

Description and Preliminary Chronology of Macassar Historical Earthenware Decorations

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Introduction

Our article analyzes the motifs recorded on decorated earthenware sherds from historical sites in Macassar and environs, South Sulawesi. Clune (1996) studied 455 decorated earthenware sherds, including slipped, burnished and painted monochrome sherds, which Bulbeck (1992) had collected from the <<Makassar intensive survey area>> (Figure 1) between 1986 and 1987. Bulbeck's <<SouthjSulawesi Prehistoric and Historical Archaeology Project>> (SSPHAP) aimed to elucidate Macassar's early history through archaeological survey of (i) all *circa* twelfth century to seventeenth century burial sites, and (ii) any fortifications and former kampongs in direct association with those burial grounds (Macknight 1993a). Clune classified the incised, impressed, stamped, combed, molded, modelled, and applique earthenware decoration into 32 major elements, as summarized here. We will also provide preliminary chronology for 28 element which can be dated with any reliability. Finally, we will investigate the occurrence of the Macassar decoratif element

among the pottery recovered from the nearby rock shelters of Batu Ejaya. Leang Karasssa¹, Ulu Leang 2, plus <<Maros 9>> and Leang paja near Ulu Leang 2 (see Figure 1).

The first historical reference to Macassar is its listing with the tributary kingdoms of Java's empire Majapahit in the fourteenth century poem *Nagarakertagama* (Robson 1995). Pelras (1981: 154) and Reid (1983:119) disputed any association between this Macassar, and the city which emerged as an emporium by the middle sixteenth century. However, large quantities of high-fired Asian ceramics were being imported through the latter area by at least the thirteenth century (Bulbeck 1992:398). It was not until the early sixteenth century that Portuguese traders and the Malay community first established themselves in Macassar, according to the chronicle of Gowa, the Macassar-speaking kingdom which was primarily responsible for superintending the local trade (Wolhoff and Abdurrahim n.d.) At that stage the Macassar inhabitants inhumed their dead in an extended position, accompanied by pots and other grave goods.

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Vestiges on this practice continued throughout the seventeenth century, even after Macassar's official conversion to Islam in 1605 (Bulbeck 1992).

During the seventeenth century the population rose to 100,000 inhabitants, at a conservative estimate, as Macassar became the centre of a network which traded cloves and nutmeg from eastern Indonesia in defiance of the attempt by the Dutch East India Company to impose its monopoly on these spices (reid 1987; Bulbeck 1992). In 1667 The Dutch East India Company occupied the city and took over the trade in spices and other precious commodities (Andaya 1981). The associated disturbance appear to have stimulated the growth of extensive trading network in eastern Indonesia made up of Macassar and their Bugigis neighbours (Leirissa 1993). One their major activities was the systematic harvesting and processing of sea cucumbers in northern Australia after *circa* 1700 (Macknight 1976). Following the struggles associated with the Second World War and Indonesian's independence, Macassar was renamed Ujung Pandang, and is today a modern city with nearly a million residents.

Materials

Decorated earthenware have become part of assemblages recorded by SSPHAP in many ways. Between about the eleventh and the fourteenth centuries, deceased were apparently cremated and their remains interred in earthenware or stoneware jars (Bulbeck 1996-7), along with funerary goods which could include small pots. Analysis of the excavated material from the pre-Islamic cemetery of Somba Opu, Takalar (Figure 1), register the *circa* A.D. 1400 changeover from the predominant interment of

decorated and other fine earthenwares, to a focus on imported ceramics distributed around the extended corpse (Bulbeck 1996-7:1031). Nonetheless, earthenware pots continued to feature among the grave goods even after inhumation became the standard burial practice (e.g. Bulbeck 1992:285).

Virtually all of the pre-Islamic cemeteries recorded by SSPHAP were identified through evidence of clandestine looting, including the aggregate of broken ceramic left by the looters' coarse digging techniques. Further, many pre-Islamic cemeteries continued in use during Islamic times, and one commonly finds the graves of revered ancestor studded with votive earthenware pots, either as offerings, or as receptacles for burning incense and other substances. Finally, owing to high population densities, people have been living near the graves of their ancestors for centuries, so most of SSPHAP's sites areas of habitation debris that about or overlap with the identifiable burial ground. As SSPHAP's decorated earthenware sherds are all from surface collections, their precise systemic context can rarely be certified, so consideration of the utilitarian or ceremonial role of the various decorative elements lies beyond the scope of our paper.

To date SSPHAP's sites, Bulbeck (1992:AppendixB; Kallupa *et al.* 1989) focus on the 42,980 high-fired ceramics pieces recorded during the Macassar and Soppeng surveys. By assuming that high-fired ceramics of the same age would tend to occur together in the survey zones, Bulbeck seriated the 30 Classes recognized by SSPHAP, which gave them relative ages that agreed well with their chronological order as reported in the specialist literature. By further adopting the absolute date ranges from the literature,

Bulbeck estimated the number of pieces pertaining to each half-century at each site. To compensate for the fact that very different quantities of ceramics were imported into Macassar over the ages, the raw frequencies were expressed as a percentage of the total pieces per half-century from all of the Macassar Sites. (These steps involved essentially the same arithmetic procedures as used in this article, Tables 1 and 2). The bulges in these standardized frequencies were interpreted to represent major periods of site use, as confirmed by the relevant historical references to the sites, and the small number of available radiocarbon dates from associated organic materials (Bulbeck 1992).

Following Bulbeck (1996-7), eleventh to thirteenth century dating are assigned to two sites with local report of metallic grave goods associated with cremated human remains, but lacking any evidence of high-fired ceramics: Galoggoro (Gowa 89), and Gowa 85, zone 10 (Bonto Ramba). Sites dominated by early whitewares and monochromes among their tradewares, lacking blue-and-white ceramic, are assigned to the twelfth to fourteenth centuries if "Northern Song Dynasty" types are present, as at Talaborong or Gowa 24 (here supported by radiocarbon date on cremated human bone) and at Kalukuang or Takalar 30, otherwise to the thirteenth-fourteenth centuries if "Southern Song Dynasty" types appeared to be the earliest wares, as at manjalling Lompoe, zone 14-15 (Gowa 21).

A few more assemblages contain healthy proportions of the early tradewares, along with slightly later tradewares such as Ming whitewares, early Chinese blue-and-white, and Vietnamese blue-and-white (Bulbeck 1992). They derive from the areas looted for antiques at Kanjilo Lama or Gowa 6

(thirteenth to fifteenth centuries), at zone 4 near the southern extension of Benteng somba Opu, Gowa (thirteenth to sixteenth centuries, at Sero or Gowa 26 (also thirteenth to sixteenth centuries), and at Likuloe or Gowa 86 (fourteenth to sixteenth centuries). The small pre-Islamic burial grounds at Bonto Jalling (Gowa 10) and at Jipang Bidaraya (Ujung Pandang 11) are both dated to the fourteenth-fifteenth centuries from the occurrence of Ming whitewares and early blue-and-white.

SSPHAP's most common class of sites involves burial grounds where local report indicated the recovery of predominantly Ming ceramics, and contemporary wares from Vietnam and Thailand. These were associated with extended east-west inhumations, where the local soil permitted the preservation of bone, and log coffins along the coast and occasionally in the hinterland (Bulbeck 1992, 1996-7). This burial tradition lasted into the seventeenth century as shown at those sites with abundant Swatow or Kraaksporcelain wares, and at Bayoa Empang where two radiocarbon-dated samples from a remnant log coffin suggest it dates to the seventeenth century. SSPHAP collected surface assemblages from these looted cemeteries which can be dated to the fifteenth-sixteenth centuries at Kaluku Bodoa in Galesong (Takalar 17), to the sixteenth-seventeenth centuries at Mamampang (ujung Pandang 5), and between the fifteenth and seventeenth centuries at Bayoa Empang (ujung Pandang 1, zone 1 to 7), Jamarang Tua (Takalar 5), mandalle' Toa (Gowa 20) Talla-Talla (Gowa 50) and Pattalassang Toa (Gowa 52).

In two cases dated to fifteenth-sixteenth centuries, tradeware assemblages dominated by Ming-period wares appear to represent the

remnants of habitation : Balang Sari (Gowa 63, zone 1-4) and a stratified exposure at Dampang (Gowa 77, zones 10-15). In a third case, east Moncongloe Lapparra (Maros 6, various zones), SSPHAP's surveys covered the residential centre of the local nobility, as well as scattered burial grounds.

Islamic cemetery areas with seventeenth century beginning, as evidenced by sporadic looting or very early styles of Islamic grave markers, sometimes contained sherds of decorated earthenware which SSPHAP collected. These include the Pannujuang (Gowa 19, zone 1-2) and Daeng Bane Islamic cemeteries (Gowa 36), which can be dated between the seventeenth and nineteenth centuries, and Manyampang Tua (Gowa 13), Kaledu Paya (Gowa 22), and Pao-Pao Islamic cemetery (Gowa 38), which can be dated seventeenth and twentieth centuries. A couple of the recorded Islamic cemeteries probably had eighteenth century beginnings, before continuing in use till the present day : jipang (Ujung Pandang 12) and Batu Pute (Takalar 8).

More usually, decorated earthenware associated with Islamic-period tradewares (Ch'ing Chinese, Japanese, European) were collected in contexts representing mainly or entirely the vestiges of habitation. At Sampulungang, Takalar 10, erosion had exposed a thin band of pottery of seventeenth-eighteenth century dating, stratified beneath the Islamic graveyard. Zone 1 to 5 at Bonto Ramba (Gowa 85) correspond to a hamlet, dated between the seventeenth and nineteenth centuries from its tradewares, which had certainly been abandoned by 1922 when the Dutch colonial government mapped this area. A mound of earth from a recently dug well at kanjilo (Gowa 6, zone 22) contained abundant pottery, of which

SSPHAP's team collected the rims, and a few tradewares dating between the seventeenth and twentieth centuries (Bulbeck 1992: Photo 8-19). Other seventeenth to twentieth century decorated earthenwares were collected at west Moncongloe Lapparra (Maros 6, zone other than those of East Moncongloe), Karunrung (Ujung Pandang 13), and Bangkala-Palembang (Gowa 65). Eighteenth to twentieth century sherds were collected at Bontona Songkolo (Gowa 83), a recently established village, and saukang Boe (Gowa 80) which used to be a pre-Islamic cemetery before its habitation in more recent times.

Various sites with decorated earthenwares span the "Ming" and "Ch'ing" periods. Most were used for at least five centuries. These long-lived sites include Kale Gowa fort (Gowa 1/Ujung Pandang 10), Garassi', fort (Gowa 5), Sanrabone fort (Takalar 6), Tallo' royal cemetery (Ujung Pandang 25), Pekalla' Bua (Gowa 16), Kassi' Utara (Ujung Pandang 20), Aengtoa (Takalar 2), Gotong (Takalar 26), and Galesong, excluding Kaluku Bodoa (Takalar 16, 20 and 21). Sites with a shorter chronology include Biring Balang (Gowa 64), abandoned in the eighteenth century after posting fifteenth century beginnings, and Campagaya Lama (Takalar 14), a cemetery of predominantly fifteenth to eighteenth century use.

Many of the earthenware sherds from the above-mentioned sites were recorded by Bulbeck in Ujung Pandang in 1986-7, and deposited with Suaka Peninggalan Sejarah dan Purbakala Sulawesi Selatan before the end of his field work. The other sherds, brought to Australia, were inspected directly by Clune, before being shipped home at the end of 1997, addressed Balai Arkeologi Ujung Pandang. Clune (1996:Appendix A)

compiled Bulbeck's records and her own direct observation on 455 surface-embellished and decorated Macassar historical sherds. She also incorporated Bulbeck's notes and pictorial records of some of the decorated pot sherds recovered by Suaka during its restoration of the Tallo' royal cemetery (Clune 1996:17). Bulbeck checked over Clune's data, and made some minor amendment, for the purposes of our joint study.

Cule (1996: Appendix A) also recorded earthenware sherds excavated from Leang Karassa' by Campbell Macknight, and collected from the surface of <<Maros 9>>, a rock shelter 200 meters northeast of Leang Pattae. Clune's data base for Leang Karassa' has since been augmented by Flavel (1997) who also expanded Clune's system to study earthenware sherds from Ulu Leang 2, Leang Paja (or Ulu Wae) and Batu Ejaya. Information on the dating and archaeological context of these rock shelter assemblages will be provided in the relevant section of this paper. All of these decorated earthenwares have been returned to Puslit Arkenas in Jakarta, except for the Maros 9 sherds which were included in the shipment to Balai Arkeologi ujung Pandang.

Methods

Taking the 309 decorated earthenware sherds collected by SSPHAP from Macassar historical sites, Clune (1996) analysed the motifs into single representations, and combinations, of main elements. The precise elements she observed were highly variable, which raised the somewhat subjective problem of when to recognize minor variants of the same element, and when to recognize a new element. (In one case, our chronological analysis will treat two variants, assigned by

Clune to the same element, as two separate elements; in another case we will re-assign a variant). Clune assigned numbers to each main element, and attached lower-case letter to the variants (Figure 2). She also recognized two further elements for designs restricted to the Tallo' royal cemetery (Nos. 10 and 14), and two further elements at "Maros 9" (Nos. 25 and 26). In addition to these 32 elements, she described a twentieth century votive pot, collected from Sanrabone, which has a centipede incised on one side and an illegible Romanized script on the other. (Clune's numbering system goes up to 34 as elements numbered 23 and 27 were originally recognized, but then reclassified as variants of other elements).

The recorded frequencies of the various elements from SSPHAP's "Macassar survey", as well as the painted sherds, are given in Table 1. Table 1 also splits the frequencies into undatable occurrences which suggest a dating for the element in question. Dating Utilizes the Archaeological law of Association, by assuming that most of the sherds on which the element appear would be contemporary with the other materials collected from the same site or sub-site. However, only assemblages which span four centuries or less are included in this analysis. Assemblages with a chronological span of five or more centuries, e.g. Garassi', are considered too imprecise to be helpful. (As regards these long-utilized sites, we consider only those sherds which possess a chronologically discrete element which allows other elements on the same sherd to be dated. These are G.5.4.13 (Clune 1996: Fig. 6.6), eleventh to fourteenth centuries based on elements 8 and 22; G.5.5.12, eleventh to fourteenth centuries based on element 8; G.5.1.34 (Clune 1996: Figure 6.4), G.

5.6.74, and U.20.15.1, thirteenth to sixteenth centuries, based on element 2).

Our analysis continues by assuming that each of Clune's decorative element has an even chance of dating to each century during which the associated site (or sub site) was most intensively used according to Bulbeck's study of the high-fired tradewares. For instance, if a sherd with element 5 was recorded in a predominantly fourteenth to seventeenth century site, the analysis assigns a 0.25 chance to the element's having a fourteenth, a fifteenth, a sixteenth, and a seventeenth century date. If the same sherd has other elements they are assigned a 0.25 chance per century as just described; these cases have the additional advantage that we know that any two or more elements found on the same sherd must overlap in age. The individual estimates of the chance that any instance of an element belongs to a particular century are summed century by century for each element (Table 1).

The exercise produces a set of characteristic profiles, similar to the battleship diagrams of classical archaeological seriation, with a central peak usually spanning two to three centuries, and a lead and a tail trailing off respectively into earlier and later times (Figure 3). The peak should correspond to when an element was popular, but much of the preceding and succeeding trail could reflect background noise in how our methodology assigns dates. For instance, at the Pao-Pao Islamic cemetery (seventeenth to twentieth centuries), No. 1 is present on a single sherd, and Nos 17 to 19 are both represented twice (Clune 1996). At other SSPHAP sites, element No. 1 is overwhelmingly recorded in contexts earlier than or leading into the seventeenth century.

By contrast, elements 17 to 19 were not recorded at any of SSPHAP's numerous pre-seventeenth century sites, rather, they belong to the same "Islamic" complex as the motifs carved into a group of nineteenth to twentieth century pots made at Bone (Macknight 1993b). Hence the eighteenth to twentieth century dating for these elements at Pao-Pao would appear correct.

The Pao-Pao example also draws attention to the predominance of fifteenth to seventeenth century peaks (Table 1; Figure 3), as reflects the high proportion of SSPHAP's sites which date to that period (Bulbeck 1992). A relative rather than an absolute frequency may better define the period during which a given element apparently remained in currency. This can be achieved by representing the per-century occurrence of any element as a percentage of all the occurrences of elements assigned to that century. The resulting calculations spread the peak frequencies for the various elements across the millennium (Table 2; Figure 4).

Result

Six elements were recorded 18 or more times, being Nos, 5, 1, 6, 13, 15, 9 and 2 in descending order. As might be expected, these common elements tend to present the widest chronological associations. At the other end of the scale, 11 elements were recorded only once or twice. Clune (1996:45-46) suggests these rare elements may either signify imported earthenwares, or represent local innovations which were rarely copied. This would certainly seem a fair interpretation of those rare elements dating between the fifteenth and seventeenth centuries, which are comparatively well sampled, but earlier and later instances may

be weakly represented because of poor sampling.

Nine elements are estimated as possibly having an eleventh or twelfth century dating, producing a grand total of 10.5 instance in the bottom row of Table 1. With so few sherds, we can be sure that the variety of elements produced at the start of millennium is seriously under-represented by our data. Beginning in the thirteenth to fourteenth centuries, we have a much better chance of a reasonable match between the elements recognized in our study, and those which were then popular in Macassar. Between the thirteenth-fourteenth and fifteenth-sixteenth centuries the estimated instances of elements jump from less than 17 to more than 50 per century. This quantum leap agrees with the archaeological evidence of a several-fold population increase in Macassar between the fourteenth and sixteenth centuries (Bulbeck 1992). The range and relative frequencies of the elements in Table 1 can probably be considered fairly accurate between the fifteenth and seventeenth centuries.

Just when Macassar's population peaked, in the seventeenth century (Reid 1983; Bulbeck 1992), there appears to have been a decline in the production of decorated earthenwares, according to our data. This can not be attributed to a population decline, a smaller number of surveyed sites, nor, apparently, any decrease in the variety of decorative elements. Presumably, as Islamic proscriptions against grave goods began to take hold among the populace, so decorated earthenwares were interred less often with deceased and, hence, appear at lower frequencies in SSPHAP's assemblages. The continuing entrenchment of Islamic beliefs would be one factor responsible for the apparently sharp attrition of decorated

earthenware elements as of the eighteenth century. Further, tradeware frequencies at SSPHAP's sites do not parallel this trend, but instead remain fairly constant between the seventeenth and nineteenth centuries, before peaking in the twentieth century (Bulbeck 1992: 608). Hence another cause for the diminished presence of decorated earthenwares, during historians' "modern era", would probably have been the growing availability of glazed vessels to fill in the duties required of crockery.

Table 2 shows the chronological frequencies converted into percentages of the total estimated count per century. Our percentage values should be fairly reliable between the fifteenth and seventeenth centuries, especially as regards the six most common elements, but are less diagnostic for the earlier and the later centuries. Our grouping of the elements into six chronological classes is supported by their internal design logic.

Motifs present throughout the millennium.

Four common elements seem to occur at a fairly constant rate over the millennium. Three of them are the simplest motifs recorded: No. 5, two or more parallel vertical incised lines; No. 6 two or more parallel horizontal incised lines; and No. 9, made up of small circles. All these may occur as adjuncts within more complex bands of decoration. The fourth element, No. 13, involves a band of parallel, vertically gouged grooves which typically occur on round-bodied vessels, where they stretch from the base of the lip. It could be seen as a simple transformation of No. 5, with the incised vertical lines replaced by ribs and flutes. The values in Table 2 suggest that horizontally incised lines were most popular in the eleventh-twelfth centuries, while the vertically incised lines

(and vertically fluted vessel) dominated as of the thirteenth century. Finally, one sub-element, consisting of a band of infilled circles (9b), has been recorded only at eleventh-thirteenth century sites, and not at any later sites. This may suggest a specifically early dating based on the two recorded occurrences.

Protohistoric motifs. Five elements, represented on between two and eight sherds, appeared by the thirteenth century and, apparently, disappeared by the fourteenth or fifteenth century. In all of these elements, the lines are neither vertical nor horizontal but lie in between and so play on the simple geometry of the long-lived elements. Element 8 consists of incised zigzags, often as two or more parallel curvilinear lines incised with a comb. It is the continuous version of element 7, horizontal bands of stamped or incised, vertically oriented chevrons. Element 12, arguably the peak of decorative elegance on Macassar earthenwares, features paired leaves arranged along diagonal lines of punctate points. Element 22 consists of radiating grooves and is similar to element 13 except that it involves radial rather than vertical symmetry. Finally, element 21 features slanting incised lines, typically bounded above and below by parallel incised lines.

However, the last two elements in the protohistoric group, each represented on either a single sherd or two sherds from Garassi, do not conform to this general pattern. They are No. 31, here including <<11d>>, which consists of one or more horizontal lines of incised dashes, and No. 34, cordmarking. As Clune (1996:117) notes, Garassi was a major early port, so these sherds may have come from imported pots, or else from pots with decorations copied

from imported earthenwares. On the other hand, as shown below, both motifs are present among the prehistoric decorative repertoires from rock shelters in the near vicinity, so their occurrence at Garassi more likely reflects a comparatively late retention of a prehistoric South Sulawesi motif.

Protohistoric to imperial motif. Four elements, all consisting of horizontal bands of simple geometric design, exhibit a chronological range spanning the thirteenth and sixteenth-seventeenth centuries. These are dots in element 11a, stamped crescentic moons in element 32, horizontally oriented chevrons in element 3, and stamped or occasionally incised crosses in element No. 2. All of them tend to be accompanied by parallel bands featuring other examples of the simple motifs noted here or above. Thus, elaboration of early Macassar historical earthenware decorations, such as it was, usually depended on banded combinations of horizontally repeated motifs. The same design strategy, albeit employing more complex elements as a general rule, characterizes the vessels from Leang Paja (Flavel 1997).

Imperial motifs. Over 20 % of the cases which can be dated between the fifteenth and seventeenth centuries are assigned to element 1, which involves regularly spaced, molded, ovaloid or rectangular protrusions that typically run along the rim of unrestricted vessels. The protrusions or <<cogs>> would have provided a firmer grip on what would appear to have been serving bowls, as well as constituting as visually striking decoration (Clune 1996). These cogwheel pots appear to be unique to Macassar-Speaking part of South Sulawesi (Clune 1996: 38, 111). However, a similar vessel is the heirloom bowl, with regularly spaced ribbing of the upper body, which Azis and Awe (1984)

recorded in Ende-Lio, Flores. This region, Endeng, was subjugated by Macassar forces in the seventeenth century, so the Ende-Lio bowl may have been a local imitation of cog wheel pots brought in by the invading forces (Clune 1996:118). Cogwheel pots do not appear to have been produced before the fifteenth century nor after the seventeenth century (Table 2), which suggests an intimate association with the Gowa-Macassar state, even though Gowa's state apparatus did not specifically include a division for potters (Bulbeck 1992 : 108-109).

Two other, isolated elements can be dated to these centuries, represented by two sherds each. One is No. 30, a depressed line running around the circumference of the vessel. Flavel (1997) records its quite frequent occurrence in prehistoric "Sa Huynh kalanay" assemblages, as well as at Leang Paja. The other, No. 33, is made up of stamped interconnected circles with a smaller infilled circle in the middle of each outer circle. It may be an elaboration of element No. 9c and, on current evidence, is unique to Macassar (Clune 1996; Flavel 1997). Both motifs would seem to have been rare innovations rather than design on imported pots. They provide scant indication that the consolidation of the Macassar state was associated with any flourish of decorated earthenware traditions, apart from the cogwheel pot.

Imperial to Islamic/colonial motifs. Element 15, the piecrust band, was made by applying extra clay to the rim or, occasionally, the basal carination of a vessel, and pinching it longitudinally or diagonally. Such a reduced saw-tooth band is commonly present on the carinations of ethnographic pots from South Sulawesi, including a votive pot left at the revered grave of the fourth Soppeng raja, We

Tekkewanua (cf., Kallupa *et al.* 1989). Saw-tooth rims also usually characterize the modern brass serving vessel on display at various South Sulawesi cultural museums, indicating the popularity of saw-toothed (and piecrust) bands and rims until the twentieth century. They appear to have come into production a couple of centuries earlier than the similar rim decoration, element 16, which features grooves pressed into the lip to leave a band of ridge circumscribing the aperture, or pair of short vertical incisions cut into the external lip.

Element 11b, a row of triangular punctuations, appear to be a late survival of the ancient Macassar tradition of punctate bands. It is the closest design we observed to the motif of triangles inside triangles, which would appear to be most common decoration on vessels brought by Macassar trepangers from Macassar to the Northern Territory in Australia (Macknight 1976: Plate 28, Rowley 1997: 83-85). The "triangles in triangles" were conceptually resembles the columns of dots filling up triangles-topped rectangles found on the G.19.2.5 sherd from Pannujuang (analyzed as 11a plus 18b), so our Macassar assemblages at least presents parallel with the North Australian Macassar sherd. Finally, element 4, incised crosshatching, appeared by the sixteenth century but remained a rare motif (Table 1).

Islamic/Colonial motifs. Four designs dating after the eighteenth century in Macassar are associated with votive pots placed at the ancestors' Islamic grave. These are: No. 17, which comprises a series of small impressed rectangles; No. 19, similar to the floral emblems so characteristic of the sixteenth to eighteenth century, Islamic decorated pottery from Banten lama, northwest Java (cf. Djafar

and Ambary 1976); No. 29, cylindrical rolls of clay approximately 8 mm long attached in row on the vessel's surface; and No. 18, stamped interlocking rectangles with peaked tops. Late historical decorated earthenwares includes painted sherds, either covered by an acrylic coating (as still used in decorating flowerpots made in Patallasang, Takalar), or else embellished with red lines subtended down the outer surface of the vessel. Finally, at the Bayoa cemetery at Sanrabone, SSPHAP collected a virtually complete votive pot which feature in incised centipede, an un-readable Romanized script, a pinched piecrust rim, and weakly notched piecrust band at the vessel's central carination (Clune 1996: 45).

Discussion : Undated Element

Discussion of the undated motifs bridges our presentation of the dateable Macassar element above, and our comparisons with motifs from rock-shelter assemblages, to follow the undated motifs, most of which were created by stamping, are all rare in Macassar historical surface assemblages (including Nos. 10 and 14, present on the pot sherds from the royal cemetery Tallo'). As a group they probably covered many centuries, and in that sense are similar to long-lived elements. Some of the undated motifs find their match only in prehistoric rock-shelter assemblages. Hence their presence at one of SSPHAP's sites may indicate an ancient prehistoric occupation at that site, or it may suggest that the element remained in occasional use into the historical period. Other undated motifs are restricted to the protohistorical <<Maros 9>> and Leang Paja assemblages, or else occur in Leang Karassa' in association with materials of prehistoric to historical age (Table 3).

No. 20, a thick, raised, horizontally modelled band which presumably circled the entire pot, was unambiguously recorded on only to Macassar sherds, both from Kale Gowa fortress. Five examples were recorded at Leang Karassa', throughout the deposits. No. 11c, on a Garassi' sherd, is identical with the more common 11b motif, except that the stamped triangles are upside down. It may be a prehistoric motif, as it is present at both Ulu Leang 2 and Batu Ejaya.

Elements 10, 14, 24 and 28 are of great potential interest because of their occurrence in several late prehistoric "Sa Huynh kalanay" repertoires (Flavel 1997). 24, a bone or key shape, was executed with a dentate stamping technique, as were the comma-shaped impressions of 10, while 28 consists of stamped interlocking semi-circles, and 14 consists of stamped pairs of semi-circles facing each other in a lunate shape. Interestingly, Nos. 14, 24 and 28 would seem to be of protohistorical age in southwest South Sulawesi, given that they occur only at Leang Paja and maros 9. However, No. 10, present at Ulu Leang 2, may be prehistoric.

Discussion : Dateable Elements

The repertoires of earthenware decorations from rock shelters, of the southwest corner of South Sulawesi, Should provide an indication of when particular motifs were utilized within the vicinity of Macassar. For instance, we might expect the prehistoric motifs from the rock shelter to coincide most frequently with the undated, long lived, and protohistoric Macassar elements. The comparative data in Table 3 are all from Flavel (1997), except for the <<Maros 9>> data, and one datum from Leang Karassa', both taken from Clune (1996). As regards dating, Macknight's 1969 excavation at

Leang Karassa' recovered prehistoric pottery, possibly dating back as far as 800 B.C., in spits A4 and A5, and more modern pottery dating to the centuries around A.D. 1600 in spit A2; the other pottery, not considered here, is from intermediately dated or disturbed contexts (Pasqua and Bulbeck 1998). Ulu Leang 2 is dated to the first millennium A.D. (Glover 1976:147; Bulbeck 1996-7); the Batu Ejaya pottery is dated to about A.D. 1000 (Flavel 1997); and Leang Paja, which has a style of decorated pottery very similar to that at Maros 9, probably dates to between A.D. 1000 and 1600 (Flavel 1997). All are mortuary sites except Bbatu Ejaya (ceremonial) and Leang Karassa (habitation).

The first point to note is that the great majority of the Macassar elements occur in at least one rock-shelter assemblages. Of the exceptions, only No. 5 (vertically incised lines) is a surprising omission. Nos. 15, 18, 19 and 29 may be missing from the rock shelters simply because they came into currency after use of the rock-shelter sites had effectively ceased. No. 32 is rare at Macassar historical sites, with only two recorded occurrences (Table 1). Hence there does not seem to have been a major cleft between the type of decorated earthenwares used at open Macassar sites and those deposited in nearby rock shelters.

Overall comparisons are easier to read if the elements are aggregated into four groups with similar numbers of motifs: undated/long-lived, protohistoric only, protohistoric to imperial, and imperial to Islamic/colonial (Table 3). The undated/long-lived elements are fairly evenly represented in all the rock-shelter assemblages. The protohistoric and protohistoric/Imperial motif are better

represented in the prehistoric to protohistoric assemblages (Leang Karassa'. These results are in accord with the expectation of similar chronology of earthenware decorations at the Macassar open sites and in the nearby rock shelters.

The Ulu Leang 2 repertoire is somewhat unusual in that it consistently has 40-50 % of the elements assigned to the above four groups (Table 3). This probably reflects three factors working together: the Ulu Leang 2 decorations are highly variable; there was a turnover of alternating motifs whereby they would be redeployed after having fallen into disuse; and the age of the Ulu Leang 2 assemblage does not overlap at all with the chronology of the Macassar decorated earthenwares. Hence elements at Ulu Leang 2 could have been redeployed at the Macassar historical sites fairly evenly across the centuries. This alternating turnover could have occurred in several ways. Easily executed modifications, such as the rim grooves of No. 16., or stamping small triangles right side up (11b), may have been redeveloped as successful experiments by potters over time. Or particular element, such as crosshatching, may have been constantly used on other media, such as cloth, and sporadically applied to the local earthenwares. Alternatively, pottery designs in long-term use elsewhere, such as the impressed rectangles of Java and Sumatra (No. 17; Clune 1996: 112-113; Flavel, 1997), may have been repeatedly imitated in South Sulawesi.

Element 1 appears to be a case of rehabilitated decoration. It occurs quite commonly at Ulu Leang 2, in six different variants, as applique crenulations embellishing the shoulders at mortuary jars (Flavel 1997:73). Its productions in prehistoric times is also apparent at Leang

Karassa', where it occurs on a sherd from spit A5 (Flavel 1997: 114). Yet it is not apparent in any known South Sulawesi assemblages dating between approximately 1000 and 1400 A.D., unless two examples from the Sompu pre-Islamic cemetery (Tjandrasmita 1970: Photos 4, 11) correctly date to before 1400, as Bulbeck (1996-7:1031) suggests. Nor has element 1 been recorded elsewhere in Island Southeast Asia, to our knowledge. It may be pure coincidence that element 1 suddenly became so popular, between the fifteenth and seventeenth centuries, that molds were produced to churn out the required number of these cogwheel pots. Alternatively, protohistorical potters may have continued to produce vessels with element 1 at low frequencies, which have not yet been demonstrated archaeologically, before the demand for elegant serving vessel between the fifteenth and seventeenth centuries saw the cogwheel pots rise to prominence.

Various chronological inferences suggested in our Result section are confirmed by the comparisons with rock-shelter assemblages. Element 9b, the filled-in circles, is present only at Ulu Leang 2 and Batu Ejaya, not Maros 9, Leang Paja or Leang Karassa' (Table 3). This observation strengthens the likelihood that it was a prehistoric motif which persisted only until the early centuries of our millennium. On the other hand element 2 and 12 are present only at Batu Ejaya, Leang Paja and Maros 9, not at Ulu Leang 2 nor Leang Karassa'. This confirms an inception date in the early second millennium A.D. (some Batu Ejaya pottery would postdate A.D. 1000), and the termination of these elements, <<shelf life>> by the sixteenth century. Finally, painted sherds are present only in spit A2 of Leang

Karassa', not only in any of the older comparative assemblages, as would be expected from the eighteenth to twentieth century dating we propose for painted Macassar earthenware.

Conclusions

The Macassar historical decorated earthenwares represent a coherent tradition, spanning the present millennium, with a <<core>> based on four long-lived elements, as well as a style that involved the repetition of simple geometric motifs in horizontally arranged bands. These bands could include vertical incisions, or vertical juxtaposed ribs and flutes, as a distinct local specialization. Horizontal bands of protruding ridges, connected by grooves, were also common after approximately A.D. 1400, either as cogs on serving vessel or as saw-tooth and piecrust rims. The tradition was also characterised by a tendency to introduce and turn over accessory design, so that at any stage a wide range of short-lived elements was in use. The Macassar elements can frequently be observed in the repertoires, of prehistoric and protohistoric age, from nearby rock-shelters. These rock-shelter assemblages can be considered as a local variant of the widespread Island Southeast Asian Sa Huynh Kalanay tradition. Hence the Macassar decorated earthenware tradition developed out of the South Sulawesi variant of the Sa Huynh Kalanay. The persistence of stamped geometrical designs throughout the present millennium can be considered one example of a retained Sa Huynh Kalanay character. The style of horizontally arranged bands of motif appears to be a second millennium A.D. development shared by the rock-shelter assemblages (Leang Paja, Maros 9) as well as by the kampung and cemetery

assemblages. A harbinger of this stylistic focus was the crenulations of element 1, present during prehistory at Leang Karassa' and Ulu Leang 2, before apparently becoming an emblem of Macassar's centuries of glory.

We stress the preliminary status of our chronology for Macassar earthenware decorations. We call for controlled excavations of Macassar historical sites, and chronological analysis of the decorated earthenwares, to refine our Chronology. Our results should encourage such an effort as they strongly suggest that Macassar earthenware motifs, with their wide range and a typically discrete period of use, could perform as a valuable key in dating sites. For instance, not all historical assemblages in Macassar, and relatively few of the protohistoric assemblages, need contain tradeware sherds, so the associated earthenwares could provide the main insight into age. Alternatively, an earthenware assemblage from Macassar lacking the elements listed in Table 2 could be inferred as probably prehistoric, especially if it contained motifs recorded at nearby rock-shelter sites (cf. Flavel 1997). The potential to expand the role of diagnostic ceramics in dating Macassar sites should be an important addition to the local archaeologist's arsenal.

Acknowledgment

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Table 1. Estimated frequencies of Macassar earthenware decorative elements by century (c.)

	Undated	11th c.	12th c.	13th c.	14th c.	15th c.	16th c.	17th c.	18th c.	19th c.	20th c.	Total
Long-lived elements												
No. 5	16	0.58	1.25	4.00	5.67	14.92	15.42	10.34	3.17	1.67	1.00	74
No. 6	16	1.59	1.59	1.84	1.84	7.58	7.58	6.00	3.00	0.50	0.50	47
No. 9	2	0.67	0.67	1.50	1.16	5.08	4.75	1.92	1.25	—	—	19
No. 13	7	—	—	1.58	1.95	6.25	5.92	4.67	3.33	2.33	1.00	34
Protohistoric												
No. 8	1	0.58	0.92	1.92	1.92	0.83	0.83	—	—	—	—	8
No. 7	1	—	0.33	0.33	0.83	0.50	—	—	—	—	—	3
No. 12	0	—	—	0.50	0.50	0.50	0.50	—	—	—	—	2
No. 22	0	0.33	0.33	0.59	0.75	0.75	0.25	—	—	—	—	3
No. 21	2	0.33	0.33	0.33	—	0.50	0.50	—	—	—	—	4
No. 31 (+ 11d)	1	0.25	0.25	0.25	0.25	—	—	—	—	—	—	2
No. 34	0	0.25	0.25	0.25	0.25	—	—	—	—	—	—	1
Protohistoric/imperial												
No. 11a	0	—	—	0.50	0.50	1.08	1.58	1.08	0.25	—	—	5
No. 32	0	—	—	0.25	0.25	0.75	0.75	—	—	—	—	2
No. 3	0	—	—	1.00	1.00	0.67	0.67	0.67	—	—	—	4
No. 2	8	—	—	1.08	1.08	3.75	3.42	1.67	—	—	—	19
Imperial												
No. 1	12	—	—	0.25	0.58	12.91	12.91	8.58	1.25	0.25	0.25	49
No. 30	1	—	—	—	—	0.50	0.50	—	—	—	—	2
No. 33	1	—	—	—	—	0.33	0.33	0.33	—	—	—	2
Imperial/Islamic/colonial												
No. 15	9	—	—	0.33	0.33	1.08	0.75	1.75	2.42	2.17	3.17	21
No. 4	2	—	—	—	—	0.75	0.75	0.80	0.83	0.59	0.59	6
No. 16	1	—	—	—	—	0.34	0.34	1.58	1.58	1.58	1.58	8
No. 11b	2	—	—	—	—	0.25	0.25	0.75	0.75	0.50	0.50	5
Islamic/colonial												
No. 17	1	—	—	—	—	—	—	0.50	0.50	0.50	0.50	3
No. 18	1	—	—	—	—	—	—	0.58	0.58	0.58	0.25	3
No. 19	0	—	—	—	—	—	—	0.50	0.50	0.50	0.50	2
No. 29	0	—	—	—	—	—	—	0.33	0.33	0.33	—	1
Painted	0	—	—	—	—	—	—	1.00	1.33	0.83	0.83	4
Centipede	0	—	—	—	—	—	—	—	—	—	1.00	1
Script	0	—	—	—	—	—	—	—	—	—	1.00	1
Undated												
20	2	—	—	—	—	—	—	—	—	—	—	2
11c	1	—	—	—	—	—	—	—	—	—	—	1
24	2	—	—	—	—	—	—	—	—	—	—	2
28	1	—	—	—	—	—	—	—	—	—	—	1
Total	90	4.58	5.92	16.50	17.86	59.07	57.75	42.75	21.07	12.33	12.67	341

Table 2. Calibrated % frequencies of Macassar earthenware decorative elements by century (c.)

	11th c.	12th c.	13th c.	14th c.	15th c.	16th c.	17th c.	18th c.	19th c.	20th c.
Long-lived elements										
No. 5	12.7	21.1	24.2	31.7	25.3	26.7	24.2	15.0	13.5	7.9
No. 6	34.7	26.9	11.2	4.7	12.8	13.1	14.0	14.2 †	4.1	3.9
No. 9	14.6	11.3	9.1	6.5	8.6	8.2	4.5	5.9 †	—	—
No. 13	—	—	† 9.6	10.9	10.6	10.3	10.9	15.8	18.9	7.9
Protohistoric										
No. 8	12.7	15.5	11.6	10.8 †	1.4	1.4	—	—	—	—
No. 7	—	† 5.6	2.0	4.6 †	0.8	—	—	—	—	—
No. 12	—	—	† 3.0	2.8 †	0.8	0.9	—	—	—	—
No. 22	7.2	5.6	3.6	4.2 †	1.3	0.4	—	—	—	—
No. 21	7.2	5.6	2.0	0.0	0.8 †	0.8	—	—	—	—
No. 31	5.5	4.2	1.5	1.4 †	—	—	—	—	—	—
No. 34	5.5	4.2	1.5	1.4 †	—	—	—	—	—	—
Protohistoric/imperial										
No. 11a	—	—	† 3.0	2.8	1.8	2.7	2.5 †	1.2	—	—
No. 32	—	—	† 1.5	1.4	1.3	1.3 †	—	—	—	—
No. 3	—	—	† 6.1	5.6	1.1	1.1	1.6 †	—	—	—
No. 2	—	—	† 6.5	6.0	6.3	5.9 †	3.9	—	—	—
Imperial										
No. 1	—	—	1.5	3.2 †	21.9	22.4	20.1 †	5.9	2.0	2.0
No. 30	—	—	—	— †	0.8	0.8 †	—	—	—	—
No. 33	—	—	—	— †	0.6	0.6	0.8 †	—	—	—
Imperial/Islamic/colonial										
No. 15	—	—	2.0	1.8 †	1.8	1.3	4.1	11.5	17.6	25.0
No. 4	—	—	—	—	1.3 †	1.3	1.2	3.9	4.8	4.7
No. 16	—	—	—	—	0.6	0.6 †	3.7	7.5	12.8	12.5
No. 11b	—	—	—	—	0.4	0.4 †	1.8	3.6	4.1	3.9
Islamic/colonial										
No. 17	—	—	—	—	—	—	1.2 †	2.4	4.1	3.9
No. 18	—	—	—	—	—	—	1.4 †	2.8	4.7	2.0
No. 19	—	—	—	—	—	—	1.2 †	2.4	4.1	3.9
No. 29	—	—	—	—	—	—	0.8 †	1.6	2.7 †	—
Painted	—	—	—	—	—	—	2.3 †	6.3	6.7	6.6
Centipede	—	—	—	—	—	—	—	—	—	† 7.9
Script	—	—	—	—	—	—	—	—	—	† 7.9
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

N.B. † represents our estimate of the approximate onset of the regular use of the element in question, — represents approximately when the element appears to have gone out of fashion.

Table 3. Macassar decorative elements in South Sulawesi rock shelters

	Leang Karassa' spits A4-A5	Ulu Leang 2	Batu Ejaya	Maros 9	Leang Paja	Leang Karassa' Spit A2	
<u>Undated</u>							
Element 20	X	-	-	-	-	X	
Element 11c	-	X	X	-	-	-	
Element 10	-	X	-	-	-	-	
Element 24	-	-	-	X	X	-	
Element 28	-	-	-	X	X	-	
Element 14	-	-	-	-	X	-	
<u>Long-lived</u>							
Element 5	-	-	-	-	-	-	
Element 6	X	X	X	-	X	X	
Element 9a, c, e	-	X	X	X	X	X	
Element 13	X	-	-	-	X	X	
<u>Protohistoric</u>							
Element 9b	-	X	X	-	-	-	
Element 8	-	X	-	-	X	-	
Element 7	-	X	-	-	X	-	
Element 12	-	-	X	-	X	-	
Element 22	-	-	X	-	-	X	
Element 21	-	X	-	X	-	-	
Element 31/(11d)	-	-	X	-	-	-	
Element 34	X	-	-	-	-	-	
<u>Protohistoric/imperial</u>							
Element 11a	-	-	X	-	X	X	
Element 32	-	-	-	-	-	-	
Element 3	-	X	-	-	-	-	
Element 2	-	-	X	X	X	-	
<u>Imperial</u>							
Element 1	X	X	-	-	-	-	
Element 30	X	X	-	-	X	-	
Element 33	-	-	-	-	-	-	
<u>Imperial/Islamic/colonial</u>							
Element 15	-	-	-	-	-	-	
Element 4	-	X	X	-	-	X	
Element 16	-	X	-	-	X	-	
Element 11b	-	X	-	-	-	-	
<u>Islamic/colonial</u>							
Element 17	-	X	-	-	-	-	
Elements 18, 19, 29	-	-	-	-	-	-	
Painted	-	-	-	-	-	X	
	Leang Karassa' spits A4-A5	Ulu Leang 2	Batu Ejaya	Maros 9	Leang Paja	Leang Karassa' Spit A2	Total Elements
Undated/long-lived	3	4	3	3	6	4	10
Protohistoric	1	4	4	1	3	1	8
Protohistoric/Imperial	2	3	2	1	3	1	7
Imperial/Islamic/colonial	0	4	1	0	1	2	9
Total	6	15	10	5	13	8	33

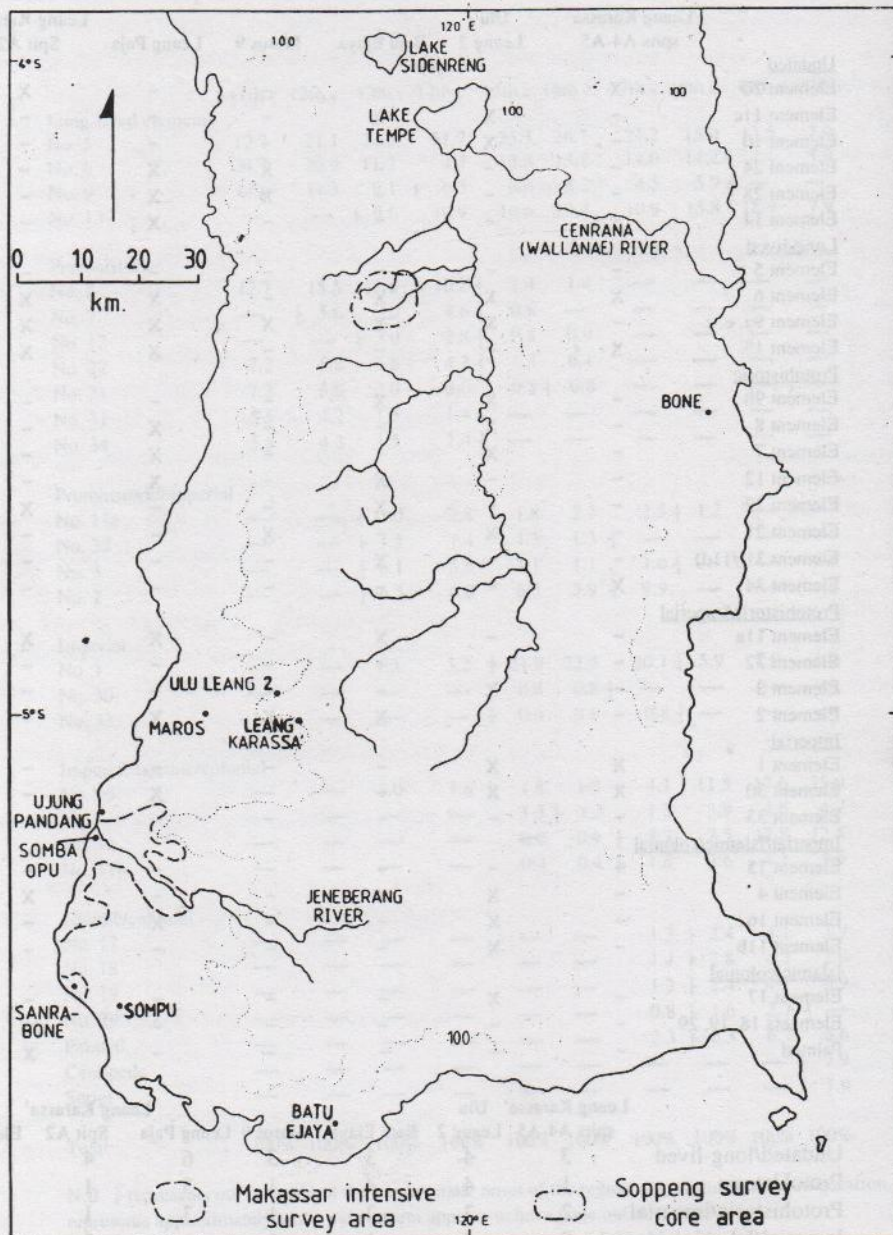


Figure 1. South Sulawesi: SSPHAP'S 1986-7 survey and the main sites referred to in the text

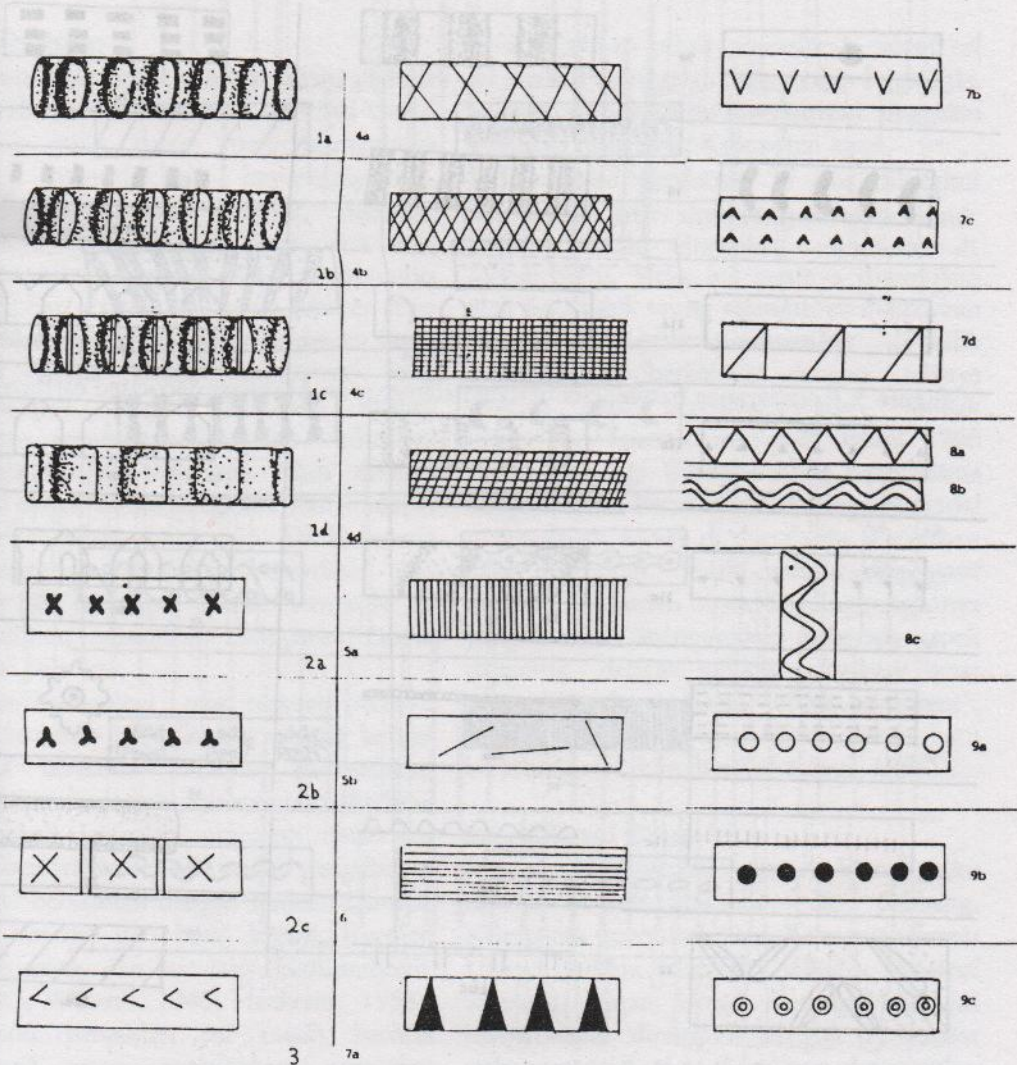


Figure 2. Macassar Material earthenware elements

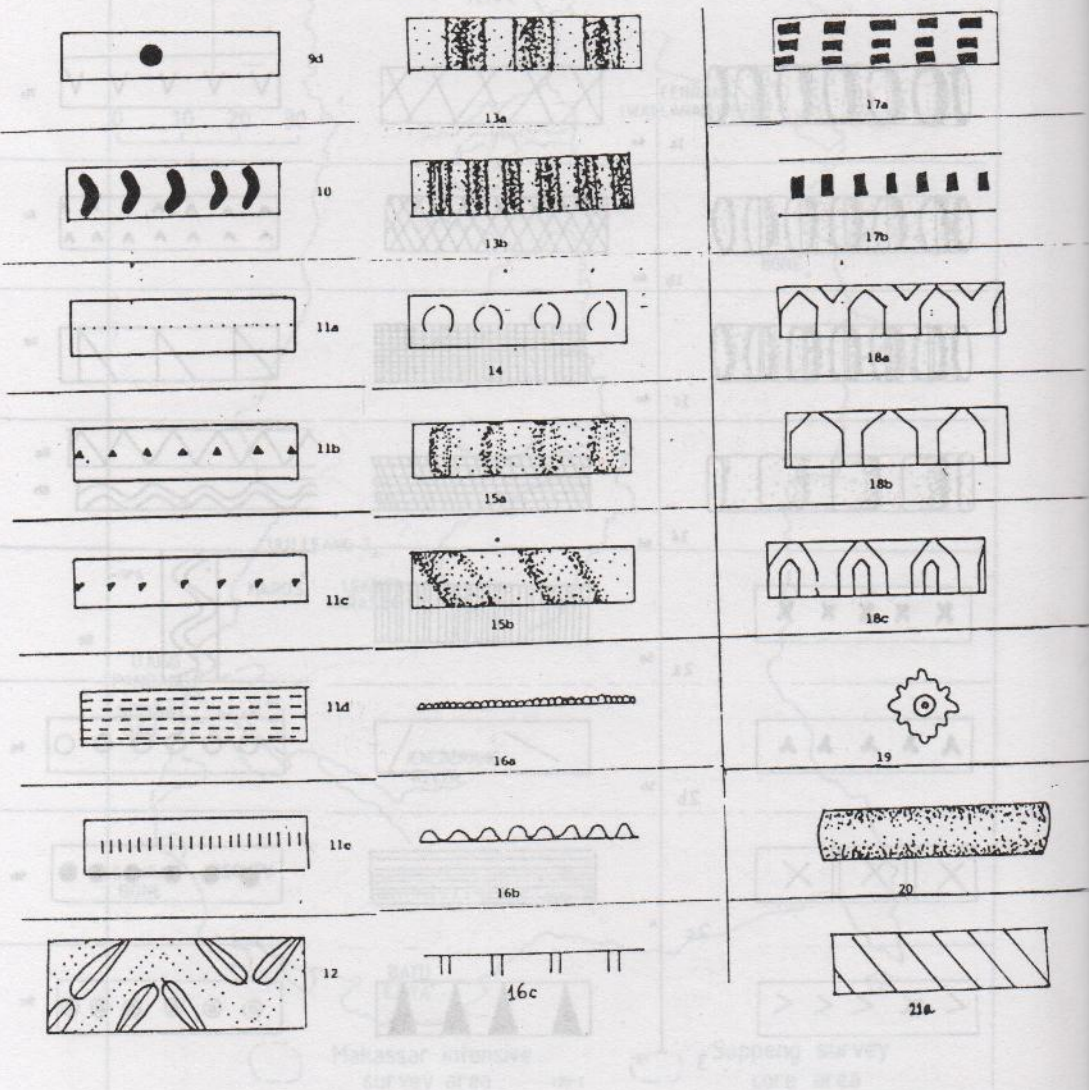
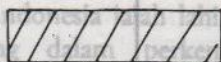


Figure 2. continued

Kompleks Bangunan Megalitik di Mangkaluku, Luwu Utara

Badianto HAKIM



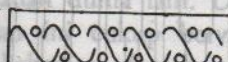
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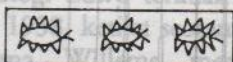
22



24



25



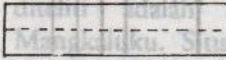
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28



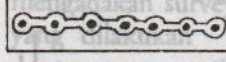
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31



32



33



34



29

Figure 2. continued

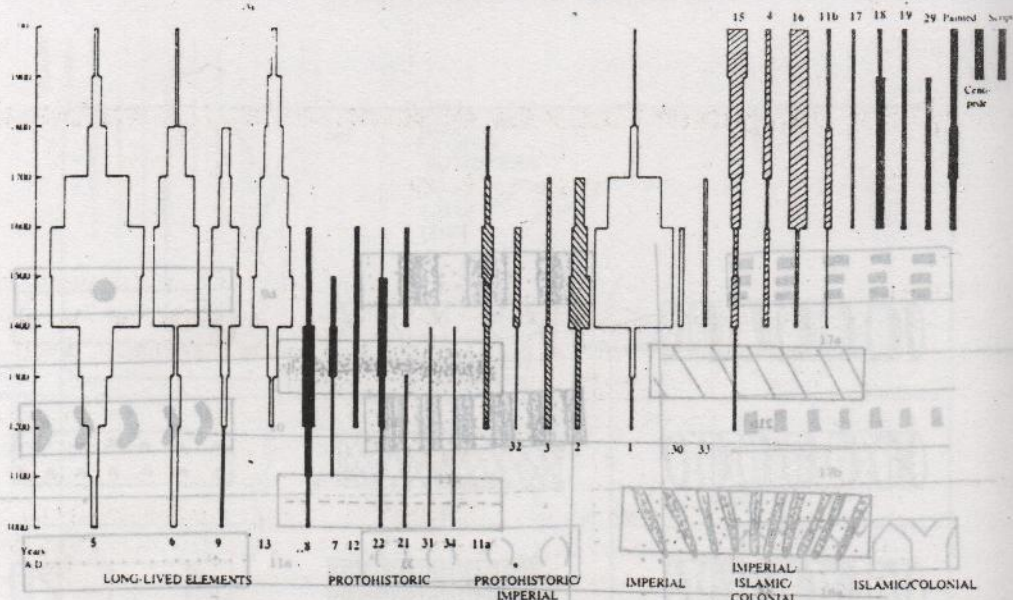


Figure 3. Comparative frequencies of dated elements on Macassar decorated earthenware

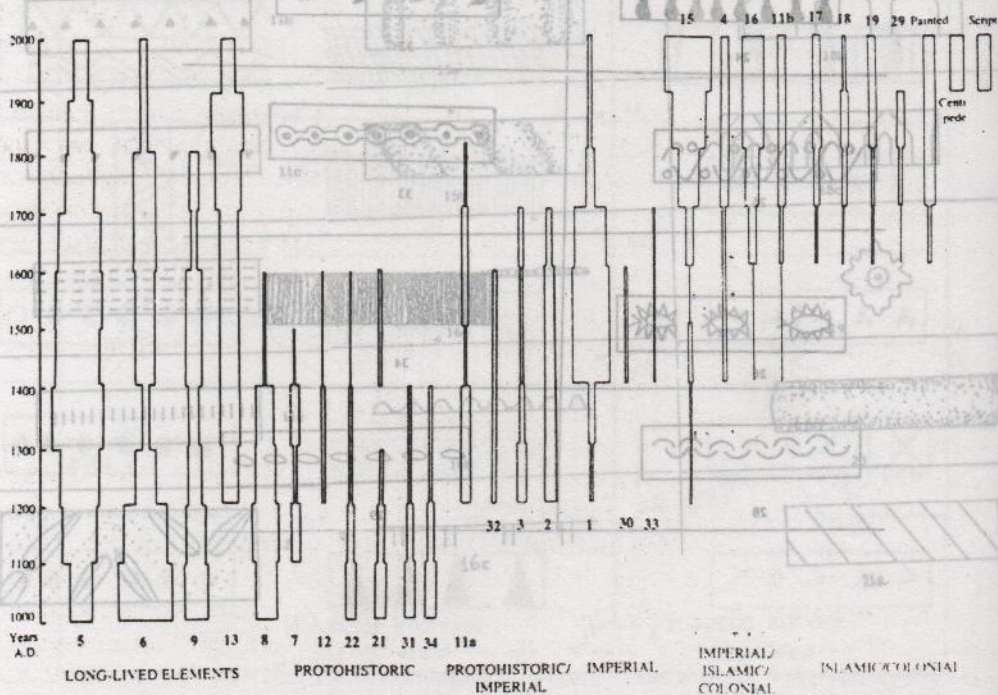


Figure 4. Calibrated frequencies of dated elements on Macassar decorated earthenware