

The Landscape of Austronesian Speakers in South and West Sulawesi, Indonesia

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ABSTRACT

The aim of this research is to assist scholarly appreciation of the potency of the landscape in South and west Sulawesi for the Austronesian speakers. This investigation proceeded with a review of the literature and previous research by the authors so as to assess the data obtained from survey and excavation in the Mallawa area. This research applied spatial analysis, technological analysis of the artifacts, and analysis of site function. The research results indicate that the Mallawa Austronesians occupied caves as well as open sites, during the period 3.725 –2070 cal BP. Natural features such as hilltops and caves provided the potency of the landscape for the Austronesian speakers' settlement of Mallawa, Maros for approximately 1500 years. For the Austronesian speakers, this was a suitable landscape not just for occupation, but also for embedding the local features such as hills and caves (liang) with meaning.

Keywords: Austronesian, Mallawa, landscape, hilltops, caves.

1. INTRODUCTION

The term “landscape” was first used by Renaissance painters who captured the beauty of nature on canvas. The “beauty” of landscapes took conceptual form from both individual and cultural perspectives (Taçon, 2000). Thus, the scope of a landscape is both conceptual and physical. In later developments, notably towards the end of the 20th century, the term landscape began to be used by various scientific disciplines. Landscapes underpinned the investigation of experiencing nature in a symbolic form (Gosden and Head, 1994).

As a concept, landscape stores moral instruction, mythological history, and geneological records. Accordingly, landscapes are present in the imagination as mental images, and in the emotional realm at the spiritual or holistic level. In archaeology, landscapes are thus connected to the sacred and the symbolic.

The sacred aspect indicates that landscapes were the society's ritual center for the reproduction of its power and authority. Landscapes represent social identity concentrated into a symbol. In this respect, people recognize and guard focal places as the expression of their community identity (Knapp and Ashmore, 2000).

Landscapes as a community identity are apparent in the lifeways of the communities that inhabited the

northern cluster of the Maros-Pangkep karsts, South Sulawesi. They established their cultural identity through depicting aquatic fauna on the walls of caves and rockshelters. These depictions, along with their distribution, reveal a maritime society— probably speakers of Austronesian languages (see below)— with a landward occupation in karst caves and rockshelters (Saiful and Basran, 2017).

This interpretation indicates that there were bygone societies that marked their culture in their territory, established through symbols that made use of the physical landscape. It suggests that landscapes framed the ideas, concepts, and designs developed by the Austronesians who chose natural objects to harbor concepts of identity, potency, and the sacred in the places that they inhabited.

As a group with origins in Taiwan, Austronesian speakers arrived in Sulawesi bringing their homeland culture, which included domestic animals, plant cultivation, a refined technology for making stone artifacts, and various decorative crafts. The migration of this cultural group was associated with the spread of new knowledge and marked a prehistoric cultural revolution.

The Austronesian speakers who came to Sulawesi resided at localities close to rivers, and exposed hilltops

in valleys, while a proportion lived in caves and rockshelters. This was certainly the case for the Austronesian speakers who occupied the Mallowa area, as reflected in the archaeological remains found in caves and rockshelters as well as open sites (Hasanuddin et al., 2020).

The presence of Austronesian speakers in Mallowa is clear if it became a center of Neolithic culture (Simanjuntak, 2008). As argued here, their presence extends beyond Neolithic artifacts, to include consideration of the choice of physical landscape.

Previous research in the Mallowa area shows that its prehistoric occupation extended from the Pleistocene through the Toalean ("Mesolithic") and Austronesian phases (Simanjuntak, 2008; Hasanuddin et al., 2019, 2020). The Austronesian speakers occupied various ecological niches, and their various livelihood activities linked to ingress trails, subsistence, cultural interactions, burials, and meetings with Toaleans, bequeathed the archaeological signature of their presence.

Based on this introduction, Austronesian culture is the primary object in this research, leading to two main questions. (1) What is the distribution of occupation sites of Austronesian speakers in the Mallowa area, Maros? (2) What were the nature and potency of the Mallowa landscape for its Austronesian speakers?

2. RESEARCH METHODS

The data used in this contribution derive from research in Mallowa in 2018 and 2019 by a team, from the South Sulawesi Archaeology Office, led by Hasanuddin. The data cover the sites, types and technology of the finds, the chronology of occupation, and the environment of the Mallowa area.

The approaches used in this research are spatial analysis, technological analysis of artifacts, and analysis of site function. Spatial analysis was based on the distribution of sites, their function, their altitude, their type (open/cave/rockshelter), the distances between them, and the aspects of their environment as determined through applying GIS (Global Information Systems). Analysis of artifacts involved determining their technology, typology, and frequency in the context of the character and intensity of occupation of the site. Analysis of site function was based on identification of the cultural groups that occupied the sites, in the context of each site's artifacts along with chronological data.

Interpretation proceeded through stages by developing explanations based on the interrelated patterns of the location of the site, the life-supporting resources in the site's immediate environment, the character of the finds, and the site's morphology and function. These data are anticipated to elucidate the behavior of Austronesian speakers related to their

concepts concerning the physical environment surrounding the sites.

In order to elucidate concepts on the potency of the landscape, a consistent pattern needs to be found in how sites relate to their natural resources. As for sites located in landscape zones with boundaries determined by proximity to potable water, such sites are found in places that are more conspicuous, beautiful and panoramic, and reflect the landscape's benefits or attractions that can be utilized to take advantage of the esteem in which nature's beauty is held (Taçon, 2000).

3. RESULTS AND DISCUSSION

3.1. Occupation and Cultural Chronology of Austronesian Speakers in Mallowa, Maros

There are ten sites identified in Mallowa that contain Neolithic cultural remains, which are the signature of Austronesian speakers. They include six closed sites (*liang*) in a karst geomorphology and four open sites in hilly terrain (see Figure 1). The six closed sites are Liang Siterrue (Figure 4), Liang Tete Hatue (Figure 3), Liang Uttange 1, Liang Cenra-Cenranae, Liang Panninge, and Liang Tau Kahue. The four open sites are Bulu Bakung, Tana Ugi, Bulu Uttange (Figure 2), and Taccorong.

Austronesian occupation of Mallowa's closed sites may provide the earliest evidence for their presence. Dating results for Austronesian occupation of Liang Cenra-Cenranae may go back to 4400 BP (Hasanuddin et al., 2019), suggesting that their initial arrival overlapped with the occupation of Mallowa's closed sites by the Mesolithic Toaleans. Contact and cultural interaction between Austronesians and Toaleans are indicated by Neolithic artifacts such as pottery, adzes and shell ornaments (Austronesian culture) associated with Mesolithic stone artifacts such as geometric microliths and Maros points (Toalean culture).

Interaction between these two groups resulted in a distinct material culture as demonstrated in the first and second depositional layers in an excavated square at Liang Uttange 1, associated with dates of 3200 ± 30 BP to 3600 ± 30 BP (Hasanuddin et al., 2020). The two groups' intermingled finds included pottery, adzes, microliths and Maros points, along with a Maros point produced through a unique manufacturing process, which involved grinding down a utilized clam shell (Hasanuddin et al., 2020). In addition, one of the layers in the Liang Panninge site contained flakes, points and microliths along with pottery and adzes (Saiful, 2018). This evidence of contact indicates that Austronesian speakers and Toaleans once lived close to each other and developed acculturated characteristics (Hasanuddin et al., 2019).

Evidence for the presence of Austronesian speakers in caves and rockshelters is also found in the Ulu Leang 1 and Ulu Wae sites in the Leang-Leang karsts of Maros, as well as at Batu Ejayya on South Sulawesi's south coast (Mulvaney and Soejono, 1970). The microliths at Ulu Leang 1, dated between 5500 and 3500 years ago, are associated with pottery shards (Glover, 1976). Cultural contact was also inferred from finding pottery at Gua Pasaung (Maros) where there was no evidence for pottery production at the site, suggesting that the pottery was brought in from some Neolithic site (Hakim *et al.*, 2009: 46). In his regional synthesis, Peter Bellwood (2000: 289; 2013; 2017) noted the possibility that the Toolean population that utilized Maros points made contact with adjacently located Austronesians who had already started practicing agriculture in South Sulawesi.

The ethnographic *mabbedda bola* tradition of Bugis-speaking areas, which involves applying a white hand print to the main pillars or beams of a house's platform, also indicates cultural contact between Toolean and Austronesian-people.

This can be viewed as a Toolean inheritance because of the lack of evidence for hand prints amongst the Austronesian-speaking ancestors of the Bugis. Rather, they transformed the Toolean tradition of hand stencils into a different media (Nur, 2010: 44).

Related evidence stems from research in Sumatra that points to Neolithic occupation, as indicated by various finds (pottery, adzes, human burials), associated with finds that are continuations of pre-Neolithic culture (hunted fauna remains, stone tools, bone tools) (Simanjuntak, 2020: 235). Moreover, red-slipped pottery is found mixed with pottery that is plain or decorated in the upper layers of several sites in Sumatra such as Liang Mendale in Takengon (Central Aceh), Gua Silabe and Gua Harimau in Ogan Komering Ulu, and Lolo Gedang in Kerinci, as is also the case with several sites in West Java. This phenomenon indicates that Austronesian speakers came to these islands and, at around 2500 BP, mingled with previously immigrant Austroasiatic speakers. The interaction and adaptations between these two groups resulted in cultural admixture (Simanjuntak, 2020: 237).

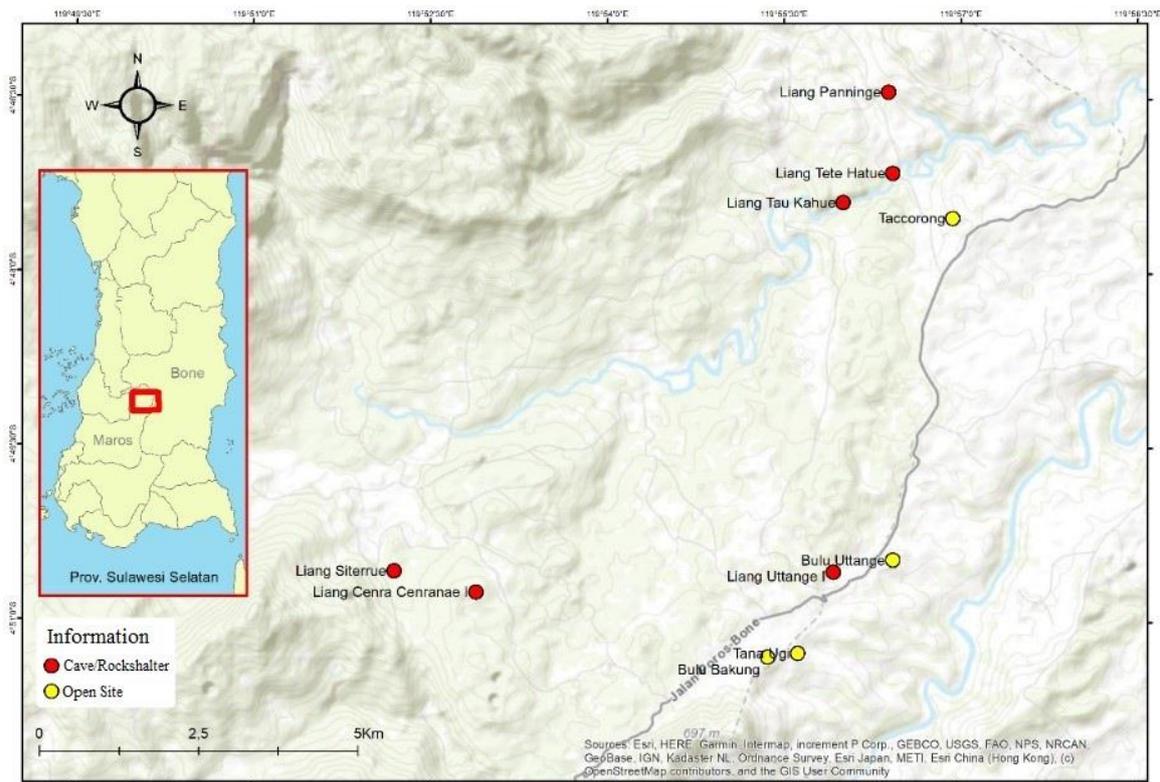


Figure 1 Map of Neolithic sites in Mallawa (Maros, South Sulawesi) including closed sites (red) and open sites (yellow).



Figure 2 Stone adzes and axes recovered during survey of Mallawa open sites.



Figure 3 Stone adze recovered from survey of Liang Tete Hatue, Mallawa.



Figure 4 Pottery shards found during survey of Liang Siterrue, Mallawa.

The most spectacular finds, in this context, occurred in Gua Harimau in the region of the Padang Bindu karsts, Sumatra. The skeletons of 81 individuals of different races have been found in this cave. Remains of Austromelanesids, representing the original inhabitants, are dated to around 5712–5591 cal BP. The skeletons of Mongoloid race are associated with dates of 3038–2969

BP. However, the assemblage of human burials shows admixture between these two races, reflecting their overlapping, peaceful co-existence (Simanjuntak, 2020: 177–202).

In Mallawa, early Austronesian groups simultaneously occupied Liang Uttange around 3600–3200 BP (Hasanuddin et al., 2020) and an open hilltop site, Bulu Bakung, at around 3580 BP (Simanjuntak, 2008). Intensive occupation at Mallawa open areas lasted until 2070 BP (Hasanuddin, et al., 2019). The relevant sites with finds such as adzes and pottery are distributed across hilltops. During the final excavation of the Bulu Bakung site, 111 adze fragments were identified, along with 3456 pottery shards, 500 of them with a red slip (Hasanuddin et al., 2019). Previous research at this site also encountered ample pottery, including 7075 shards in 2017 (Hasanuddin, 2017b), and 2665 shards in 2009 (Hakim et al., 2009). These data show that Bulu Bakung was occupied intensively by Austronesian speakers.

At the Tana Ugi site, another open site not far from Bulu Bakung, the numerous adze remains reflect the process of their manufacture. Similarly, on the slopes and peak of the Bulu Uttange site, there are abundant adzes and adze fragments. While only four adzes were found at the Taccorong site, they were nonetheless associated with a large number of flakes of the same raw material as the adzes.

In general, the Austronesians selected flat locations and hill slopes close to water sources for open settlement, where they resided in hamlets associated with domestic activities such as making polished stone tools (Simanjuntak, 2015: 31). However, the phenomenon of occupation of open sites differed between regions. Chronological data from the Gunung Sewu region in Central Java indicate that a move to open settings occurred around 2000 years ago with the efflorescence of an industry of rectangular adzes and arrowheads (Simanjuntak and Widianto 2012: 265).

3.2. Characteristics of the Landscape of Austronesian Speakers in South and West Sulawesi

The landscape of the Mallawa Neolithic sites features prominent hills with small valleys between them. The occupied hilltops of Bulu Bakung (410 m), Tana Ugi (310 m), and Bulu Uttange (300 m) lie at a similar altitude above sea-level. Near them, to their northwest, is the much higher and larger hill of Bulu Posso (681 m above sea-level). The large river that flows at the perimeter of the sites is the Walenna, at a distance of 2.19 km from Bulu Bakung site, 1.94 km from Tana Ugi site, and 1.31 km from Bulu Uttange site (Figures 5, 6 and 7).

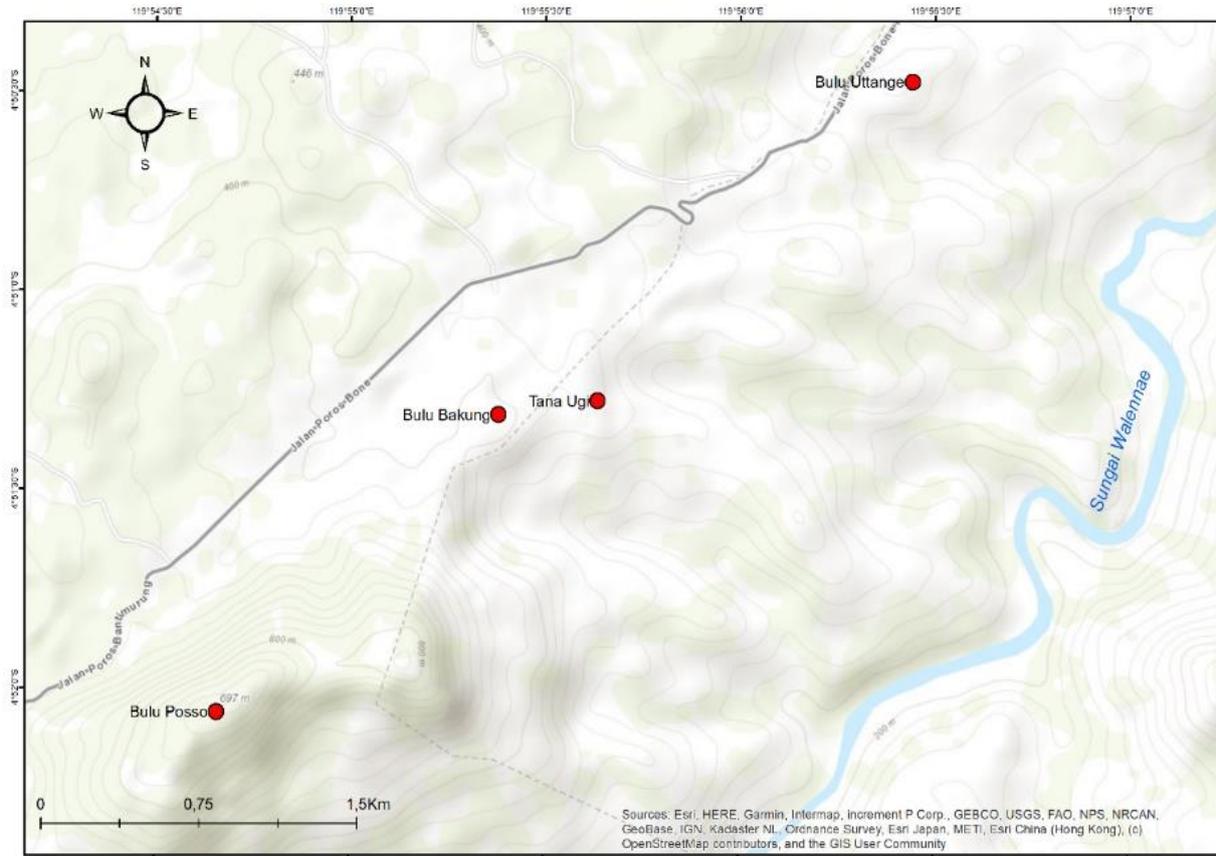


Figure 5 Map of the distribution of Neolithic sites in the hills near Bulu Posso, Mallawa (credit: South Sulawesi Archaeology Office, 2020).



Figure 6 3D representation of Neolithic sites in the hills near Bulu Posso, Mallawa.



Figure 7 Condition of Bulu Posso, Mallawa.

Neolithic settlement also occurred in a similar landscape at Kalumpang, Mamuju, which is also an open area, with a large river (the Karama) and surrounding hills and mountains. Amongst the mountains that surround the Kalumpang sites of Kamassi and Minanga Sipakko, the one called Gunung Paken by the local community is particularly prominent. This mountain lies 2.19 km to the north of Kamassi and 2.66 km to the east of Minanga Sipakko (Figures 8, 9 and 10).

Two other Neolithic sites with similar landscape specters are Collo and Buttu Batu, located in Anggeraja district, Enrekang (Mahmud, 2008; Tim Penelitian, 2009; Somba, 2014; Bernadeta, 2015). Anggeraja is a mountainous terrain flanked by two large rivers, the Sa'dan and the Mata Allo. The Sa'dan flows between the two Neolithic sites, 3.10 km to the west of the Collo site and 1.4 km to the east of the Buttu Batu site (Figures 11 and 12). The landscape also features a mountain that is particularly prominent. The local community calls this well-known mountain Gunung Bambampuang (Figure 13). It lies 1.6 km to the north of the Collo site and 7.5 km to the northeast of the Butu Batu site.



Figure 8 Map of Neolithic sites near Gunung Paken, Kalumpang, Mamuju, West Sulawesi.

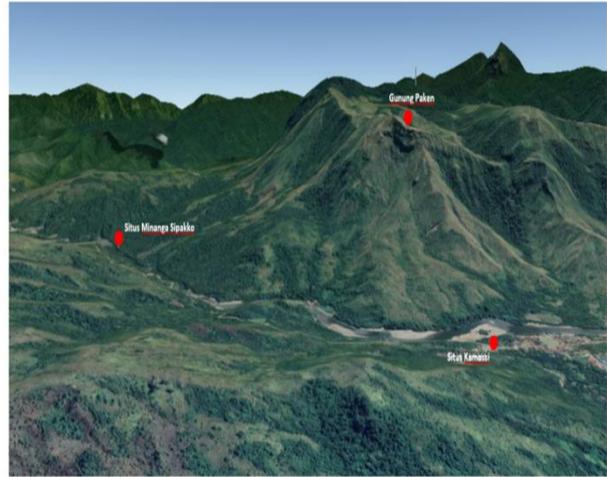


Figure 9 3D representation of Neolithic sites and Gunung Paken, Kalumpang, Mamuju, West Sulawesi.



Figure 10 Gunung Paken, Kalumpang, Mamuju, West Sulawesi.

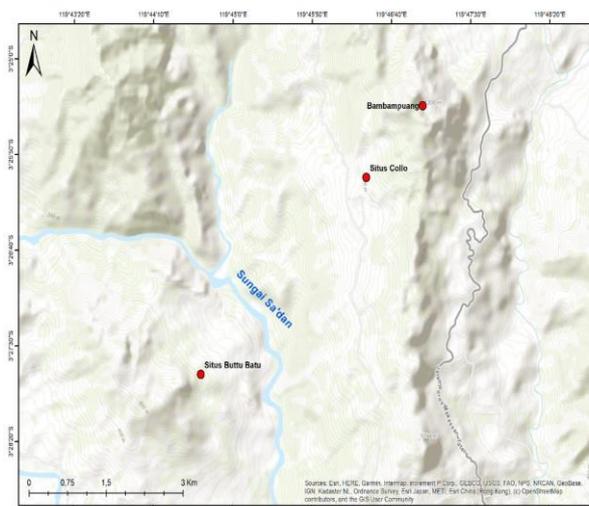


Figure 11 Map of the Neolithic sites of Buttu Batu and Collo near Gunung Bambampuang, Enrekang (South Sulawesi).

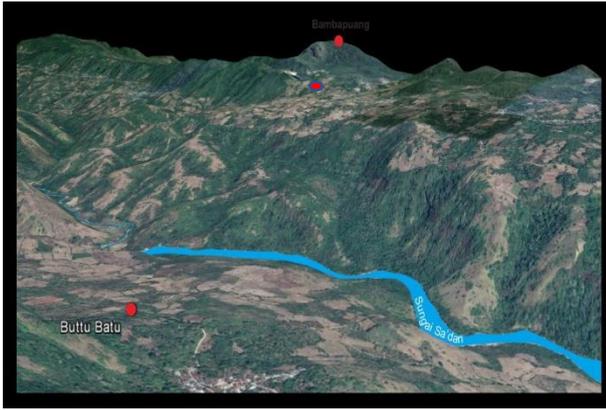


Figure 12 3D representation of Neolithic sites of Buttu Batu and Collo near Gunung Bambapuang, Enrekang.



Figure 13 Gunung Bambapuang in Enrekang.

The three areas with Neolithic sites of Mallawa, Anggeraja, and Kalumpang all lie in the interior (Figure 14). In all cases the Neolithic sites are surrounded by hills and mountains and lie not far from large rivers, respectively the Walennae, Sa'dan, and Karama rivers. In addition, in all cases a hilly or mountainous peak can be seen that is more prominent than the surrounding peaks. Further, the contemporary communities consider mountains to be inherited from the ancestors as places linked to sacred matters and ancient settlements.

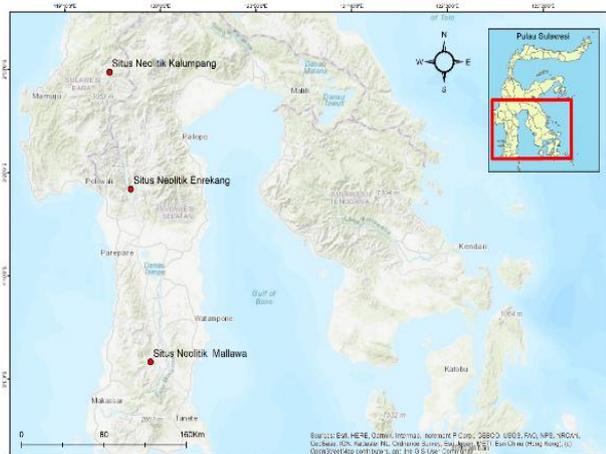


Figure 14 Locations of Neolithic sites in interior locations (South and west Sulawesi).

Bulu Posso is a place of worship linked to farming. The Mallawa community practices two such ceremonies, the *Menre ri Bulu* conducted in November and the *Mangngade* conducted in December or January. The *Menre ri Bulu* involves thanksgiving activities for cultivated rice that healthily sprouts and produces an abundant harvest, while the *Mangngade* is connected to activities for remembering when to begin the rice-planting season. These two activities have different arrangements, for *sokko* (sticky rice) is brought in just one plate for the *Menre ri Bulu*, but in six plates for the *Mangngade*. Accordingly, there is a larger community gathering for the *Mangngade* activities than for the *Menre ri Bulu* activities. The *Mangngade* also involves ancestor worship activities connected to the former kampong named Posso. This kampong represents the origins of the community that resides near Bulu Posso at what is now Kampung Baru (English, New Kampong). The local community conceives of Bulu Posso as a holy hill, because the people who visit it refrain from being noisy or exhibiting conceited behavior.

Mangngade activities are also celebrated by other Mallawa communities. These activities include visits to *Salo* (rivers) and *Saoraja* (shacks for customary lore), as well as Bulu Posso. Bulu Posso is the most frequently visited place during these celebrations because the entire community can assemble here. The community witnesses the arrival of the head of customary affairs, who is escorted by a *genderang* (large drum), and the *sandro ade'* (customary wizard) reading prayers to remind the villagers to offer live chickens by releasing them in front of a circular stone. These Bulu Posso activities are connected to *passappo* (self-protection from danger) (Saiful, 2018).

In Kalumpang, stories about Gunung Paken persist in the folk lore of the inhabitants. Our colleague Budianto Hakim, who has studied several Neolithic sites in Kalumpang, often heard stories that Gunung Paken hosted the original settlement with rice growth on its peak. This community perception is confirmed by archaeological evidence, because a survey led by Budianto Hakim came upon a stone adze at the foot of Gunung Paken. As for rice growth on the peak, when the local young children visit this mountain peak, they still come upon rice growing on stones, locally known as *pare stones* (*batu pare*).

Stories of this kind are also known for Gunung Bambapuang. The Toraja people believe that their ancestors derived from an exotic island, Pongkok Island, that originally entered the Sa'dan River as a boat. The Toraja ancestors tethered it in the Enrekang region because they could not sail any further, and then settled in Rura and Bambapuang. These two places figure in the burial of the deceased, as the places first called on and offered meat from game in the mortuary ceremonies (Umar, 2003; Mahmud, 2008). The above myth relates

to the origins of the three *Tomanurung* (English, descended ones) of Welangdilangi, Tamborolangi and Embongbulan, who were sent down by the gods. Of these three, the *Tomanurung* of Tamborolangi left Bambampuang via Matarikallo which is known as Tana Toraja (Toraja Country). He married Sondabuilik and they became the ancestors of the Matarikallo/Tana Toraja/Puang Makale chiefs (Manuputty, 2015).

Mountain and hill peaks in the Enrekang area are still used by some of the inhabitants as sites for customary, celebratory activities. During the *Maccera Manurung* ceremony in Kaluppini, on the fourth day which marks the closing of procedures, the activities take place at Gunung Pali. The local people deeply honor Gunung Pali as the origin place of their ancestors, and the wooden coffins known as *duni* in Kaluppini are oriented towards this landmark (Hasyim and Ajis, 2003). The *Maccera Manurung* is also familiar to the Enrekang residents in Pasang village, Maiwa. They undertake *Maccera Manurung* activities each year in celebration of a good agricultural harvest. Tribute takes the form of chicken flesh and thanksgiving prayers while walking near the Lambuang peak (Hamid, 1998).

In the megalithic tradition of South Sulawesi, which is particularly strong in the central south, the residents have also chosen hilltops or mountain slopes as sites for staging rituals dedicated to potency and farming. This tradition has continued since the late Neolithic about two thousand years ago, and flourished during the first millennium CE until today (Hasanuddin, 2015).

These stories and traditions, inherited by today's populace from the ancestors, show that mountains and hills have long had a role in local culture. Admittedly, the knowledge and conduct of today's populace present a partial picture of former times, because culture is transformed through the integration of the totality of activities (Hodder, 2003). However, where the same system is retained from the original populace, this shows that the same meanings and possibly also the same "archetypal beliefs" are maintained. Such continuity is indicated by the presence of mountain features at Neolithic sites, stories from the ancestors connected to mountains, and the role of mountains as sites for homage and rituals associated with agriculture.

The settlement by early Austronesians on the level hilltop of Bulu Bakung in Mallawa is dated to around 3580 BP (Simanjuntak, 2008). The same applies to the Minanga Sipakko and Kamassi sites in Kalumpang which date back to around 3600 BP (Simanjuntak, 2008; Anggraeni, 2012). The Buttu Batu site, Enrekang is also an Austronesian site on top of an interiorly located hill (Hasanuddin, 2018), and also dates back to circa 3500 BP (Tim Balar Sulsel, 2016). The similarity in dating and location—across these three areas—makes it clear that the Austronesians in Sulawesi, during their initial

occupation phase, colonized elevated locations in the hilly hinterland.

Another shared feature of Mallawa, Kalumpang and Enrekang is a mountain that is conspicuous compared with other visible mountains, and which the local inhabitants imbue with ancient meaning related to their identity. This suggests that a pre-condition of early Austronesian speakers, in settling down in a particular place, was the local presence of a prominent mountain or high hill.

3.3. Potency of the Mallawa Landscape

Landscape degradation, paradoxically, can be a symptom of an area's potency. It can reflect the initial attractiveness of an area for agriculture, because a barren hill may be a direct consequence of farming activities in unirrigated or other fields. Interestingly, several of our informants in Mallawa advised us that various deforested hills in Mallawa have been like that for a long time (Figure 15). Perhaps this was a result of colonization and exploitation of the land on the hilltops for gardens by the Austronesian immigrants. The same phenomenon can also be witnessed in the area of the Kalumpang Neolithic sites, for the only vegetation on the hills near the site is the tough grass known as *illang* (Figure 16).



Figure 15 Various hills in Mallawa today attest to a large area where forests have not regrown.



Figure 16 The hills in the surroundings of Kalumpang, Mamuju.

The potency of the Mallowa environment is one of several attractions to the Austronesian speakers who occupied this area. There are others such as ease of accessibility, covering not only natural resources but also trackways for interaction between communities (Darajah et al., 2019: 84-86). And the hilly region of Mallowa was a center for the dispersal of stone and pottery artifacts.

Mallowa's attractions include sufficient sources of stone that could be quarried for producing tools for use in the occupants' activities. The suitable stone materials for making artifacts comprise limestone, chert, and volcanic stone. All of these are readily available, especially along the tributaries of the Walennae River. They occur in large clumps at river edges and hill-slope exposures (Hasanuddin, 2017a: 94).

Similarly, Mallowa also offers suitable sediment for making pottery. Based on our interviews with several local inhabitants in October 2019, the Mallowa inhabitants used to produce pottery for their own needs approximately 40 years ago, but not for trade. We learned of several toponyms remembered by community members as places for clay to make pottery—the Lappa Binare, Toceppa, Balangloe, and Lappa Lawenno kampongs. This clay was brought from water-buffalo corrals, because it was already stirred and compact, making it of fine quality as raw material for pottery. The ethnoarchaeological corollary is that clay sources would have been sites with traces of water-buffalo corrals (Hasanuddin et al., 2019: 17).

Petrographic thin-section analysis shows that the mineral contents of the pottery from the Mallowa site of Liang Tete Hatue include pyroxene, plagioclase, and quartz. These minerals are typically found in the pyroclastic stones encountered in the Camba Geological Formation (Tmc). In particular, the results indicate that all of the Tete Hatue pottery reflects the same types of stone, that is, crystal tuff and vitric tuff with a laminated structure. These petrographic analyses also indicate that the mineral contents match the characteristics of the earth found near the site (Bahtiar, 2020: 65–66).

The above analysis was bolstered with X-Ray Diffraction (XRD) analysis, which showed that all of the pottery samples had the same composition, resulting from layers of clay minerals composed of silicate and aluminosilicate minerals. This mineral composition includes quartz (SiO₂), feldspar (Al₂ CaO₂ O₈ Si₂ SrO₈), chloritoid (Al_{3.844} Fe_{0.857} H₄ MgO_{.598} MnO_{.701} O₁₄ Si₂), montmorillonite (AlO_{.86} FeO_{.1} H LiO_{.08} MgO_{.14} O₁₀ Si_{3.9}), and christobalite (SiO₂) (Bahtiar, 2020: 72).

This inclusion of quartz in the mineral composition indicates that the pottery found in the Mallowa area was produced locally and not imported. This finding supports the notion that the local inhabitants exploited

materials accessible in their surroundings for supporting their livelihood (Hasanuddin, 2017a, 2017b: 47).

The results of an analysis undertaken by Anggraeni (2012: 260), on 47 shards found at the Kalumpang sites in West Sulawesi, also affirm the connection between material in the pottery and readily available resources near the sites. This analysis indicated that the pottery from sites along the banks of the Karama was made from two or three local clay sources with similar chemical composition.

In addition, analysis of the finds excavated in 2018 from Gua Uttange, Mallowa clearly points to hunting activities and processing food with fire. Charcoal was recovered from every excavated layer, and the bones of the forest animals revealed traces of cut marks, chopping marks, gnawing marks and burning. These results support the hypothesis of intensive occupation of the Mallowa landscape characterized by adaptability and potency (Hasanuddin et al., 2020).

Based on the points raised above, the natural resources of the Mallowa area had great potential and this was one factor for its selection by Austronesian speakers and their continued occupation until about 2070 BP. The topography of Mallowa, equipped with natural features familiar to the residential concepts of the Austronesian people, is also a major reason for why Austronesian speakers chose Mallowa for occupation at around 3580 BP (Simanjuntak, 2008). Traditional knowledge is a legacy of a society's choice of location, with the environment instrumental in perpetuating life, as interpreted through ideology (Hasanuddin, 2003).

4. CONCLUSION

Further to the strong indications of Austronesian occupation at Mallowa open sites beginning 3580 years ago, there was contemporary occupation by Austronesian speakers of the Uttange 1 cave in Mallowa at around 3600 BP, during which they encountered and peacefully interacted with the Toaleans, who were the original inhabitants.

The Austronesian speakers who occupied the summit and slopes of the hills utilized the accessible natural resources. These resources included raw materials for making stone artifacts and pottery, various kinds of game, rivers as sources of springs, and aspects of the environment that facilitated connections between the inhabitants' sites. All of these were strong attractions for choosing to settle this area.

The landscape of Mallowa consists of clusters of hills crowned by a prominently high hill, which is a signature of the Austronesian physical landscape and became their communal identity. The culture of today's community still upholds mountains as connected to old

settlements and the arrival of the ancestors, as in the case of Bulu Posso.

The traditions of worship that survive until today have been inherited from ancestors who were greatly influenced by the early Austronesian speakers. If we encounter an Austronesian society today whose members connect their culture with the mountains, then they certainly consider their ancestors were located in a mountain or hill. Accordingly, it is no surprise if Neolithic sites in open places always had a connection with a prominent hill or mountain.

The nature of Mallowa constituted its accessible natural resources utilized in meeting necessities. The natural features also included mountains, hills and caves, producing the potency of the landscape for the Austronesian speakers who lived for approximately 2000 years in Mallowa. They not only saw their landscape as a suitable place for habitation, but also embedded mountains and caves in their traditional ideology. In summary, their life was strongly connected with both the nature and potency of the Mallowa landscape.

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