the iron industry in Malangke? Conceivably, rice may have been widely desired in Luwu for feasting and as an elite foodstuff, and Malangke could have monopolised the rice trade from the south. Nonetheless, exotic prestige goods, best represented archaeologically by ceramics, were probably more important. Fifteenth to sixteenth century wares occur widely in Luwu sites, but large numbers have been documented only at Malangke, Baebunta and Wotu. As noted above, all relevant evidence indicates a close relationship between Baebunta and Ware'. And Wotu probably operated as a coastal collection centre for produce, including Matano iron (via Ussu), to be shipped on to Malangke.⁵⁶ The shared practice of cremations at Baebunta, Malangke and Wotu further suggests elite linkages between these three trading nodes. Elite control over the distribution of prestige goods is invoked in many models (including Earle's) on the formation of complex polities, but this raises the question of how Ware' maintained that control.

ELITE MILITARY CONTROL

There is abundant archaeological evidence pointing to the importance of iron weaponry in late pre-Islamic Luwu. Direct evidence includes fragments of knives, machetes and a suspected kris recovered from Pattimang Tua, Utti Batue, Pinanto and Rahampu'u. Knives, swords and daggers feature among the goods reportedly looted from Puang Ma'tene, Puang Balubu, Tampung Jawa, Pattimang Tua, Mangge, Arateng, Dadekoe, Pincang Pute, Lengkong Ulaweng, Tampinna, Kuburan Ussu, Weilawi (Malangke), and Kawasule (upriver from Salabu). I was shown a two-metre long cannon dug up at Wotu's pre-Islamic cemetery, and a cannonball from Mangge, both of which imply the presence of artillery in pre-Islamic Luwu.⁵⁷ The emphasis on weapons in the historical accounts of Luwu iron (discussed earlier) is strongly corroborated by the archaeological evidence.

Security in Luwu's hinterland may have been a constant headache. Late nineteenth century European observers paint a terrifying picture of the Mori and related linguistic groups in the uplands north of Wotu. Their specific variant of ranked social organization involved constant raiding and, especially, headhunting to elevate the status of any community's (temporary) leadership.⁵⁸ The Rongkong and Matano iron-working communities may have depended for their viability on being major weapon producers. The Rongkong inhabitants indeed enjoy the reputation of being among Luwu's fiercest warriors.⁵⁹ The location of the main Baebunta settlement of Pinanto on an elevated ridge suggests concern with attacks from the mountains even where sites border the coastal plain. The hinterland dependencies of Ware' (as depicted in the TDLBB) may have been restricted to Rongkong and Matano simply because secure lines of communication could be maintained in the highlands, and were only worth maintaining, with communities producing abundant weaponry.

Communities along Luwu's coastal plain would have been at some risk from highland assaults, and prone to squabbling with each other, but security here would have been economically viable. The Ware' troops, based in Malangke (where so many weapons have been looted), may have

collected protection payments to secure Luwu's coastally oriented dependencies or, during calmer interludes, to leave them in peace.⁶⁰ Control over the distribution of the weapons made of Rongkong and Matano iron, and a large standing force in Malangke (supplemented by warriors from the smaller settlements), would both have been necessary to ensure that Malangke retained its military control. Naval dominance keeping the seaways safe, and even proactive encouragement to use the Malangke facilities, are strongly implied by Malangke's commercial success.

Recent work suggests that the founding of Malangke may have been an extension of the early naval prominence of Ware'. The list of Ware' rulers starts with three apocryphal figures who are also associated with Cina, an ancient Bugis chiefdom well to the south of Luwu (see Fig. 1 inset). The Cina genealogy claims that Simpursia (the first ruler of Ware') descended from heaven at Lompo.⁶¹ According to local accounts collected by Ian Caldwell, Lompo lies in Sengkang, the capital of modern-day Wajo. Ware' could have colonised Malangke as part of a naval expansion that involved control over the mighty Cenrana River (which flows from Sengkang to the coast) and the coastline as far north as Malangke.

Caldwell's hypothesis neatly explains a puzzle in Bugis pre-Islamic history. At approximately AD 1500, Ware' was involved in a series of conflicts with Wajo, Sidenreng and Bone, three Bugis agrarian chiefdoms located south of Luwu (Fig. 1 inset). In the mid sixteenth century, Bone forced Ware' to abandon the mouth of the Cenrana. The accounts indicate that Ware' was gradually forced to surrender land that it had previously controlled. Previous scenarios have always interpreted these records as the repulsion of an unrecorded but ancient expansion by Luwu into the southwest peninsula.⁶² A less presumptuous interpretation is afforded by the evidence that Ware' had originated on the Cenrana. The battles described would now be seen as the staged transfer of the ancestral domains of Ware' to the agrarian chiefdoms which flourished along the Cenrana Valley after c. 1400. The expansion by Ware' into Luwu may even have stretched its military resources, leading to the loss of the Cenrana notwithstanding the net territorial gains.

ELITE CONTROL OVER IDEOLOGY

Four intertwined elements may be detected in the elite ideology of Ware'. These are a rich array of Indic overtones, the standard Bugis emphasis on the white-blooded pedigree of its rulers, Luwu's primordial status in the La Galigo epic, and the organisation of Luwu into directly ruled lands (domains) and tributaries in the TDLBB.

Luwu's connections with late Hindu-Buddhist Java are implied by its citation as a Majapahit vassal, and the Sanskrit names of two of its rulers.⁶³ This raises the question of the degree to which Ware' adopted Hindu-Javanese cultural forms. Caldwell's reconstruction of early Ware' as a maritime power controlling the Cenrana Valley and southern Luwu suggests that Ware' was more open to long-distance contacts than the other Bugis chiefdoms. Ware' may have derived considerable prestige from its links with Java, while the Javanese at Tampung Jawa would have contributed technical and organisational skills to Malangke's operations. Ware' is thus a likely conduit for the smattering of Indic elements found in traditional Bugis culture, such as the name of the transvestite priests (*bissu*), the days of the months, and certain ritual and cosmological aspects of rice cultivation. However, Indic high culture, such as the Ramayana and other literary epics, monumental inscriptions, and any concepts of priest and warrior castes, would appear absent from South Sulawesi.⁶⁴ Any Hindu-Javanese ideological influence on Ware' would seem to have been superficial.

So much is clear from origin stories about Ware'. One set of legends, the *attoriolonna Simpursia*, stresses relations with Majapahit. It also combines numerous Sanskrit emblems and names with possible evocations of elements from the Malay version of the Ramayana. But the point of these legends is to account for the regalia of Ware', reflecting a standard Bugis literary concern with royal insignia. Two genealogical versions of the apocryphal founder of Ware', Simpursia, emphasise his association with settlements along the Cenrana.⁶⁵ Though his name may well be a corruption of the Sanskrit for 'lion man', the important point is his representation as a 'descended one' or *tomanurung*, analogous to the legendary founders of the other Bugis chiefdoms. Hence his descendants, the rulers of Ware', locked into usual Bugis elite ideology regarding the basis of their legitimacy to reign.

However, the late pre-Islamic history of Ware' was, in gross terms, the loss of the Cenrana as Ware' consolidated its hold over Luwu. This trajectory poses problems of legitimacy, in terms of ancestral occupation, both for the chiefdoms which absorbed the ancient domain of Ware', and for Ware' in its new holdings. I suggest that the La Galigo mythology may have been manipulated as an ideological device to resolve those problems.

The La Galigo, one of the world's largest bodies of literature, was evidently not transcribed before the eighteenth and nineteenth centuries. However, these transcriptions employ a form of Bugis that dates back to at least the sixteenth century. By the late seventeenth century the concept of a long gone 'La Galigo age' had developed.⁶⁶ The events in the La Galigo start with the descent to earth of Bataru Guru, son of the ruler of the Upper World, to marry the daughter of the lord of the Lower World. The fourth generation of their descendants includes the main protagonist of the La Galigo, Sawerigading. After adventitiously falling in love with his sister, Sawerigading hears of a princess of Cina, We Cudai, of identical appearance. He ventures from Luwu on an epic voyage to abduct We Cudai, and most of the subsequent action takes place in Cina. After the birth of the sixth generation, all the descendants leave earth, except for one couple who stay and rule over Luwu.⁶⁷ The story thus seemingly originates Ware' in Luwu, and transports Ware' into the Cenrana and out of it again during a bygone time populated by semi-divine heroes.

The *to-Ussu* treat the La Galigo as the account of how humanity originated in Cerekang. Their sacred sites locate the major events of the La Galigo within Ussu and Cerekang. Wotu speakers, however, challenge *to-Ussu* ownership by locating the early events of the La Galigo in Wotu.⁶⁸ The La Galigo creation myth presumably originated somewhere between Wotu and Ussu, especially as many South Sulawesi Bajau claim Ussu as their place of origins, in a group of stories that contain numerous La Galigo elements.⁶⁹ Whoever might have first formulated the creation mythology, its attractions to the Ware' court are obvious. It could be construed as establishing the primordial, divine authority of the Ware' rulers in Luwu, prior to their appearance in the Cenrana, and it emphasised the special status of the Ussu area as Luwu's main outlet for Matano iron.

Finally, the Tributary and Domain List of Luwuq, Bangkala and Binamu (TDLBB) reflects pragmatic aspects in the elite ideology of Ware'. Bangkala and Binamu were two Makasar-speaking chiefdoms on the very southwest tip of Sulawesi, an ideal staging post for trade with the western archipelago. The TDLBB mentions them probably as a reflection of their commercial relationship with Ware'. In Bangkala and Binamu, the tributaries and domains fall into sensible geographical groupings which would appear to reflect the historical expansion of these polities.⁷⁰ However, the concepts

of tributary and domain seem to have been employed differently in Luwu. North of Palopo, the domains were strung along the coast, and were presumably coastal collecting centres, while the tributaries were located inland. Along the coastal strip south of Palopo, the tributaries lay close to Palopo while the domains usually lay farther south.⁷¹ Luwu's dichotomous representation of domains and tributaries in the TDLBB probably reflects the tension between the dendritic economy north of Palopo, so important to Luwu's wealth and its supply of weaponry, and south Luwu with its denser population, more agrarian economy, and a probably longer time depth of Bugis habitation.

CONCLUSIONS

Recent insights place the origins of Ware' in the Cenrana lowlands where, as proposed previously, the Bugis traditions of chiefly rule and a literate elite probably originated.⁷² On the other hand, the archaeological record traces iron smelting in Luwu back to 1 500 or 2 000 years ago. As interpreted here, Ware' effectively released the Cenrana lowlands to concentrate on Luwu's iron outlets. Luwu's attractions to traders and other settlers from southernmost Sulawesi and beyond engendered a rich court culture that provided a *pro forma* for the other Bugis chiefdoms. Ware' blended Javanese, Bugis, and indigenous Luwu elements into an ideology which legitimised its rule after relocating to Luwu. Relationships by descent to ancestral Ware' rulers also became a source of legitimacy for the rulers of the agrarian chiefdoms that absorbed the ancient holdings of Ware'. Further, Ware' temporarily compensated for Luwu's low population densities through a concentration of inhabitants at Malangke, although ultimately population growth in the southwest peninsula (and wider political developments) humbled Luwu's military aspirations.

Luwu's high-quality iron in a vast, ethnically rifted land, replete with dangerous frontiers, led to substantial fusion between the military and elite economic sectors. Iron was evidently used primarily to make weapons; superior weapons could defend the iron workers as well as long-distance traders; iron weapons were a highly desirable commodity to obtain prestige goods. The intimate relationship between prosperity and military prowess remained a dominant feature of fifteenth to seventeenth century politics in South Sulawesi generally.⁷³ The complementary and, in many ways, parallel nature of the developments in pre-Islamic Luwu, and its agrarian Bugis peers to the south, can be understood with reference to Earle's structural analysis of chiefdoms.

Unlike most chiefdoms with a dendritic economy, Ware' exploited a hinterland resource to manufacture goods perceived as essential, especially weapons. The fusion of Luwu's military and elite economy would be atypical of the polities considered by Bronson which, instead, resemble Earle's prestige-good chiefdoms.⁷⁴ In prestige-good chiefdoms, the ruling ideology is tightly tethered to the exchange of status goods, but this would clearly not be true of Ware'. In addition, Luwu's political structure was far more complex and durable than would be expected of the quixotic fortunes of prestige-good chiefdoms. Ware' also departed radically from chiefdoms based on military power, such as Earle's hill-fort chiefdoms, which show little ideological elaboration. The closest match for Ware' would be Earle's staple-finance chiefdoms with their 'central institutional control that took them to the very edge of state society'.⁷⁵ Notwithstanding the differences between the intensive subsistence economies that Earle considers here, and Luwu's iron-based economy, Luwu had a complex, integrated economy and a diverse constitutional basis. These factors account for the parallels in general social organisation despite the contrasts in vulgar materialist terms.

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NOTES

- 1 Earle 1997. The book is presented as a study in 'prehistory', but Earle illuminates his archaeological evidence through direct historical analogies and certain narrative details that he deduces from accounts written close to the time. The Bugis considered in this article included a literate elite, but their texts are of limited historiographic value unless they are linked to the archaeology, following Earle's example.
- 2 Caldwell 1988:78; Koolhof 2000:27-28.
- 3 Bronson 1977.
- 4 Caldwell 1988, 1998; Caldwell and Lillie in press.
- 5 Whitten et al. 1987; Bulbeck 1992.
- 6 Macknight 1983; Grimes and Grimes 1987; Caldwell 1995:409.
- 7 Caldwell 1993, 1994.
- 8 Bulbeck and Prasetyo 1997, 1998.
- 9 Bulbeck and Prasetyo 1999.
- 10 Stuiver and Reimer 1993.
- 11 Chabot 1967; Grimes and Grimes 1987; Acciaioli 1989; Mackenzie 1994; Pelras 1996.
- 12 Grimes and Grimes 1987:26-32; Caldwell 1988, 1995; Bulbeck 1992.
- 13 Bulbeck 1996-7.
- 14 Bulbeck 1992, 1996; see also Chabot 1967 and Caldwell 1995.
- 15 Andaya 1981; Bulbeck 1996.
- 16 Andaya 1981:31-35; Pelras 1985.
- 17 Caldwell and Druce 1998; Bulbeck and Prasetyo 1999, 2000.
- 18 Grimes and Grimes 1987.
- 19 Caldwell and Druce 1998:23.
- 20 Acciaioli 1989; see also Pelras 1996 and Ali Fadillah 2000.

- 21 Pelras 1996; Caldwell and Druce 1998; Koolhof 1999; Darmawan et al. 1999.
- 22 Willems (1938) excavated 11 massive earthen jars from the same locality in Sabbang Loang referred to here, and subsequent infrastructural developments have disturbed many more. Willems also mentioned 'Chinese sherds', but he presumably obtained these from a separate location in the site where imported, fifteenth to seventeenth century antiquity ceramics may be found as surface finds (Bulbeck and Prasetyo 1999, 2000).
- 23 Bulbeck and Prasetyo 1999; Bulbeck 2000.
- 24 Bulbeck 2000; see Bulbeck and Prasetyo 2000.
- 25 Bulbeck 2000.
- 26 Bulbeck and Prasetyo 1999; Bulbeck 2000.
- 27 Bulbeck 1992, 1996-7.
- 28 Pelras 1996:60.
- 29 Grimes and Grimes 1987; Sirk 1988.
- 30 Caldwell and Druce 1998:23; Bulbeck and Prasetyo 1999.
- 31 Bulbeck and Prasetyo 1999.
- 32 Bulbeck 2000; Bulbeck and Prasetyo 1999. As further evidence of the high status of ironworking, one of the imported jars looted at Puang Balubu reportedly held the tools of an iron smith.
- 33 Unpublished field notes.
- 34 Caldwell and Druce 1998.
- 35 Bulbeck and Prasetyo 1999; see also Caldwell 1988.
- 36 Andaya 1981; Pelras 1996.
- 37 Consideration of the Islamic period lies beyond the scope of this paper. The interested reader may consult Mappasunda and Hafid (1992/3), Irfan ~~Mahmud~~ (1993) and Schrauwers (1997).
- 38 Robinson 1995; Bulbeck and Prasetyo 1999. Strictly speaking, the meaning of Tampung Jawa in Bugis is foreigner's graveyard, but this is because the Javanese represent the archetypal foreigner to the Bugis.
- 39 Bulbeck and Prasetyo 1999, 2000.
- 40 See Ambary et al. 1993: Plates 153-162.
- 41 Van Lijf 1953. The tomb was destroyed during the 1950s' Kahar Muzakar rebellion.
- 42 Assume that, at Malangke, the number of looted burials broadly equals the number of buried adults. Assume also that a Malangke inhabitant, having reached adulthood, had an average life expectancy of 40 to 45 years old (cf. Acsádi and Nemeskéri 1970:213), i.e., this person lived as an adult in Malangke for about 25 years. Hence four looted burials would on average represent one adult in the population for a period of 100 years. These four burials would further correspond to an average of two individuals (1 adult + 1 child) over the century, based on the conservative assumption of equal numbers of adults and children in the population at any time (cf. Siven 1991: 115). That is, if the cemetery had been used for a century, the number of looted burials divided by two would roughly represent the average population using the cemetery over the century. The surveyed size of a looted burial ground allows us to estimate the number of burials, spaced three metres apart, within the cemetery (call this B). Dividing this figure by two (B/2) produces the average population the cemetery represents if it had been used for a century. However, most cemeteries had been used for more than a century (Table 2). Hence the variable B/2 is divided by the number of centuries during which the cemetery was in use, to estimate the average population represented by the cemetery throughout its period of use (Bulbeck and Prasetyo 1999).
- 43 Fletcher 1995. I thank Roland Fletcher for his advice, followed in the text, on how to interpret the sometimes conflicting estimates of the population size of seventeenth century Southeast Asian cities.
- 44 My use of Reid's figures (Table 4) excludes all population estimates based on the number of fighting men, except in the case of Mataram (where no other estimate is available), and Banten (where I have employed the median of three figures ranging between 125 000 and 800 000). Note that the estimate based on troop numbers would appear to be reliable in the case of Ayutthaya (240 000 compared to several direct estimates of a population of 200 000). The surprisingly high population density in Banten could not be ascribed to an underestimate of the city's extent, as the archaeological survey and excavations of Banten would imply a slightly smaller area of only some 4.5 square km (Nayati 1994:Map 4). Reid (1993:73) also estimated a maximum urban congestion of approximately 200 persons per hectare in seventeenth century Southeast Asia.
- 45 Caldwell 1998:39.
- 46 Osazawa 1986.
- 47 Caldwell 1993; Caldwell 1995:411; Caldwell and Druce 1998:22-23; Bulbeck and Prasetyo 1999.
- 48 To some degree, the iron industry figures so prominently in Luwu's reconstructible archaeology because of the poor preservation prospects for the region's organic exports. Analysis currently underway on the phytoliths from various sites should provide an insight into the degree to which Luwu's forest produce complemented the trade in iron.
- 49 Bulbeck and Prasetyo 1999:Fig. 1.
- 50 Pelras 1996:59. According to Pelras, Matano iron was known in Luwu as the iron of the Ussu people.
- 51 Caldwell and Druce 1998:16.
- 52 Bulbeck and Prasetyo 1997.
- 53 Mappasanda and Hafid 1992/3:15.
- 54 Bronson 1987; Maisey 1988; Caldwell 1988:183.
- 55 Matano however presented an administrative problem for Ware', as it was remote and its iron could be just as easily exported northwards, rather than south through Luwu. Pelras (1966:249) links the decline in Luwu's hegemony after c. 1500 to Luwu's loosening grip on Matano iron.
- 56 Wotu appears to have enjoyed considerable autonomy within Luwu, hence its exclusion from the dependencies of Ware' listed in the TDLBB (Caldwell and Druce 1998). Sirk (1988) even suggests that Wotu was one of the languages of the Luwu court.
- 57 Bulbeck 1996-7:1041; Bulbeck and Prasetyo 1999.
- 58 Schrauwers 1997.
- 59 Mappasanda and Hafid 1992/3:51.
- 60 Tampinna's devastation by Wotu in the late seventeenth century may well reflect Luwu's diminished peacekeeping capabilities after the capital shifted to Palopo.
- 61 Caldwell 1988:92, 1998.
- 62 Caldwell 1988: 190-194; Pelras 1996.
- 63 Uniquely among the Bugis chiefdoms, two pre-Islamic rulers of Ware', Batara Guru and Dewaraja, bore Sanskrit titles (Caldwell 1998).

- 64 Caldwell 1995:403.
- 65 Caldwell 1988:42-47, 62, 92. One of the settlements, Tampangeng, possibly reappears as a dependency of Ware' in the TDLBB, which would be anachronistic as no other settlements along the Cenrana are cited (Caldwell and Druce 1998). Ware' court literature may have retained the memory of the chiefdom's ancient holdings even if they had been sunken into the legendary past.
- 66 Macknight 1993:26-28; Koolhof 1999.
- 67 Macknight 1993:26; Pelras:1996; Koolhof 1999:371.
- 68 Caldwell and Druce 1998; Darmawan *et al.* 1999. There is considerable anecdotal evidence to suggest some level of coincidence between the pre-Islamic historical sites in Ussu and Cerekang and the area's sacred sites (Bulbeck and Prasetyo 1998, 1999). OXIS was barred from working in the sacred sites, which prevents a reliable archaeological perspective on the settlement and economic history of the area. Until those sacred sites are opened to archaeological work, the antiquity of Bugis settlement here, and their relation to the trade in Matano iron, will remain mysterious.
- 69 Liebner 1998.
- 70 Caldwell and Druce 1998; Caldwell and Bougas in prep.
- 71 Bulbeck and Prasetyo 1999:Fig. 1.
- 72 Bulbeck 1993.
- 73 See Macknight 1993; Caldwell 1995; Pelras 1996.
- 74 See Earle 1997:209-210.
- 75 Earle 1997:210.

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