Fiber, Loom and Technique
The Journal of the Tracing Patterns Foundation
OPEN ACCESS

A techno-ethnography of Toraja-Mamasa tablet weavings from Sulawesi, Indonesia. Part 1: Prior studies, current findings, and geographic distributions

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Abstract

This article focuses on the technique of tablet weaving, a particular method of weaving using a portable loom equipped with tablets, and its geographic distribution in Sulawesi. Specifically, it discusses the development of the technique in the highlands of Sulawesi, Indonesia, and compares the practices in the highlands with those in the lowlands and the bordering enclaves. This study is based on the author's field research in the Toraja and Mamasa regions (1997 to 2017). The field research shows that current Mamasa weavers employs a unique system for manipulating the tablet, which has not been reported from any other place in the world. Part 1 of this article addresses the common misnomer of this unique tablet weaving as simply 'Torajan' or from 'Sulawesi' by showing a more accurate geographic distribution of tablet weaving in this island and proposes that the system should be called the Toraja-Mamasa tablet weaving. Part 1 further compares the Toraja-Mamasa tablet weaving in the highlands with the Bugis type in the lowlands and the interstitial Pitu-Ulunna-Salu type between the two regions.[1] Part 2 describes in greater detail the tablet-weaving technique practiced in the Mamasa region today. It also puts the Toraja-Mamasa double-faced weave in global context by exploring four structural variations of the double-faced weave around the world.

Citation: Kusakabe, Keiko (2022) A techno-ethnography of Toraja-Mamasa tablet weavings from Sulawesi, Indonesia. Part 1: Prior studies, current findings, and geographic distributions. *Fiber, Loom and Technique* 2: 26-63.

Publication date: 10 August 2022

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Introduction

Narrow woven bands are known to have been woven in several places in Sulawesi, Indonesia. The technique is called tablet weaving, also known as card weaving. This article deals with the tablet-weaving traditions from the West and South Sulawesi, particularly that of the Mamasa and the Toraja peoples in the mountainous regions.[2] This study is based on my field research during intermittent trips from 1997 to 2017 (Kusakabe 2002, 2003a, 2003b, and 2004), complemented with my research on worldwide tablet-weaving traditions during several visits to the Netherlands and Sweden.

During my first stay at Tana Toraja/ Toraja land,[3] I was struck by the abundance of textiles preserved in the traditional houses of many families. Among these textiles were magnificent, naturally-dyed tablet-woven bands. They were considered sacred textiles and displayed with many other sacred cloths and objects during celebrations and funerals (Fig. 1). Most commonly, the bands were sewn as decorative trim on ceremonial garments and *sarung* or attached to ritual objects. Despite the prevalent use of these bands, however, nobody in Tana Toraja could explain how they were woven. No one remembered the technique because tablet weaving had not been practiced in this area for a long time.

Fig 1. House ceremony, *mangrara banua*, performed in Sangalla' in 2011. Many sacred cloths called *maa'* and *sarita,* as well as beaded accessories *kandaure*, were hung from the gable of the Torajan traditional house. Note that a long red tablet-woven belt was hung near the peak. The belt came from the lowlands, brought on inland trade from the Bugis area. Tablet-woven bands were also normally used as a header on the top of *kandaure*.

In contrast, when I later visited Mamasa, West Toraja, in 2000, I encountered many women weaving narrow bands using wooden or plastic tablets. These tablet-woven bands, called *palawa* in Mamasa (West Toraja), were used as a trim to decorate clothing (Fig. 2) or as a carrying strap on betel bags. I noticed that the making of a *palawa* entails a unique way of manipulating a tablet in the weaver's hands in a kind of 'somersault' turn.

Until my field research in Mamasa in 2000, there had been no study of the Mamasa tablet-weaving tradition. For unknown reasons, this technique escaped the attention of early 20th-century Dutch scholars. Colonial collections in the Netherlands sometimes have tablet-woven bands from Sulawesi labeled as 'Mamasa band'. However, as we will discuss in Chapter 2, these bands are, in fact, not from Mamasa. In contrast, there have been many studies of tablet-woven bands from

Fig 2. A woman wearing a dance skirt called *dodo ampire* with a tablet-woven trim along the bottom edge.

the Toraja region. Thus, the technique is well-known as Torajan. In reality, the bands from Toraja share an identical patterning system with those made in Mamasa today. Both systems employ a building block of 'ovals', based on a particular type of double-faced weave. I propose, therefore, that we abandon the former practice of Dutch scholars who called this technique simply as Torajan tablet weaving. More accurately, we should call it the Toraja-Mamasa type of double-faced weave.

The history of tablet weaving is ancient, and its place of origin cannot be traced.[4] Its compact loom makes the technique easily transportable from one region to another. Today, tablet weaving is spread widely throughout the Eurasian mainland and archipelagoes (in Europe, North Africa, Russia, China, the Middle East, and Southeast Asia). Many extant old bands are primarily associated with objects having religious, customary, or ritual purposes. Examples are the elaborate weft brocading silk bands on ecclesiastical garments from southern England to northern Europe, the inscribed cotton bands for wrapping Buddhist scriptures in Myanmar, and the cotton or silk belts attached to magical daggers, *keris*, in Indonesia.[5]

Tablet weaving uses a loom with tablets or cards that may vary in shape (square, rectangular, or hexagonal). A tablet has a hole typically on each corner (or occasionally between the corners) through which the warp yarns are threaded. In Sulawesi, the looms employ a square or rectangular tablet with 4-holed corners and 4-plied warp yarns. The weaver's notation distinguishes two possible ways of threading the warps: S-direction or Z-direction. These orientations affect the pattern and texture of the band. They also indicate the twist direction of a cord. The multiple warp yarns from one tablet become a cord when a tablet is turned in the same direction. When a pack of tablets is turned, and a weft is inserted at every quarter turn, the individual cords become united into a woven band. The weave produced is essentially a warp-twined structure, which is the most basic structural element of the technique.

Tablet weaving can also produce other types of weaves to create intricate patterns with colorful yarns. Margarethe Lehmann-Filhés, a pioneer of tablet-weaving study, mentioned three major types: warp-twined weave, uniform weave such as a double-faced weave, and double cloth (Lehmann-Filhés 1901: 32). She describes the double-faced weave as having two contrasting-colored surfaces, woven with a single shed using one weft that interlaces both the front and the back as one combined layer. On the other hand, the double cloth is described as woven with two sheds and two wefts. Its weave has two separate layers, joined only along the intersections where the front and back layers exchange positions.[6] Two types of double-faced weaves are known in Sulawesi: the first is the lowlands Bugis type. This type is the most common and distributed widely throughout Eurasia; the second is the Toraja-Mamasa type, which is only found in the highlands of Sulawesi. This unique Toraja-Mamasa technique can be characterized as three-color double-faced weave using two S- threaded and two Z-threaded tablets alternately (Collingwood 1982: 200). In this article, I will call it DFW (2S-2S-) for short.

This article comprises Part 1 and Part 2, which are separately published. Part I contains 3 chapters. The first chapter reviews the history of the Toraja and Mamasa tablet-weavings study, which first began in the Netherlands and was further advanced by Peter Collingwood. The second chapter will reconsider the 'Mamasa' attribution of some bands in museum collections and reevaluate their authenticities. Finally, the third chapter will discuss the geographic distributions of tablet weaving in three main areas in Sulawesi: the lowlands, the highlands, and the border areas between them or some enclaves in South and West Sulawesi.

Part 2 of the article contains two further chapters. The fourth chapter records the production of *palawa* in Mamasa, focusing on the technique, particularly the weaving process and the local tablets manipulation by the weavers. The final and fifth chapter offers a detailed analysis of the Toraja-Mamasa double-faced weave with schematic diagrams and close-up photographs showing textures and structures. This chapter illuminates the Toraja-Mamasa type and its unique weave from the structural viewpoint.

1. Prior studies of the Toraja-Mamasa tablet weaving

1.1. Early studies of tablet weaving in Indonesia

The earliest mentions of tablet weavings in Sulawesi are found in the writings of B. F. Matthes (1874), Margarethe Lehmann-Filhés (1901),[7] L. A. Loeber (1903), and G. P. Rouffaer (1904). Matthes was the first to note that the Buginese narrow bands were woven with the aid of square tablets made of tortoiseshell (*kerat*) and called *kéra*. He explained how these *kéra*, which have four holes, were used to produce a woven pattern. Some 30 years after Matthes' writing, Loeber published an image of a Buginese kris-belt with a woven inscription from Matthes' collection and described the loop section at the top of the kris-belt. While early researchers such as Matthes and Loeber provided valuable information about the Sulawesi bands and tablets, they were unfamiliar with the actual weaving and the loom setup.


Fig. 206. Toestel voor het kaartweven.

Fig 3. Tablet-weaving loom called *tenung kéra*, which was used by the Bugis, the lowlanders in South Sulawesi. This drawing suggests how a starting loop is made on the loom. Image from Jasper and Pirngadie (1912: 203).

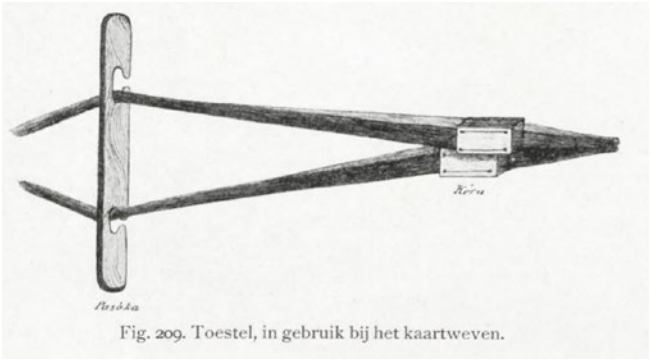


Fig. 209. Toestel, in gebruik bij het kaartweven.

Fig 4. A wooden device with notches called *pasaka* divides the tablets, through which the warp threads are threaded, into two groups to produce a tubular fabric. Image from Jasper and Pirngadie (1912: 205).

The first scholars who made a focused investigation on looms were Jasper and Pirngadie. They also conducted extensive studies of Indonesian handicraft and textile techniques. In one of their seminal studies, *De Weefkunst* (Jasper and Pirngadie, 1912), they provided an illustration of a Buginese tablet-weaving loom called *tenung kéra* (Fig. 3), including a special device made of a bamboo lath with two notches called *pasaka* (Fig. 4).[8] They showed how the warps are stretched between a vertical cloth beam, called *wakangang*, and a horizontal warp-beam, *tanrajang*, fixed on a crossbar. The bars and the cloth beam are inserted into a slatted stilt house floor and tensioned with ropes. The notches in the *pasaka* divide the warps threaded through the even and odd numbers of the tablets into the upper and lower layers.

More than half a century after *De Weefkunst*, Rita Bolland (1970) wrote an important study titled 'Three looms for tablet weaving' based on the collection and historical archives in the Tropenmuseum where she was working at the time. She praised Margarethe Lehmann-Filhés' work, *Brettchen Weberei* (1901), which covers tablet weavings from various world regions that were known from examples brought into Europe at that time. Lehmann-Filhés included Celebes/Sulawesi in connection with a striped tablet woven belt.[9] Bolland herself focused on tablet-weaving traditions in Sulawesi, Java, and Morocco. The 'Three looms' article significantly contributed to the knowledge about tablet weaving in Indonesia in general and in Sulawesi in particular.

Regarding Sulawesi, Bolland concentrated on three peoples: the Bugis in the lowlands and the highlanders Sa'dan Toraja, and the Mamasa. She made pretty accurate diagrams showing the regular forward-and-backward turns of the tablets and the movements of threads in Torajan tablet-woven fabrics. However, she did not analyze its woven structure, nor did she state the uniqueness of the technique, which is more complicated than generally known.

Bolland's subsequent significant contributions were two articles titled 'Tablet weaving from Sulawesi vol.1 and 2' in the Dutch textile journal, *Handwerken Zonder Grenzen* 1989a & b. In these articles, she provided readers with a map, information on the Toraja culture, and some explanations on tablet weaving of the so-called Mamasa Toraja and Sa'dan Toraja. She also published color pictures, described the design characteristics, and provided some ethnological records (Bolland 1989a: 53-57, 1989b: 41-44). Unfortunately, Bolland misidentified the origin of some bands and called them 'Mamasa tablet weaving'.[10] Later in this article, we will see that these in fact, originated from the neighboring region, Pitu Ulunna Salu.

In the same journal, next to Bolland's 1989 articles, was Karen van Gelder-Mauve's writing on the design, structure, and manipulations of a tablet used in the tablet-weaving technique (Van Gelder-Mauve 1989a: 58-62, 1989b: 45-52). Van Gelder-Mauve was one of

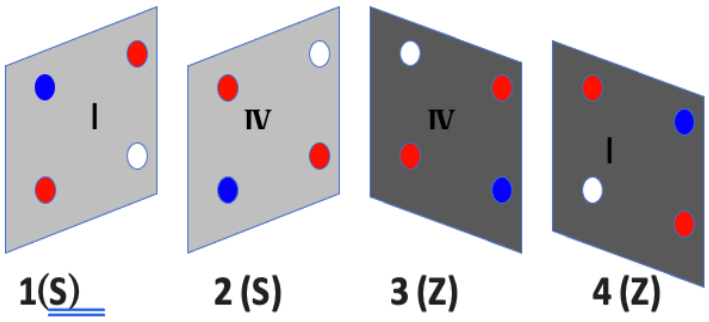


Fig 5. Diagram by Keiko Kusakabe based on Gelder-Mauve's three-dimensional model of the patterning system set up for the Toraja tablet weaving.

Fig 6. Exhibition poster produced by Marijke van Epen. The graphic includes four types of five double-faced bands. Types from left to right: 1. Sa'dan Toraja; 2 & 3. 'Sulawesi'; 4. Tibet-Bhutan; 5. Broken twill.

the first scholars to observe that the complex Sa'dan Torajan pattern was built on smaller, simple oval shapes. These oval-shaped 'building blocks' consist of either '(red) core in blue' or '(red) core in white' (Van Gelder-Mauve 1989b: 45). She provided a three-dimensional model of the pattern system set up, characteristic of the Torajan system: a set of four tablets, with an alternating two S- and two Z- warp threading (2S-2Z-) and three-color yarns placements to each tablet (Fig. 5). As with Bolland, Van Gelder-Mauve also employed the forward and backward turns of the tablets. But here, she further suggested that a vertical twist of a tablet could be partly used. She clearly understood that the Torajan band's pattern system involves two structural elements: double-faced and warp-twined weaves.

The study of tablet weaving gained momentum from the 1980s onwards in the Netherlands, led by a specialized group, Kaartweefkring. One of its prominent members was Marijke van Epen. In 2002, the group held an exhibition in Breda with works made by contemporary tablet weavers in Europe. In one gallery, they showed newly made pieces and reproductions, together with historical examples from other museums, such as the Tropenmuseum (Fig. 6).[11]

1.2. Peter Collingwood and his contribution

In 1982, Peter Collingwood published a highly influential book, *The Techniques of Tablet Weaving*. The book is full of his experimentation and creative approaches to understanding historical tablet weavings beyond what was traditionally known. For example, he proposed, 'A tablet can be manipulated in another way than turning, and it is a movement which will be used in many techniques described in this book' (Collingwood 1982: 61). He called this manipulation twisting and showed that it has three possible directions: vertical, horizontal, and diagonal rotations about the axes of a tablet (Fig. 7).

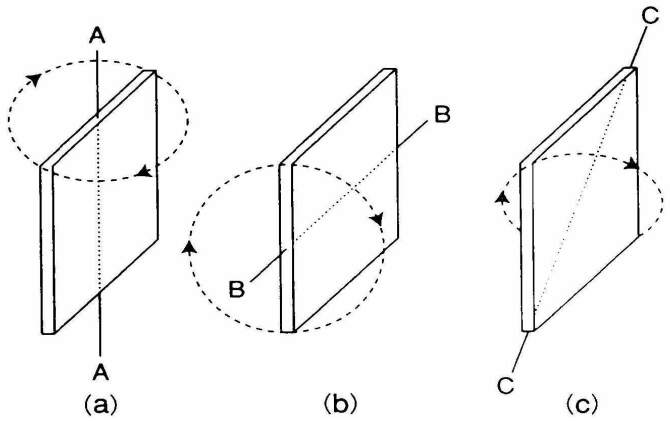


Fig 7. Three possible directions of twisting a tablet. Image from Collingwood (1982).

At the time of his writing, most weavers were only familiar with the first direction, vertical twisting (Fig. 7a). The last one, diagonal twisting (Fig. 7c), has not yet been found. As for the second one, horizontal twisting (Fig. 7b), Collingwood did not know at first that it existed. He was surprised and admitted to the author that he never thought his experimental horizontal twisting was, in fact, practiced in Mamasa. He was even more intrigued that this manipulation was used to achieve the double-faced weave structure, DFW (2S-2Z-). Thus, he coined a term for this technique: the 'Mamasa method'. Thanks to Collingwood's invaluable contributions as a writer, a teacher, and a gifted artist, the art of tablet weaving flourishes to this day. His work on tablet weaving indirectly led to the founding of the publication *Tablet Weaver's International Studies & Techniques* (*TWIST*). It launched its first issue in Spring 1996.

2. Questioning the Mamasa origins of the 'betel bag for men' and understanding Mamasa as an ethno-political and ethno-geographic category

Many old tablet-woven bands from the mountains in Sulawesi survived in museums and private collections as part of larger objects, such as funeral hoods (*pote*), beaded accessories (*kandaure*), ritual garments (*bayu to minaa*), and tubular skirt/ *sarung* (*dodo*). Most of these examples came from Tana Toraja. These pieces are vital historical records of the once-flourishing Toraja tablet-weaving tradition, which had ceased in the early 20th century. In contrast, Mamasa tablet-weavings have escaped outsiders' attention even though the technique continues to this day. This chapter focuses on the less-known tradition of Mamasa tablet weaving and how the Mamasa attribution on some museum objects is, in fact, a misnomer perpetuated by early researchers and scholars.

2.1. Two bags of tablet-woven bands from the Mamasa highlands

The Tropenmuseum has a spectacular men's betel bag made from decorative tablet-woven bands (Fig. 8). It was published as 'Betel bag for men, Mamasa Central Celebes, Indonesia' (Bolland 1970: 188). This bag consists of three long pieces of tablet-woven bands, which were cut and assembled to make a rectangular pouch. The bands are sewn vertically at the lower part and horizontally at the upper part of the bag (approximately 33-36 cm

Fig 8. The 'betel bag for men' at theTropenmuseum. Image from Bolland (1989a: 57).

Fig 9. A betel bag called *sepu'* made in the West Balla district in the Mamasa Regency. Image from Fukuoka Art Museum (2006: 28).

Fig 10. Detail of the *palawa* on *sepu'* (Fig. 9) from the Balla district in the Mamasa Regency.

wide × 30 cm height). The carrying strap of 80 cm long is also made of a tablet-woven band (Bolland 1989: 57). The geographical attribution of this bag inspired me to visit Mamasa in 2000 to find out whether such bags and tablet-woven bands were still being produced there.

Surprisingly, I could not find a comparable example anywhere in Mamasa. Instead, I found a different betel bag called *sepu'* (Fig. 9), often carried by women in the local market. The *sepu'* resembles a drawstring pouch. It is constructed of brocaded patterned fabric in the center and striped fabrics on the sides. A tablet-woven band (30 cm long) is stitched around the gathered opening. And a longer band (85 cm long) is used as a carrying strap. Even more fascinating is that such tablet-woven band, called *palawa* in Mamasa, is still being produced in villages in the southwest part of Kota Mamasa/ Mamasa town.

If we compare the Tropenmuseum's betel bag, allegedly from Mamasa, with the Mamasa *sepu'*, we can see several remarkable differences. The former is rectangular and entirely constructed from tablet-woven bands. The *sepu'*, on the other hand, has a fan-like shape and comprises several fabrics for the body and tablet-woven bands for the bag's opening and the carrying strap. The two bags share only one common feature: a quarter-circle embroidery at each lower corner.[12]

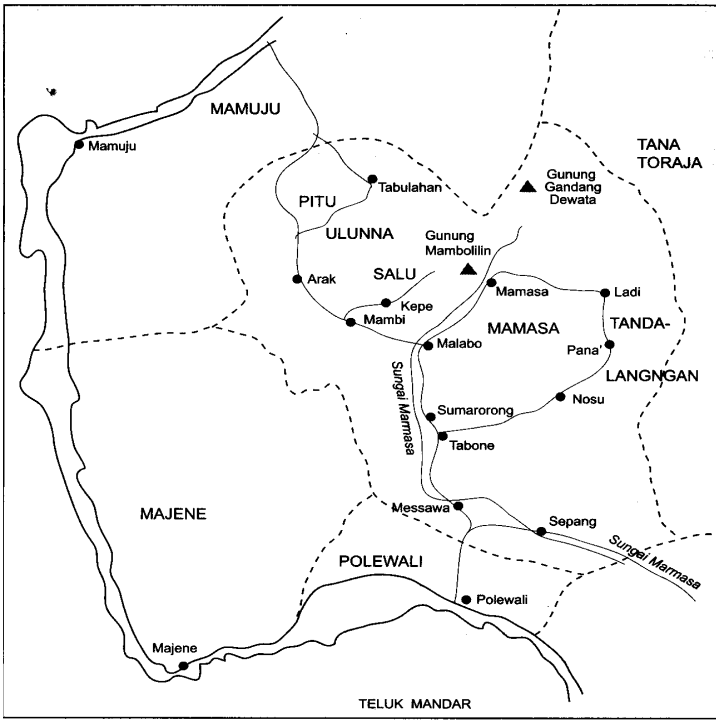
A close-up analysis of the tablet-woven bands on the two bags shows that they are different in design and weaving structures. With the 'betel bag for men' (Fig. 8), sharp geometric shapes in white appear against the vertical striped background in different colors, either brown and orange combination or black and red. The patterns and the background colors reverse on the front and back, creating a day-and-night effect. This feature is typical of the most common double-faced weave found widely in the Middle East and Mainland Southeast Asia. This standard double-faced weave structure is created using tablets on the alternately S- and Z-threaded direction, in short, DFW (S-Z-).

On the other hand, the *palawa* band on the *sepu'* displays white patterns on a red background. The design is constructed from a mosaic of small oval shapes plus diagonal lines (Fig. 10). This feature is typical of the double-faced weave with alternately 2S- and 2Z-threaded tablets, or DFW (2S-2S-). The design of the *palawa* includes human figures, shapes derived from nature, and a sequence of diagonal lines. So far as the author's research, the use of mosaic of ovals and diagonal lines for pattern appears to be confined to the bands of Mamasa and Toraja peoples. Comparison of the two bags from the structure and design viewpoints shows that the 'betel bag for men' at the Tropenmuseum and the Mamasa *sepu'* came from different traditions and places.

2.2. Ethnic background of the people in Mamasa Regency

To discover the origin of the betel bag in the Tropenmuseum, we must first understand the multi-ethnicities in South and West Sulawesi (Map 1), especially around Mamasa (Map 2). Map 2 shows that the Mamasa people live in (roughly speaking) three regions: the Mamasa region to the northeast, Tandalangngan to the southeast, and Pitu Ulunna Salu/ PUS[13] to the west (Buijs 2006: 14). In the early 20th century under the Dutch colonial rule, a government office was set up at the center of each region. These governing centers are situated in Kota Mamasa in the Mamasa region, Pana' in the Tandalangngan region, and Mambi in the Pitu Ulunna Salu/ PUS region (Madandung 2005: 41-42). The people living on the east side (Mamasa and Tandalangngan regions) were part of the ethnic group of the so-called Mamasa-Toraja. They settled along the Mamasa River, which runs through the two regions. The people on the west side (PUS region) are of a different ethnic group

Map 1. Indicating four areas where the Bugis, the Sa'dan Toraja, the Mamasa Toraja, and the peoples of Pitu Ulunna Salu inhabit. Image from Bolland (1989a: 53).



Map 2. Mamasa area with the regions: Pitu Ulunna Salu (west), Mamasa (northeast/ center), Tandalangngan (southeast). Image from Buijs (2006: 14).

called the PUS people. They settled upstream along the seven tributaries, where seven leaders once ruled the lands.[14]

Today, these three regions are integrated into one governmental unit called the Mamasa Regency (2005).[15] Still, some people want to reclaim their own separate identities. At present, there is a rising movement by the people in PUS to safeguard the region's historical political independence and cultural identity.[16] This socio-political unrest suggests that the PUS society rejects the way the region has been treated as a marginal village community within the cultural politics of West Sulawesi.[17] I propose that the PUS's marginalized status had led to people's misunderstanding of this region as 'Mamasa', thus, directly or indirectly, causing researchers to misidentify the origin of the Tropenmuseum betel bag.

Historically, the Mamasa highlands have been eroded over time by the Mamasa River, the Mambi River, and other tributaries. And these areas have been settled by different ethnic groups. These peoples went back and forth inlands to trade at local markets. Textiles are amongst the main trade items in the highlands. Occasionally, trade textiles were also brought to coastal towns, for example, Mamuju (Table 1. No. 1), the capital of West Sulawesi, and Ujung Pandang (Table 1. No. 5), the capital of South Sulawesi. These towns are populated by even more diverse ethnic groups.

The betel bag in question was recorded to have been acquired in 'Mamasa valley' (see Table 1, No. 2). This location, as discussed above, points to an extensive geographical area that is rather undefined. In other words, 'Mamasa valley' does not immediately identify the people as Mamasa. In fact, the area is the homeland the Mamasa-Toraja and the PUS peoples. By regarding the whole area as 'Mamasa', the early visitors to Sulawesi overlooked the PUS region and its people. This situation is likely to continue to this day. The issue of geographical names versus the boundary of ethnic groups is very complex. Therefore, labeling the Tropenmuseum bag as being from Mamasa shows a lack of understanding of the complicated issue of the location of different ethnic groups in the Mamasa highlands.

For a broader view of this complex problem, let us examine other tablet-woven bands and related objects in old museum collections in the Netherlands (Table 1). This includes two bags, two bands, and one loom collected in the early 20th century. I arranged them here into seven categories following Bolland's descriptions in 'Three looms' (1970) and her 1989 article. In her writings, Bolland accepted the bag's attribution as from Mamasa valley. She further remarked that the Tropenmuseum betel bag is made from tablet-woven bands

Item No. ID No.	Year it was donated or acquired	Description	Museum or collection.	Donor or Collector	Place where it was acquired	Photo No.
No.1 ID.3600-5220	1911 or 1912	Betel bag for men	Rijksmuseum voor Volkenkunde.	Mr. and Ms. Legger-Reinders	Mamuju/ Capital of West Sulawesi	----
No.2 ID.46-52	1917	Betel bag for men	Tropenmuseum	H. Wolvekamp	Mamasa valley	2-2
No.3 ID.149-1	1922	Wooden loom with woven warp and bone tablets	Tropenmuseum	R.W.F. Kyftenbelt	Village of Arale, upper Binuang, Mambi region	2-3
No.4 ID.680-2	1931	Tablet-woven band (3.5-4 x 279 cm)	Tropenmuseum	R.W.F. Kyftenbelt	Village of Arale, upper Binuang, Mambi region	2-4
N0.5	1946 -1952	Tablet-woven waistband (2.2-2.4 x108 cm)	Private Collection	Ms. G. Ribbens - Hoekstra	Ujung Pandang/ Capital of Sulawesi	2-5

Table 1. Tablet-woven bands and a tablet-weaving loom in Dutch museums and private collection.

that are very similar to the band collected in the Aralle district (upper Binuang, Mambi Region) as well as to the partly woven band on the loom from the same area (Fig. 11). It seems that Bolland regarded the Mamasa valley and Aralle (Mambi) as part of the same area or, at the very least, sharing the same tablet-weaving traditions.

The loom from Aralle (Fig. 11) is an essential key to the puzzle. While textiles may be traded and moved from their place of origin, looms are rooted in local textile production and tend to stay with the weavers. The Aralle loom suggests that there was once an active tablet-weaving poduction in the area. Since the technique is no longer practiced there, this loom and other artifacts collected by the Dutch from this region are our only evidence of the past tablet-weaving tradition in Aralle. Examples in old collections attributed to Aralle show a similar technique/structure to the Bugis double-faced bands.

The reason for this interesting phenomenon lies in the specific location of the Aralle district in PUS. A century ago, in South and West Sulawesi, there were two major tablet-weaving traditions, each with a different technique and pattern. They were separated geographically: one in the upper region comprised of the Mamasa and Toraja peoples and the other in the lower region, the Bugis. The PUS people, like those living in Aralle, dwell in the border areas between these two major traditions and thus receive cultural influence from both the highland and the lowland traditions. As we will see later, the tablet-woven loom from the PUS areas follows the highland style. However, the woven structure follows the lowland, and the design combines elements from both regions.

Thus, we can say that the Mamasa Regency at large in former times must have had at least two tablet-weaving centers. One is the living tradition in the Balla district located in the Mamasa region proper, which I visited. The other is the past tradition in Aralle district in the PUS region situated west of Mamasa near the coastal area where the Mandar people live.

It is important to note that the Mandar people are famous for their fine silk weaving, similar to those made by the Bugis further south in the lowland (Map 1). However, the Mandar did not seem to have a tablet-weaving tradition. This technique may have come to PUS via their connections with the Bugis, whose tablet-weaving tradition ceased in the early 20th century.

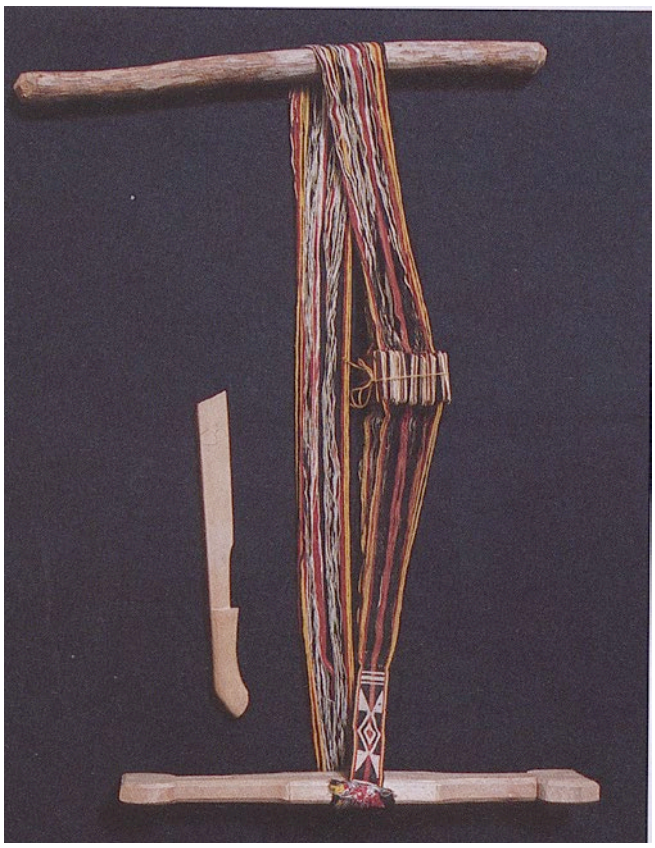


Fig 11. Loom on Table 1, No. 3. Image from Bolland (1989a: 55).

Fig 12. Band on Table 1, No. 4. Images from Bolland (1989a: 55, 62).

Fig 13. Band on Table 1, No. 5. Images from Bolland (1989a: 56).

2.3. Questioning authenticity – where did the brilliant yarns come from?

All the objects in Table 1 were collected in the field. But we do not know whether they were ever used before entering the museum's collection. Some are remarkably similar in appearance and condition. One looks even brand new.[18] Technique-wise, all the bands in Table 1 are identical. They employ a day-and-night patterning effect on a double-faced weave produced by alternately S- and Z-threaded tablets. Design-wise, they also share similar striped background, arrow-shaped border, and S-shape and human figure motifs. These combined features are characteristics of the tablet weaving from the border region between the lowland and the highland.

At one point, Bolland (1989: 57) proposed that the bags at the Rijksmuseum voor Volkenkunde (No. 1, labeled from Mamuju) and the Tropenmuseum (No. 2, labeled from the Mamasa valley) must be related. She said, '... these two bags are so similar to the point that one hard-

ly can deny that they were made in the same places, and probably even by the same woman'. Boland recognized that the almost identical appearance of the two bags could scarcely be coincidental. However, despite claiming that these bags might have been woven by the same people, she did not elaborate to explain their different provenances as recorded in the museums' catalog. Bolland also remarked on the loom donated to the Tropenmuseum in 1922 (Fig. 11). She pointed out that 'the bone tablets look much used, but the wooden parts are brand new, which suggests that this loom was made on Mr. Kyftenbelt's request after the loom he saw in use of Arale' (Bolland 1970: 172). Her comments suggest that the early visitors to Aralle might have commissioned the loom and the bags in the same way.

All bands display a similar design and technical features. Thus, they must have been produced in Aralle. Their main difference, however, is the materials. Most pieces, such as Band No. 4 (Fig. 12), use industrial cotton yarns in brilliant chemical color. In contrast, Band No. 5 (Fig. 13) is made of handspun cotton and looks somewhat muted, suggesting natural dye. Using naturally-dyed and locally handspun cotton was the common practice of local weaving at that time. Data from the author's survey in Kota Mamasa indicates that the first chemical dyestuff called *pacho/ petayon* flowed into the local market around the 1930s at the earliest (Kusakabe 2005: 55). The fact that chemical dye arrived after the museum items were collected (1910–1920),[19] means that the Dutch visitors brought the chemically-dyed industrial yarn into Aralle or a nearby area. Alternatively, the new materials were specifically ordered to make the items.

We can conclude that the brilliant chemically-dyed bands such as Nos. 1-4 (Figs. 6, 8, 9, 10) were most likely modeled after the more somber-colored local bands, such as No. 5. And it is safe to say that these bright-colored objects were not made for local use. Most likely, the Dutch visitors requested the loom and specified the bands' materials and designs. In other words, these objects were specially prepared for study collection and academic purposes.

2.4. Summary of loom proper

I propose that two tablet-weaving centers coexisted in West Sulawesi in the early 20th century: Mamasa and PUS regions. The word Mamasa, however, should be understood as an ethno-political category as well as ethno-geographic one. Examinations of museum archives, Bolland's articles, and the author's research in 2000 show that the label 'Mamasa' for the Tropenmuseum objects is in fact wrong because these pieces originated from the PUS region. Unfortunately, this misnomer continues to be perpetuated in later studies.

From the point of structure, the Mamasa tablet weaving is identical to the Toraja, having a double-faced weave using two S- threaded and two Z-threaded tablets alternately. On the other hand, the PUS tablet weaving is similar to the Buginese, having a double-faced weave using S- threaded and Z-threaded tablets alternately. The structural division corresponds to the cultural divides between the highland and the lowland traditions. The Mamasa and Toraja people in the highlands employ the DFW (2S-2Z-) pattern system, while the PUS and Bugis people use the DFW (S-Z-) pattern system.

Further study of the relationship between tablet-weaving traditions in Mamasa and PUS requires a survey of the basic loom weavings for cloth in these regions since the loom for tablet weaving would have been adapted from the existing local loom. First, we will compare the tablet-weaving looms from two regions. Figure 14 shows a woman weaving on a backstrap loom equipped with rectangular tablets threaded through a circular warp, sitting on the granary floor in the Mamasa region. Compare this with the early 20th-century loom from Aralle (PUS), which we have discussed previously (Fig 11). Both looms hold a circular warp that goes around two beams: a cloth beam nearest to the weaver and a warp beam at the opposite end. The cloth beam from Aralle is flat and wide in the middle; this form is peculiar to circular-warped tablet weaving, which require some distance between the upper and lower threads of the warp. This space allows the weaver to make a smooth turning of the wooden tablets. For the same reason, the Mamasa tablet-weaver uses a special cloth beam with a small box in the middle. This box functions as a container for tablets when not in use, but it also keeps some distance between the upper and lower warp threads of the circular warp.

Fig 14. Woman weaving on a backstrap tablet-loom with a circular warp. Balla district (Mamasa Regency), 2009.

These neighboring areas also share similar-sounding names for their loom parts. For example, a cloth beam is called *api'* in Mamasa, *appi* in PUS; and a tablet is called *galassiri'* in Mamasa and *karasiri* in PUS (Bolland 1970: 182-183; Kusakabe 2006: 111). Unfortunately, we cannot tell whether the tablet in the PUS region was square or rectangular as in Mamasa.

Fig 15. Woman weaving on a backstrap loom of I-type, with a heddle on a circular warp using many patterns sticks for making a warp-patterned *sarung* called *sakka-sakka*. Balla district (Mamasa Regency), 2005.

Fig 16. Woman weaving on a backstrap looms of I-type, with a heddle on a circular warp for weaving a warp-striped *sarung*. Bambang district (PUS), 1983/84. Image courtesy of G. Kenneth M.

Next, let us look at the loom for *sarung*-weaving. Figure 15 shows a woman weaving a warp-striped and warp-patterned *sarung* in Mamasa, and figure16 shows another weaver making a warp-striped *sarung* in PUS (Bambang), which was taken by Dr. Kenneth in 1983/84. This photograph is the only record known of *sarung* weaving and loom from PUS. Both Mamasa and PUS regions employ the same type of backstrap loom. It has a circular warp stretched between the cloth beam tied on the weaver's waist, and the warp beam hung from the crossbeam of the granary or house. As the weaving progresses, these weavers continuously turn the circular warp around the two beams and finish where they had started. The loom has no reed or stand, but it has a coil rod (to fix a line of warps). It is the primary loom type used in the mountainous regions in Indonesia, classified as I-type backstrap loom (Yoshimoto 1978: 244-248; Perlas 1997: 243; Kusakabe 2016: 387).

In summary, the PUS people employed a tablet-weaving loom similar to that of the Mamasa people as early as the beginning of 1900. Their shared tradition of tablet-weaving loom extends back to the *sarung* weaving. In figure 16, a PUS weaver appeared to be making *sarung* in warp-striped patterning on an I-type backstrap loom, which is quite similar to that found in Mamasa today. Unfortunately, we do not know when this type of weaving started in the PUS region. Presumably, it had been a longstanding practice before tablet weaving appeared and disappeared. I suspect that the PUS people initially produced cloth or *sarung* on the circular-warped backstrap loom using plant fibers as the mountain peoples in Sulawesi once did. At some point, they learned about the tablet-weaving technique, which they then adapted to their current loom setup.[20]

The backstrap loom is different from that used by the Bugis in the lowland and coastal region where the loom holds one level of straight warp passed through a reed (Fig. 17). This type has been classified as II-type backstrap loom. The warp ends far from a weaver wound around a wide board fixed to a stand on the floor (rather than a warp beam hung from a part of a building).

The PUS region is a complex but important intersection of a geo-cultural site when it comes to understanding the transmission of tablet-weaving techniques in Sulawesi. Because tablets are portable, tablet-weaving

techniques can easily be transmitted to different areas. However, this moveability of tablet weaving clashed with the conservative tendency of local weaving practices and their looms. Therefore, when the tablet-weaving technique traveled to PUS from whichever land it came, it was transformed and adapted to the existing indigenous textile tradition. The result is a mixed character of the PUS band, which exhibits the Bugis-type woven structure but is executed using the Mamasa-type loom with an interstitial-type design.

3. Three tablet-woven band traditions: lowlands, highlands, and the interstitial region

In Sulawesi, tablet weaving was practiced by least four ethnic groups: the Bugis and the Toraja (in South Sulawesi Province) and the Mamasa and the Pitu-Ulunna-Salu, or PUS (in West Sulawesi Province). From a geographic division, the tradition is spread out in three locations: the lowlands, the home of the Bugis; the highlands, where the Mamasa and Toraja reside; and the border zones of the PUS. Tablet weaving in

Fig 17. Woman weaving on a backstrap loom of II-type, with a heddle on a flat warp (as opposed to circular) that is passed through a reed. Sengkang district (Wajo Regency, South Sulawesi), 2017.

Region	Bugis	Toraja	Mamasa	Pitu Ulunna Salu and/or some place.
Local name	*tali bannang* or *tenun kera'*	*kamandang*	*palawa*	unknown
Date & Material	Up to early in 20th cent: handspun cotton and silk with silver, copper, metal threads. Up to 1930's: partly industrial cotton, chemical dye.	Up to early in 20th cent: handspun cotton, natural dye.	Up to 1930's: handspun cotton. After 1930's: industrial cotton, chemical dye After 1970's: colored polyester yarn. After 1990's: colored acrylic yarns	Up to early 20thcent: handspun cotton, natural dye.
Max tablet number & Material	50-400 tablets made of tortoise shell	50–160 tablets made of unknown (white) material	Old pieces: 50-58 tablets made of wood, bone, horn Modern pieces: 26-30 tablets made of plastic.	34-36 tablets made of bone
Pattern	eight-pointed star, square, Islamic inscription	hooked, geometric shape	geometric, plant, animal, human figure	triangle, windmill, human figure
Structure & Technique	Double-faced weave (S-Z); double-cloth, top tubular loop; warp-twined weave with brocade or openwork	Double-faced weave (2S-2Z)	Double-faced weave (2S-2Z)	Double-faced weave (S-Z)
Usage	*keris* belt; strap for waistbelts.	Hem for garment and *sarung*; band for beaded ornament	dancing-skirt hem; strap for betel bags; uniform and ceremony jacket trimming	strap for betel bags.

Table 2. Summary of tablet-weaving characteristics in four regions in South and West Sulawesi.

these geographic terrains has its own peculiarity as to the material, pattern, and weave. These characteristics were caused by mixing indigenous local impulses and external stimulation. We shall take a closer look at the attributes of tablet-weaving of the four ethnic groups, considering both their inherent textile knowledge and the new outside influences.

3.1. Lowlands: Buginese tablet-woven band for *keris* belt

Jasper and Pirngadie (1912) reported in the early 20th century that warp-twining textiles woven on tablet looms flourished in the Bugis land in South Sulawesi. The Bugis were brave seafarers who, during the colonial period, sailed across the Indian ocean. They traded and brought commercial goods (ceramics, iron tools, and cloth) to the various parts of the archipelago (Ried 1995; Alamsyah, Maulimin, and Supriyono 2021). They adopted Islam by the beginning of the 17th century (Perlas 1997: 3-5), and their culture was exposed to foreign influences early on. Maritime commerce brought exotic materials and diverse textile techniques from the Western regions to the Bugis land. The most prominent imported material was silk yarn. Weft ikat, supplementary weft brocading, and tablet weaving were among the newly introduced textile techniques. While tablet weaving ceased in the first half of the 20th century, silk weaving continued to prosper in Sengkang (Wajo

Regency) beside Lake Tempe in South Sulawesi. In addition, sericulture and silk yarn production developed in the Soppeng Regency to the south of Sengkang.

The local name of tablet weaving or the loom in Bugis is *tenung kéra*,[21] which refers to the weaving loom with tablets made of *kerat* or tortoiseshell. The Buginese wove tablet-woven bands called *tali bannang*, used as a decorative binding for *keris* or dagger, and bands called *papuru,* used as a belt for trousers. *Keris* is a dagger with an undulating blade, indigenous to Indonesia and Malaysia. Such daggers were carried to many other places beyond their place of productions (for example, to the Philippines and Japan) via maritime trades. In Indonesia today, *keris* are still being made and treasured as objects imbued with magical power that can protect their owner.[22] *Keris* belts or *tali bannang* vary significantly in material, dye, form, and weave compositions. Sometimes they are made of naturally-dyed cotton or silk yarn as well as chemically-dyed cotton in the last production period. In some cases, they are embellished with metal threads or metal pieces. Gold metallic thread and thin strips of brass foil are often used for supplementary-weft brocading.[23] A few rare pieces also have gold or copper threads for the warps in the double-faced technique.[24] Regardless of the material, all *keris* belts have a tubular-woven loop at the top (beginning end) and long fringes extending from the bottom part of the woven band (finishing end). Treatment of fringes may vary in each piece.

3.1.1 Cotton *keris* belt

One-layered warp-twined cotton belt

Regardless of the woven structures and materials, Buginese belt can be categorized into one or two-layers. In the one-layered belt, structural changes occur between the three-dimensional tubular weave (starting loop and tail end) and the two-dimensional flat weave (main body).

Fig 18a. (left) Tablet-woven band, chemically-dyed cotton. Dimensions of the body: 5.4 x 166.3 cm; fringe: 73 cm. Number of tablets required to make the band: 82 tablets.
b. (right) Detail of the tubular starting loop and double-woven triangle tail end.

Two types of woven structures are found in *keris* belts made of cotton: warp-twined weave and double-faced weave. Both types employ alternately S- and Z- threaded tablets. The warp-twined *keris* belt in the author's collection (Fig. 18) uses chemically-dyed cotton. It displays a solid blue field in the center and striped borders in bright green, yellow, and red. The warp is fine machine-spun yarns, and the weft (undyed cotton) is thicker, resulting in a dense weave and a firm fabric.

One-layered *keris* belt exhibits five distinct sections: the starting top loop, the first transitional area, the main body, the second transitional area (tail end), and the long fringe. The making of such belt is quite complicated, requiring the use of a *pasaka* (Fig. 19), which is a bamboo device to divide the warp into half to the upper and lower layers by separating the tablets in odd and even numbers. This process is peculiar to Buginese tablet weave.

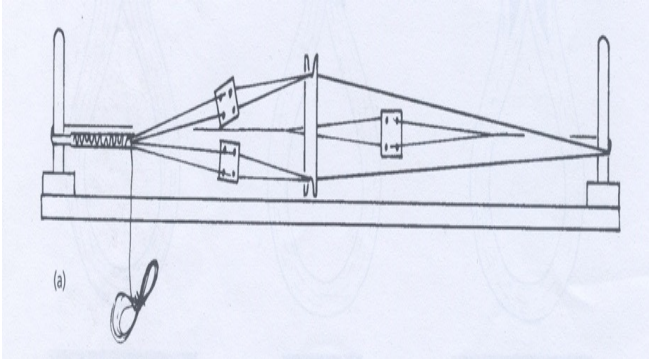


Fig 19. Diagram showing the making of a starting loop using a device like the *pasaka*. The *pasaka* divides the warps on the right side of the post into upper and lower layers. The warps are interdigitated by a weft and woven into a tube. Image from Collingwood (1982: 70).

A warp-twined cotton *keris* belt has five distinct sections. The following description is a generalization of the steps involved in creating this complex belt:

1. Starting loop: a tubular weave at the top.
The warps are wound around a post (cloth beam). This results in two sets of warp threads, each on the post's left and right sides. Both warp sets are woven into a tube starting from the top end. Using a *pasaka*, each set is divided into upper and lower layers. The *pasaka* organizes the tablets in an alternately odd and even number. The weft is passed through the upper shed and then back to the lower shed in a spiral manner, interlocking the layers into a tubular weave. A tube can be formed into a round shape or flat depending on how tight the weft is pulled.[25]

2. First transitional area: a flat double-weave that gradually increases in width.
After the top loop is made around the post, the *pasaka* is removed. This caused the two sets of warps to be combined into a single set by merging the right and left sides and the upper and lower ends. Next, a one-layered transitional area is woven, only a few picks long. Here the weft gradually pulled loosely.

3. Main body: a single warp-twined weave.
All the tablets are combined in the S- and Z-threading direction to weave the main body in a one-layered warp-twined weave.

4. Second transitional area: a flat double-weave that gradually decreases in width.
The warps are divided again into half to the upper and lower ends using a *pasaka* by reassembling tablets in the above-mentioned procedures, then double-woven with the weft pulled increasingly tighter toward the finishing end.

5. Fringe: a long fringe is made by braiding or twisting the warps.

One- and two-layered double-faced cotton belts

There are two types of cotton double-faced *keris* belts, exemplified here by figures 20 and 21. The red belt (Fig. 20) is a one-layered double-faced band in the collection of the Nasional Museum Indonesia, Jakarta. The blue belt (Fig. 21a) is a two-layered, double-faced band in the Kusakabe Collection. Both belts are made of naturally-dyed handspun cotton. They are ornamented with eight-pointed stars and weft stripes (Fig. 21b). In addition, the blue belt has Islamic inscriptions on the back. The blue belt is woven in two separate layers/cloths with a single weft to produce different ornamentations on the front and back faces. The belt is worn through use; the finishing section where the 3-strand flat braids were once attached is broken.

Fig 20. (above) Cotton *keris* belt, *tali bannang*, with eight-pointed star design. One-layered DFW (S-Z-). Collection of the Museum Nasional Indonesia, Jakarta, ID. No.22729.

Fig 21a. (top right) Naturally-dyed handspun cotton yarn. Dimensions of the body: 5.5 x 133.3 cm; fringe: 62.0 cm. Number of tablets required to make the front and back faces: 156 tablets. Two-layered DFW (S-Z-)
b. (bottom right) Detail of eight-pointed star motif.

Fig 22a. (above) Cotton belt, double-faced and warp-twined diagonally striped weaves. Warp: chemically-dyed cotton and gold threads. DFW (S-Z-). Number of tablets used: 64 tablets for the front face. Dimension of the body: 4 x 84 cm; fringe: 70 cm long.

b. (right) Detail showing gold and cotton warps. The middle section is a double-faced weave, and the two sides are warp-twined diagonally striped weave.

Double-faced cotton belt with gold warp threads

The belt on figure 22 features a red and gold central pattern with Islamic inscriptions, bordered by yellow and gold diagonal stripes and edged with red and yellow stripes. The inscribed main section is a double-faced weave, while the border is a warp-twined weave. To produce the double-faced pattern, I estimated that 22 tablets were used. Each tablet would be threaded with two thick red warp yarns for the pattern and two gold threads for the background. The band would have been created by weaving separately in two layers with the back woven in plain weave (rather than a warp-twined structure) and then sewing them along their edges to create a flat tube. Some stiff paddings are inserted inside it. Between the loop and the main body of the belt is a section of about 1.8 cm long covered by a net-like structure. This net would have been produced with a needle in a simple-looping crossed left-over-right structure (Emery 2009: 81). The net is a decorative device used to hide the disruption of threads in the transitional area. Such decorative net in simple-looping technique also often appears in the loop-manipulation braids, such as a funeral headband (*pote*) in Toraja region.

Fig 23a. (above) Large silk dagger belt/ *tali bannang*, naturally-dyed silk, tubular warp-twined weave (S-Z-) with subtle pattern by half turn technique. Dimension of the body: 9.5 x 252.8 cm; fringe: 112 cm long. The fringe was tie-dyed after braiding. About 500 tablets was used for both separate layers. Ex-Peter Collingwood Collection, gift of Keiko Kusakabe. Image from Fukuoka Art Museum (2006: 32).

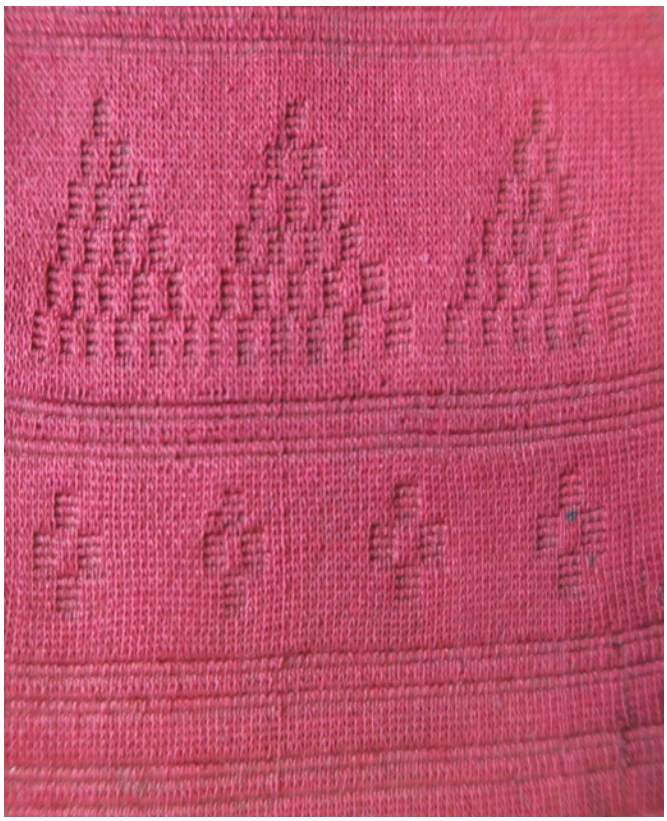
b. (right) Detail of the pattern at one end of another belt, created by half turned technique for squares pattern. Kusakabe Collection.

3.1.2. Silk *keris* belt

Red two-layered warp-twined silk belt

One of the most remarkable examples of *keris* belt is a red warp-twined belt made of silk (Fig. 23). It was woven as a tube in a warp-twined weave The tube on the starting loop is stuffed with a rolled fabric, which gives it a firm and solid feel. On the main body, the tube is flattened, and a strip of bark cloth is inserted as a core to add strength and rigidity to an otherwise soft material. The total number of tablets needed to produce this belt (9.5 cm wide in its flat dimension) is estimated to be close to 500. This number is extraordinarily high. In fact, it is the highest number of tablets ever found anywhere in the world.[26] We still do not know the exact method to make such a belt (Collingwood 2006: 35, 115-119), but the subtle patterns found on the two ends would have been produced using a half-turn tablet rotation. Figure 23b show an example of this effect on another piece, which is in the Kusakabe Collection.

The fringe is outstanding, one of a kind. It consists of red braided strands from the length of the actual warps (warp-braided fringe) and tie-dyed braided strands that



have been added (tie-dyed additional fringe). There are about 60 warp-braided strands made after the final pick when the weaving is completed. Each strand comprises 32 warp ends (8 tablets) interlaced in an 8-strand 1/1 oblique structure. In addition, 125 tie-dyed braided strands are added to the fringe, making this belt highly exceptional. Figures 24 and 25 illustrate how each added braid is prepared and interlaced in the same 8-strand 1/1 oblique structure as the warp braid. Before attaching them as fringe, these 125 braids are tied and dyed to create lozenge and triangle patterns in red,[27] white, blue, and green. I agree with Peter Collingwood's remark that this preparation shows 'a stupendous feat of patience and skill' (Collingwood 2006: 119).

Attaching the tie-dyed braids to the belt would have involved a rather intricate procedure. On the seventh pick before the end of the weaving, the weaver passed the weft through the braids' starting loops, which integrated them into the weaving. The integration was done one braid at a time, approximately every 16 warps (4 tablets). To pass the weft through the loops, the weaver would have had to use a needle to carry the weft. The weft also had to be worked into the shed and taken out at intervals to pass through the braids' loops throughout the whole belt length, from front to back. This process was done several picks before the warp braids begin. As a result, the tie-dyed patterned braids sit on top of the un-patterned red warp braids and hide the latter from view. Figure 25 shows how the additional braids that had been integrated into the weave several picks before the warp braids were made, but here the additional fringe on this belt was not tie-dyed.

The intricate and labor-consuming process resulted in an extraordinary belt. Collingwood (2006: 119) praised it and said, 'this work with its severe and almost un-patterned length culminating in a brilliantly coloured fringe is a show-piece of the tablet-weaver's and braider's craft, and the band is breath-taking and has I think no equal in the world with the skillful handling of so many tablets, holding about two thousand fine silk threads'. To me, this amazing belt represents the peak of technology that has entered and developed in the Bugis land through the wide international contacts that were accessible to the culture via maritime commerce.

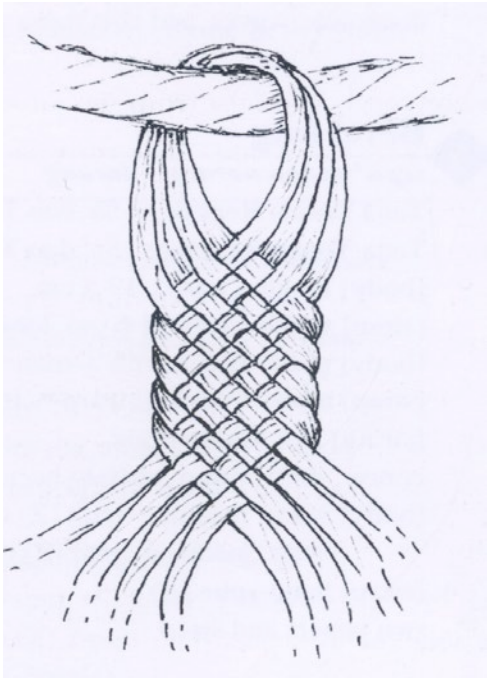


Fig 24. Additional fringe. Illustration on how to create an 8-strand 1/1 flat braid for a patterned fringe before tie-dyeing, Image from Collingwood (2006: 119).

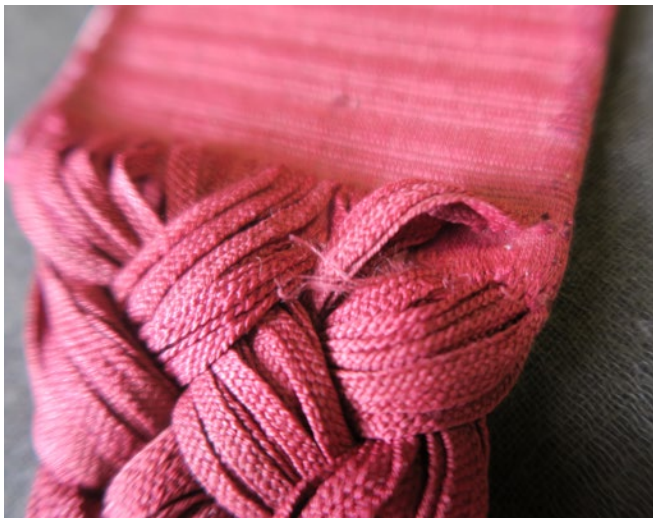


Fig 25. Detail of the fringe on figure 23b. It shows the beginning section where additional warps are attached, and the starting of the warp braids (seen most clearly on the right side of the belt).

Fig 26a. (above) Red and gold Buginese *keris* belt. Warp-twined weave with supplementary-weft brocading. Warp: naturally-dyed silk. Supplementary weft: gold metallic thread. Dimensions of the body: 4.6 x 43.5 cm; fringe: 85 cm long. Number of tablets required to make the band: 138 tablets (94 for the silk front face, 44 for the cotton backing).

b. (right) Detail of gold supplementary-weft brocading on the purple silk warp-twined weave.

Two-layered silk belt with supplementary-weft brocading

This silk belt (Fig. 26) is patterned with an elaborate brocading technique of high-level workmanship. It displays a sophisticated design of a 12-petaled flower motif in the center and a spiraling ribbon motif along the borders. The brocaded patterns are formed by supplementary gold thread wefts that float over the purple warp-twined ground. The thin and narrow edgings show gold and purple warp threads floating alternately in the double-faced texture, employing 3 tablets (12 warp ends) for each side (Fig. 26b).

This belt has two faces: purplish red on the front and natural white fiber on the back, which is hidden from view. For the starting loop, the warps are tablet-woven into a tube using a single weft. Next, the warp threads are separated into the upper and lower layers for the main body, where each layer is then woven separately. Afterward, the two layers are sewn together to make a tube. The way the brocaded part is integrated, however, is unknown. Finally, a fabric material is inserted into the tube to add thickness and rigidity to the soft and thin materials of the belt. The braided fringe at the end shows both the red and white warps

Fig 27a. (right) Jacket for indigenous priest/ *bayu to minaa*. Image from Fukuoka Art Museum (2006: 19).

b. (left) Detail of the S-shaped motif composed of white ovals with blue cores on the red background.

3.2. Highlands: Toraja and Mamasa tablet-woven bands for ceremonial dress trim

A tablet woven band is called *kamandang*[28] in the Toraja region and *palawa* in Mamasa. The Toraja people live in mountainous areas (referring to both Tana Toraja and North Toraja Regencies), where the practice of tablet weaving had ceased before the first half of the 20th century. Still, many old examples of tablet-woven bands have survived, primarily as decorative hems of ritual garments (Figs. 27a, b). These textiles were considered heirlooms and sacred cloth.[29] They were preserved in the ancestral house of the Torajan kin organization, called *tongkonan*. It has a boat-shaped roof made of bamboo and wooden carved walls. *Tongkonan* serves as a ritual center for the community and symbolizes its prosperity and continuity.[30] During the *mangrarabanua* house ceremony, many valuable objects, including heirloom textiles, would be flaunted and hung on the gable of the *tongkonan* (Fig. 1). Since the beginning of the 20th century during colonial times, the Dutch have collected Toraja artifacts and heirlooms. As a result, many early Toraja pieces can be found in various museum collections in the Netherlands.

The Mamasa people live west of Tana Toraja and North Toraja in the mountainous region. In Mamasa, the tablet-weaving technique still survives, having been passed on through several generations. Today, people continue making and using *palawa* in their daily lives and for ceremonial purposes. Unfortunately, there are very few extant old Mamasa bands, especially those made with naturally-dyed yarns. Toraja and Mamasa bands are easily distinguishable by their design. The Toraja bands exhibit a significant preference for metamorphosing geometries in their pattern. In contrast, Mamasa bands are characterized by nature motifs reflecting the people's pastoral life.

While the Toraja and Mamasa bands differ in design, their woven structures are alike. Both are made in the double-faced weave with a warp consisting alternately of two S-threaded and two Z-threaded tablets: DF-W(2S-2Z-).[31] This double-faced system is a variant from the more common double-faced weave, such as Buginese double-faced bands. Early examples show that the Toraja-Mamasa variant uses four yarns in three colors for each tablet. Typically, the color yarns consist of two reds, one blue, and one white. This three-color arrangement of the double-faced weave gives a special pattern effect to Toraja and Mamasa tablet weavings. Their pattern is built on a series of oval shapes and diagonal lines. Each oval acts as a building block for the pattern and consists of 4-tablets / 4-picks.

The evolutions of the tablet-weaving traditions in these two regions follow different historical trajectories. This is reflected in the differences in materials of new *palawa* and old *kamandang* that have survived today. Old *ka-*

Fig 28a. (above) Toraja tablet-woven band, *kamandang*. Three panels. Total dimensions: 14 x 157.2 cm. Number of tablets used to make the band: 100 (for the top), 113 (for the center), 93 (for the bottom). Image from Fukuoka Art Museum (2006: 24).

b. (below) Detail of an intricate design produced in the color arrangement to a tablet specific to Toraja tablet-weaving tradition.

mandang shows a consistent treatment in their materials and esthetic, albeit with subtle differences illuminating some weavers' individual preferences. These bands would have been made during the apex of *kamandang* production in Tana Toraja around the 19th century. The tablet-weaving tradition in the region seemed to have revolved around aristocratic families. Unfortunately, commoners never adopted it during a time of drastic social changes. Consequently, the technique died out by the beginning of the 20th century.

In contrast, Mamasa tablet-weaving remains vital today. Women in village communities continue to weave, adopting new materials, factory-made cotton and chemical dye, including colorful polyester yarns that have been introduced to this region since the 1970s.

Linguistic considerations on the names for tablet weaving and loop braiding in Toraja and Mamasa regions shed some light on the historical trajectories of these techniques. As mentioned above, tablet weaving has different names in Toraja (*kamandang*) and Mamasa (*palawa*). But both peoples refer to loop manipulation braiding as *mang ka'bi'*.[32] This shared terminology indicates that loop braiding has a long ancient history shared by the peoples in the highlands. Loop braiding is a much older technique than tablet weaving in these regions. The importance of loop braiding in Toraja is reflected in its wide-ranging application, such as for funeral headband (*pote*) and many other rituals and daily objects. Even today, loop-braiding is still being made in Toraja as a carrying strap for bags, which is called *sepu',* like the Mamasa betel bag.

In the past, Mamasa betel bag's opening and carrying strap were also made with loop braiding. But later, people abandoned this technique as they adopted tablet weaving. Today, the carrying strap for a *sepu'* bag is made of a tablet-woven band. Therefore, we can say that there is a stronger preference for loop braiding over tablet weaving in Toraja than in Mamasa. In Toraja, the more ancient loop braiding tradition was never replaced with the newer tablet-weaving technique. These different socio-technical backgrounds must have had a strong influence in affecting either the continuity or the extinction of tablet-weaving traditions in these two regions.

3.2.1. Toraja *kamandang*

Toraja *kamandang* has a variety of usages. They are used as a decorative trim for ritual garments and *sarung*. Tablet-woven bands are also found on objects used in rituals, for example, as the top band of a beaded accessory (*kandaure*) (Fig. 29) and the strap for a men's betel bag (*sepu'*). In other case, a mud-dyed narrow warp-twined band is sewn to the front edge of a funeral hood (*pote*). All surviving *kamandang* are made of handspun cotton yarns undyed or dyed in natural colors, predominantly red and some blue. The red and blue yarns are double plied, whereas the white undyed cotton yarns are usually single. Based on pieces in the Kusakabe Collection, the number of tablets for the patterned part of a *kamandang* is often around 50. The maximum number to make around a 13.4-width band is 196 tablets (Kusakabe 2006: 114). It is hard to imagine the skill required for manipulating so many tablets to produce these intricately patterned bands.

There are two variations of patterning on Toraja bands. The first uses a two-color combination of oval shapes for the motifs, while the background is in a single color. For example, the band on the priest garment on figure 27 shows a red ground and an S-shaped motif consisting of ovals units having a white outline and blue core. The second variation uses the oval shapes in different color combinations for both the motifs and the background (Fig. 28b). This *kamandang* displays geometrical motifs composed of ovals with a white outline and red core, while the background is composed of ovals in different color combination, a blue outline and red core. This eccentric patterning reveals labyrinthine ornamentation with allover white and blue ovals following hooked and diagonal lines that suggest *horror vacui*. Technically, these two variations of making a pattern are caused by a difference in the warp threading for the tablets. The first type has two red yarns in 2 adjacent holes. While the second type has two red yarns in diagonally opposite holes (see Part 2.5).

Fig 29. Beaded accessory *kandaure* is used at both celebratory and death rituals. It is worn by women on their shoulders and back or hung from the cable or ceiling. Note the *kamandang* header on this *kandaure*.

For the Toraja people, each different color has a specific meaning relative to one's social status or role. In general, white is a symbol of nobility and black of death. For aristocratic families, however, white attires are worn during funerals because the color distinguishes them as part of the royal lineage. Yellow is often the color of the dress worn by priests and dancers at cerebrations, such as the house ceremony. Red attires are typically associated with special functionaries at celebration and death rituals. Dancers would wear *sarung* with bright red tablet-woven borders during a funeral. These colorful bands would stand out against the natural white color of the *sarung* and ritual officials' garments. A *kamandang* would especially stand out on a long white jacket called *bayu lamba* worn by a *to minaa*, an indigenous priest (Fig. 30).

Fig 30. *Bayu lamba'* described in Tammu and Veen (1972: 269) as 'a long jacket which falls to the ankles with the front opening, worn by the indigenous priest, *to minaa*, when conducting religious rites'. *Lamba'* is a name of the tall and big tree. Image from Fukuoka Art Museum (2006: 20).

Fig 31. Several tablets sewn as decoration on the edges of a betel bag called *sepu' sanganarang*, which means 'the mouth of a horse'.

In addition to many surviving Toraja tablet-woven bands, other clues hint at the production of *kamandang*. In 2004, I discovered nine rectangular white tablets in a local private museum in the Sangalla' district.[33] They are attached as decoration to a betel bag on display at the museum (Fig. 31). The white tablets appear to be organic material. Their sizes are smaller (2.8 x 4 cm) than the ones used in Mamasa (Kusakabe 2006: 113). It is possible that these tablets were once used for weaving in the local area surrounding the Sangalla' district.

The wearing of *kamandang* in this region in the past is evidenced by an old photograph showing five dancers wearing *sarung* decorated with unusually wide tablet-woven bands and hanging coins along the bottom hems (Fig. 32). The caption reads, 'before the second world war, a funeral at Bungin in old Makale district'. This photograph and the nine tablets in the Sangalla' museum confirm that *kamandang* was once made in Tana Toraja. What is puzzling is the origin of the red color in the *kamandang*. My research supports that Toraja textiles did not use red (*menkudu*) and indigo (*tarun*). Before chemical dye was introduced to the area, the source of colors was only mud dyeing or rubbing from some fruits. Possibly the red came from the ikat-producing regions to the north: Rongkong and Kalumpang. Therefore, the question remains of where the dyeing workshop would have been at that time.

Fig 32. Women wearing *sarung/ dodo kamandang* with wide tablet-woven trimmings, near Makale in Tana Toraja before the Second World War. Image from Nooy-palm (1969).

3.2.2. Mamasa *palawa*

In Mamasa, tablet weaving continues to be practiced in the villages today. Mamasa *palawa* is used as a decorative trim on ceremonial and funeral dresses and a carrying strap for betel bags used on daily and ceremonial occasions. *Palawa* may be classified into three age groups, exemplified below by pieces in the Kusakabe Collection.

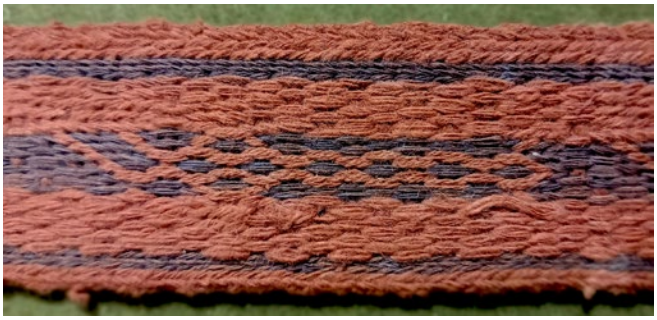
Early era: men's dancing head band

The oldest and rarest one (Fig. 33) is dated to the pre-1930s. It is a coarse band, thought to be used by men to bind a decoration on the head for the head-hunting dance called *bulu londong*. The band is made of thick homespun cotton yarns in brick-red[34] and brown colors. To make the central pattern requires 18 tablets and the warp-striped borders on both sides 10 tablets (5 on each side). Each tablet for the central pattern carries one brick-red and three brown yarns, while each tablet on the side border has 4 brick-red yarns.

Figure 33c clearly shows the color arrangement of the band. The central pattern is made from the double-faced and warp-twined weaves, which require 16 tablets: 6 in the middle and 5 on each side. For the middle 6 tablets, each carries one brick-red and three brown yarns. For the side tablets, each carries 4 brick-red yarns. The stripe borders are composed of 12 tablets (6 on each side): the inner side has brown yarns and the outer brick-red yarns.

A close study of the weaving for the pattern shows that the warp yarns are threaded in the 2S-2Z- direction for every 4 tablets (one unit). The building block oval shape is created with 2 units (8 tablets). The color-arrangement is irregular because 6 of the 8 tablets carry two-color yarns, but the other 2 tablets carry one-color (brick-red) yarn (Fig. 33c). Also, this is a most unusual patterning because such a band typically uses 3 units (12 tablets) for the oval shape.

The band starts in a warp-twined structure about 160 cm long. Following the warp-twined geometrical patterns are human figures (formed by combining 6 ovals) and a sword pattern (8 ovals) (Figs. 33b-c); each of these three motifs forms a pattern group. The regrouping of the oval shapes from one pattern to the next creates warp-floats on the surface across the full width and length, resulting in an entire warp-floats structure: double-faced (2S-2Z-) weave. This structure goes over the non-patterned areas as well. Meanwhile, the side borders are consistently in warp-twined weave structure throughout. This oldest example provides clue how the basic warp-twined weave is transformed into the double-faced (2S-2Z-) by way of oval-shape patterning. In this piece, we can already



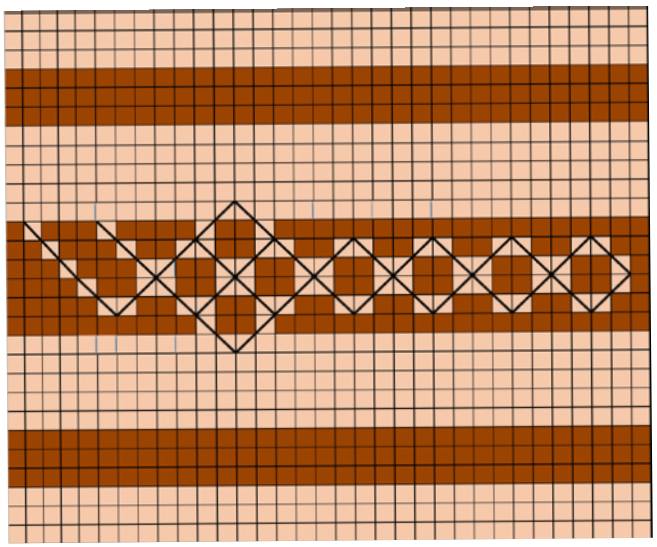


Fig 33a. (top) The oldest *palawa* band worn by men dancer of *bulu londong*, the headhunting ritual dance. Handspun cotton, natural dye. Dimensions: 40-45 x 246 cm.

b. (middle) Detail, eight oval shapes and diagonal lines forming a sword motif. Note the warp-twined movement of the warps changing to that of double-faced weave (2S-2Z-).

c. (bottom) Diagram of the texture of the sword motif with weaving direction and color arrangement.

Fig 34. Full length of a tablet-woven trim for a dance skirt made with commercial cotton and chemical dye. Dimensions: 3.8 x 180.5 cm.

find the essential elements to the Mamasa double-faced band, which developed further at the apex of the middle age.

The apex of palawa: chemically- and home-dyed cotton band

Representing the second age group in the Kusakabe collection are four bands that were presumably made after the 1930s. This was when industrial yarns and chemical dyes became more readily available. The introduction of these new materials in Mamasa caused a dramatic change in tablet-weaving and backstrap loom-weaving traditions. They eliminated the need for weavers to do their own spinning and dyeing with natural color, which is very time consuming. The established patterning system of the double-faced weave (2S-2Z-) produced a variety of patterns: meandering lines, images of plants, small animals, and human figures (Fig. 34). These bands measuring about 3.5 cm wide and 180 cm long, would have required approximately 50 tablets to produce them.

These bands were used as a decorative trim sewn onto the bottom edge of a dance *sarung*, called *dodo ampire* (Figs. 2, 35). *Dodo* means *sarung* in Mamasa and Toraja languages. *Ampire*, according to local weavers, means a chain of triangles motif in tablet weaving. The *dodo ampire* is a *sarung* primarily ornamented with triangle and rectangular shapes in patchwork and applique techniques.

Fig 35. Women's dance *sarung*, *dodo ampire*, with a *palawa* along the bottom edge. Image from Fukuoka Art Museum (2006: 66).

Fig 36. Examples of several *palawa* bands from the second age group.

A myth of ancestral origin suggests a historical and cultural source of the ampire ornamentation. It said that one day, the ancestor named Pong Pakadang encountered a golden skin snake on his journey from the west (referring to Tana Toraja). He tried to fight the snakes by recalling strong magic spells, but the snake changed its shape and turned to become a *dodo ampire*. In the end, the ancestor married an ancestress born from the water in Tabulahan in PUS (Buijs 2006:18). This myth indicates that the Mamasa and the Toraja peoples share the same ancestral land, which is Tana Toraja. When the ancestors of the Mamasa people ventured out from Tana Toraja, they charted a new frontier in the Mamasa highland, and they absorbed a new source for design. The *dodo ampire* symbolizes this newborn cultural force. In the context of the myth, the ampire represents the frontier lands, but never in the ancient land, Tana Toraja. Thus, this triangle-shaped design only appears in the tablet-woven bands from the Mamasa and PUS uplands (Figs. 36, 39). The linked origin of the Mamasa and the Toraja peoples can be seen in the hooked motif shared

Fig 37. Comparison of the old (left) and the modern bands of the similar design (right), showing a change of technique that occurred after the introduction of polyester yarns to Mamasa.

Fig 38. School girl wearing a shoulder bag with a tablet-woven strap, 2005.

Fig 39. *Palawa* trims on waist and shoulder beaded decorations called *sassang*, worn at a marriage ceremony, 2005.

in the design vocabulary on Mamasa *sarung* and fabrics of the *sepu'* (Fig. 9) and Toraja textiles, such as the loincloth *pio* (Fukuoka 2006: 17-18) and tablet-woven band *kamandang* (Fig. 28a).

Era of polyester-yarn bands

The last group of *palawa* bands was made after the 1970s. They are characterized by the use of multicolored polyester yarns. These modern yarns with the brand name 'Extra' eliminated the need for weavers to maintain the skills of spinning and dyeing. With the increasing ease of weaving with the new material, there was a rise in *palawa* production. Simpler and faster methods

also became preferable. Technique-wise, the number of tablets used for one band decreased from 48 to 24, simplifying the basic oval units from 6 units to 3 and the color scheme from 3-color per tablet to 2-color. Despite these changes—or, perhaps, because of the technique's adaptation to the new material—the tradition survives to the present day (Fig. 37). Today, there is a continuing and increasing demand for *palawa* for decoration on daily objects (Fig. 38), office uniforms, and women's dresses (Fig. 39).

3.3. Bordering area/ PUS region and enclaves in the hinterland: interstitial type

The band produced in the border region shows an intermediate character between the lowlands and the highlands. In Chapter 2, we have traced a probable production site of such bands to Aralle in the PUS region. Unfortunately, only a few early examples from this area have survived, including band No. 5 in Table 2. Adding to the published pieces in the museums' collection are bands on three betel bags in private collections. Two bags are in the Kusakabe Collection and one in the Georges Breget Collection. All were acquired in the Toraja region, where many old textiles from different regions have been preserved.

Fig 40. Betel bag acquired in North Toraja. Kusakabe Collection. The design of the tablet-woven band is formed by a combination of triangle shapes with horizontal stripes. Image from Fukuoka Art Museum (2006: 28).

Three betel bags of PUS type in private collections

The main body of the first betel bag in the Kusakabe Collection is constructed of Indian trade cloth (Fig. 40). Two tablet-woven bands in handspun and naturally-dyed cotton are used on this bag. One in red and blue colors is attached to the upper edges of the bag as the carrying strap, measuring 3 cm wide and 66 cm long.[35] This band would have been created using 40 tablets (36 for the pattern and 4 for the borders) and employing the double-faced (S-Z-) method. The other band is narrower but longer, about 150 cm in length, in blue and white colors. It is attached around the bag's opening, the sides and the bottom edge to strengthen the soft cotton fabrics. This elaborate construction and precise placement of the bands suggest that this betel bag was constructed in the same place where the tablet-woven bands were made.

The betel bag in the Breget Collection (Fig. 41) appears to be made of handspun cotton yarn in naturally-dyed red and blue and woven with double-faced (S-Z-) patterning. The primary material of the bag is weft-sup-

Fig 41. Betel bag acquired in North Toraja. Collection of G. Breget Collection. Construction of the tablet-woven design is quite similar to the band on the left, with small windmill-like shapes lining up in two rows. Main body of the bag: supplementary-weft brocading fabric with rhombs patterns. Image courtesy of G. Breget.

Fig 42a. (left) Worn out betel bag. Main body: supplementary-weft brocading fabric with hooked and rhombs patterns. Strap: tablet-woven band in the DFW (S-Z-) with triangle and windmill-like patterns. Kusakabe Collection.

b. (above right) The back face of the brocading fabric, showing its original brilliant color. The fabric is seen through a hole on the backing fabric, which is woven from pineapple fibers.

plementary-weft brocaded fabric filled with overall rhomb shapes. A narrow warp-twined band (made with 18 tablets) is attached around the opening, and three tassels hung from each bottom corner. The same types of yarns appear to be used for the tablet-woven band and the main fabric of the bag. In other words, the brocaded fabric and tablet-woven band were most likely woven at the same place or in nearby workshops.

The second betel bag in the Kusakabe Collection is faded and worn out (Fig 42). Still, we can see that its main fabrics, band, tassels, and construction are very similar to the Breget Collection's bag. The bag's lining fabric is woven from pineapple fiber (Fig. 36b), dating the piece to the beginning of the 20th century at the latest, when pineapple fiber stopped being used in weaving. The existence of two quite similar bags indicates an established place of production where this type of bag was made.

The design of the tablet-woven bands on the three bags are closely related. They depict large and small triangular shapes in white on a vertical-striped background. In addition, there are horizontal stripes that divide the design into self-contained sections. The patterns are created on a double-faced weave using S- and Z- threaded tablets alternately. The two colors make a reversible design on the front and back faces. All these bands are based on the same structure as the Buginese bands, but they have a different design, instead of depicting eight-pointed stars beloved by the Bugis. These examples show a triangle-shaped design, often arranged in a windmill-like configuration. The 'windmill' design appears on these three betel-bag straps (Figs. 40, 41, 42) and the band housed in the Tropenmuseum (Fig. 8), attesting to a shared tradition. Interestingly, the 'windmill' design also appears on the Mamasa band on figure 36.

The question remains where these bands were woven. If—as proposed above—that the bands and main fabrics were woven, acquired, and assembled in the same place, then most likely, this location is not in PUS. The reason is the lack of comparative examples of the brocaded woven fabrics within the PUS tradition; instead, these fabrics closely recall old Torajan weavings from a century ago. A parallel example to them is the weft-brocading loincloths, published in Textile from Sulawesi (Fukuoka Museum 2006: 17-18, Nos. 12-14).

Yet the tablet-woven bands on the three bags are associated with the interstitial types known from the PUS area. Therefore, I propose that such a band of the interstitial type was, in fact, once produced more widely beyond the PUS region. Perhaps the technique reached mountain villages as far northeast as some enclaves on the border of the North Toraja region. This means, there might have been variations of tablet-weaving traditions other than *kamandang* surrounding the Toraja region. One remaining example from the region is a simple

warp-striped tablet-woven band used as a carrying strap for a man's betel bag (Fukuoka 2006: 12, No. 5). This band indicates that such tablet weaving was once practiced in the Sa'dan weaving area in North Toraja, however, it is not apparent whether the production was connected to the tablet weaving in the PUS region. The simple warp patterning of this woven band provides clue for the once extant tablet-weaving technique there.

3.4. Summary

The distributions of tablet weavings in West and South Sulawesi from the geo-cultural perspectives and the ethnographic background can be summarized as the followings: there were three types of tablet-weaving traditions: the lowlands type practiced by the Bugis, the highlands type practiced by the Mamasa and the Toraja peoples, and the interstitial type practiced by the PUS people who live in the border zones between the highlands and the lowlands, as well as those in isolated pockets beyond the PUS region. These tablet-weaving traditions follow different historical trajectories. The Mamasa tradition still survives today, whereas the Toraja tradition disappeared in the early 20th century. The lowlands and the interstitial/ border zone types have also stopped being made.

Structure-wise, all Sulawesi tablet weavings feature double-faced patterning. However, the Bugis and the PUS use the common double-faced (S-Z-) weave, while the Toraja and Mamasa people employ a particular type of double-faced (2S-2Z-) weave variant. The uses of these bands also differ. The Bugis made tablet-woven bands primarily for *keris* belts. On the other hand, the Toraja-Mamasa people used them for decorative trim on clothing and betel bags. Unlike the Toraja and Mamasa trims, which have a simple rectangular shape, Buginese *keris* belts have a more complex shape. In addition, the *keris* belt is created using a variety of materials, including cotton, silk, gold thread, and metals. In contrast, the Toraja, the Mamasa, and the PUS peoples employed

Fig 43. Buginese *keris* belt, front and back faces with eight-pointed stars and Islamic inscriptions. Cotton, two-layered DFW (S-Z-)

Fig 44. Buginese *keris* belt with a rare combination of eight-pointed stars and triangles patterns. Cotton, one-layered DFW (S-Z-).

mostly naturally-dyed cotton yarns in the old times. Today in Mamasa, polyester yarns are being used.

The interrelationship between weaving structure and designs among the four peoples—the Toraja, the Mamasa, the Bugis, and the PUS—is exemplified in figures 37-42. The first shows a typical Buginese double-faced (S-Z-) band with eight-pointed stars and Islamic inscriptions designs reversibly appear on both faces (Fig. 43). The second shows a rare example of a *keris* belt of the double-faced (S-Z-) band, which brings both eight-pointed star and 'windmill' pattern that usually appear in the PUS type of the band (Fig. 44). This example suggests that the Bugis *keris* belt production spread widely as far as the boundary of PUS band production. The third shows a PUS-type double-faced (S-Z-) band with a design combining small triangles and large triangles to form the 'windmill' design (Fig. 45). The fourth is a Mamasa double-faced (2S-2Z-) band *palawa* with the so-called windmill pattern consisting of small oval shapes in different patterning system from the former band (Fig. 46). The fifth is also Mamasa double-faced (2S-2Z-) band with a hooked pattern formed with building blocks of white oval shapes (Fig. 47). The final example is a Toraja double-faced (2S-2Z-) band with a hooked pattern like that on the Mamasa band, but the hook shapes appear as white lines against the background filled with blue oval shapes (Fig. 48).

In conclusion, the four traditions are related in various ways. The PUS-type band employs the same structure as the Buginese band but shares a similar design with the Mamasa band. Being a border region, the PUS would naturally receive influences from the lowlander, the Bugis, and the highlander, the Mamasa people. The Buginese rare *keris* belt with the triangle design similar to that on PUS band, further shows that there was no clear-cut boundary where one tradition ends, and the other begins.

Areas close to one another could easily copy or adopt one another's practices. This is the case with the tablet-woven bands found among four peoples in three regions in South and West Sulawesi. As we have discussed above, the Mamasa and the Toraja employ the same patterning system on the double-faced weave produced with alternately 2S-2Z- threaded tablets. However, the sources of their design creativity are entirely different. Of the four traditions, only the Mamasa practice still thrives today. Following the discussion on the geographic distributions of tablet weavings in these regions, we shall turn our attention to the Mamasa *palawa* tradition in Part 2 of this article.

Photographs are by the author, unless otherwise stated.

Fig 45. PUS-type tablet-woven band with triangles forming a 'windmill' pattern.
DFW (S-Z-).

Fig 46. Mamasa *palawa* with triangles forming a 'windmill' pattern.
DFW (2S-2Z-).

Fig 47. Mamasa *palawa* with a hooked pattern formed with building blocks of white oval shapes.
DFW (2S-2Z-).

Fig 48. Toraja *kamandang* with *sekong* or hooked pattern.
DFW (2S-2Z-).

Notes

1. Eric Crystal, in his article 'Mountain ikats and coastal silks: traditional textiles in South Sulawesi', advocated for a geographical perspective in the study of the textiles from South Sulawesi. This approach is an efficacious way to study the development of textiles in South and West Sulawesi.

2. It is said that the Toraja and the Mamasa are closely related with a shared root in South China. They share similar ethnic legends, languages, and cultural features, such as the traditional boat-shaped house. The Sa'dan Toraja settled on the upper of the Sa'dan River and the Mamasa Toraja on the Mamasa River (See Map 1).

3. Before 2008, Tana Toraja Regency encompassed the whole area where the Toraja people lived. After 2008, however, the regency was divided into two: Tana Toraja Regency in the south and North Toraja Regency in the north.

4. There was a long debate from 1914 onward about the technique used to create the so-called girdle of Ramses III (before 1197 BCE) and some ancient Egyptian bands. Many people speculated that these may have been produced by tablet weaving. Still, all attempts to reproduce them with this technique failed. Therefore, Peter Collingwood was most likely correct when he said, 'The earliest certain examples of tablet weaving all show its use as a starting border for a textile to be woven on a warp-weighted loom, not as a separate band' (Collingwood 1970: 13). Here he referred to the starting, finishing, and side borders of 4-strand warp twining found in Iron age German burial sites (3rd–6th century).

5. Many early examples of tablet-woven bands from the West were made of silk with a metal strip or metal-wrapped silk brocading. These include the band from Birka (Sweden) with silver brocading weft (800-970 CE), the girdle of Witgarius from Germany with gold-wrapped silk brocading weft (860-976 CE) (See Collingwood 1982: 240-251), and dagger belts with hammered metal strip or metal-wrapped yarn from Yemen and Sulawesi, Indonesia. The brocading technique also appears in Latvian woolen bands and Tibet-Bhutan bands. Some of these bands are further ornamented with supplementary weft brocading in metallic threads.

6. Double cloth is made by separating the upper and lower parts of a band using the same four-holed tablets but holding them in a diamond position: this is the same as the Icelandic way of tablet weaving with a double shed.

7. Margarethe Lehmann-Filhés (1888-1943) is a German scholar of Icelandic culture. She published the first book on tablet weaving techniques in 1901, *Brettchen Weberei*, which came with a triangle-patterned tablet-woven bookmark between the pages. Lehmann- Filhés began to study tablet weaving after encountering an Icelandic band on a wooden tablet loom at a Museum in Denmark. She coined the term "tablet weaving" in her book.

8. Jasper and Pirngadie mentioned that the tablets were first separated using a *pasaka* before weaving, but the procedure they described is incorrect. Rita Bolland (1970: 181-185) experimented with making the top loop in the Buginese *keris* belt based on the image of a Buginese loom in Jasper and Pirngadie (1912). She inferred the process and the transition step to the middle part of the band. Peter Collingwood (1982: 70, 283) later made an experiment of the tubular-weaving technique and provided a more accurate description of the process with detailed illustrations, including the *pasaka*.

9. Lehmann-Filhés obtained information from Prof. Jacobsthal that he recently had unearthed a fine and smooth striped cotton belt from Celebes (Sulawesi) and a patterned strap for a finely woven shoulder bag from Timor. The belt from Celebes must have been a cotton warp-twined Buginese *keris* belt. The one from Timor, however, would have been a two-strand warp-twined band executed by hand, not tablet-woven.

10. This misidentification continues today. See a quote in *Tablet Weaving Magic* (Staudigel 2000: 50) describing a pattern 'With the windmill motif from the so-called "betel bag of the Toraja" in the Mamasa Valley in Sulawesi'.

11. I am grateful to the Kaartweefkring members in Amsterdam for facilitating my visit to the exhibition, where I saw both old and modern splendid tablet-woven works.

12. This embroidery is made using a special device to attach inside the corner, a round wooden block at the top with a grip at the bottom. Three methods have been employed to make such embroidery, the oldest, middle, and newer. The oldest type interlaces yarns diagonally (braid), couched down, the second type shows a variation of the oldest method, and the most recent method looks similar to a satin stitch. Unfortunately, the two older techniques for this embroidery are almost lost today.

13. Pitu Ulunna Salu means the "seven sources of rivers" after the seven rivers that flow in this area. The river's name also points to the principal chiefs who ruled over the people.

14. The traditional centers of PUS are: Tabulahan, Aralle, Mambi, Bambam, Rante Bulahan, Matangnga, Tabang. The first center is the most important; it is said to be where the ancestress, To Reijne', emerged from the water and married Pongka Padang from the west, suggesting Sa'dan Toraja (Buijs 2006: 15-18). Being in the border regions, these areas received cultural influence from both the lowland and highland peoples.

15. Mamasa Regency consists of 17 districts (*kecamatan*); the capital is Mamasa Town, *Kota* Mamasa (Buijs 2005: 41-42; Buijs 2006: 14-15).

16. Online newspaper/ *Penulis Indonesia* (Taufik 2019).

17. Kenneth M. George (1996) wrote ethnographic accounts of headhunting rituals in *Showing a Sign of Violence*, based on his field research in the 1980s. Through examining the rhetoric of violence in ritual songs, speeches, and liturgies, he described how this mountain enclave confronts political and cultural dilemmas in 20th-century Indonesia.

18. The 'betel bag for men' was displayed with a fine reproduction at the tablet-weaving exhibition in Breda in 2003. I remember being impressed by its brilliant color and pristine condition as if it had never been used.

19. The use of chemical dyes seems to have come earlier in Mamasa than in Tana Toraja. The Torajan weavers reported that chemical dyes had been used for weaving on a full scale around the middle of the 20th century.

20. When the Dutch discovered PUS tablet-weavings at the end of the 20th century, this practice would have gone back at least for some generations.

21. The word *tenung*, in fact, means weaving, while *kéra* is thought of as a corruption of *kerat*, meaning tortoiseshell. However, Jasper and Pirngadie, and Bolland gave a definition of *tenung* as a loom (Bolland1970: 180). Thus, *tenung kéra* is regarded here as a weaving loom using tortoiseshell, in a broader sense, a weaving technique.

22. *Keris* is mainly associated with Java, Bali, and Sulawesi cultures. In 2005, UNESCO acknowledged Indonesian *keris* as an intangible world heritage.

23. For example, No. 35 in Fukuoka Art Museum 2006: 31, 126.

24. For example, No 32 in Fukuoka Art Museum 2006: 30, 125.

25. Peter Collingwood (1982: 68) mentioned three methods for making a starting loop in tablet weaving: (1) by always entering the weft from the same side and pulling it very tight. This technique appears in Persian silk bands; (2) by passing the weft over and under half the warp, in the Greek garter, 1883; (3) by using a *pasaka*. This last method is only found in the Bugis bands from Sulawesi.

26. For comparison, to make Torajan band, the largest number of tablets I recorded is 196 for a width of 9.5 cm (Kusakabe 2006: 114). An Ethiopian church curtain at the monastery of Abba Gerima, Tigre Province, was created using 255 tablets for a width of 70 cm (personal analysis for Professor Gervers).

27. The Bugis would have acquired this red dye through sea trade.

28. A *kamandang* is an imaginary animal like a snake that lives in a river. It is said that this animal can change its form to a kind of cloth when it gets angry (Tammu and van der Veen 1972: 207). The author first knew this name from the woman in charge of the textile collection at the private museum in Sangalla'.

29. Hetty Nooy-Palm (1989: 166) classifies Toraja sacred cloths into three distinct categories: *maa'* consisting of Indian chintzes and *patola* imported from India, *sarita*, which is a long banner dyed in black or blue, and some cloths of a third type, which are considered very holy but has no group name. The tablet-woven band, *kamandang*, belongs to this group.

30. The *tongkonan* of the Torajan kin group can be regarded as the 'house' or *maison*, as defined by Claude Lévi-Strauss (1982: 174). The 'house' is characterized as a corporate body embodying three simultaneous functions. First, it holds 'spiritual and material heritage, comprising dignity, origins, kinship, names and symbols, position, power and wealth.' Second, it 'perpetuates itself through the transmission of its name, goods, and titles down a real or imaginal line.' Third, it expresses the continuity '…in the language of kinship or affinity and, most often, of both' (e.g., Waterson 1995: 47-68 and Adams 2015: 93-100).

31. See discussion in Collingwood (1982: 178, 200).

32. Loop-manipulation braid (L-M braid) is a technique to move loops hooked on the fingers of both hands each other. It has an ancient origin and has been found in the Eurasian and the South American continents (See Kusakabe 2009). Two prominent scholars have established systematic theories on this technique: Noémi Speiser, who studied L-M braids found in 15th and 17th century Europe; and Masako Kinoshita, a Japanese who studied the L-M braids treasured at Shosoin (756 C.E. ~).. She published the Study of Archaic Braiding Techniques in Japan. Kusakabe started to conduct research and studied Toraja and Mamasa L-M braiding since 2003 and has published three articles in the *Loop-Manipulation Braiding Research & Information Center News* (See Kusakabe 2006b, 2006c, and 2009).

33. I would like to thank Puang Edi Sombolinggi' from the Buntu Karando Museum, who kindly donated four of these tablets to the Kusakabe Collection.

34. The light red band is probably dyed with *anduda* leaves, the dye stuff for a mat (*tikar*). Unlike many places in Indonesia, the Mamasa and the Toraja region did not traditionally use *menkudu* (*Morinda citrifolia*) root for red dyeing.

35. The red dye is probably derived from the *menkudu* root and the deep blue from *tarun* or indigo leaves. The Kalumpang people, well-known for their brilliant-colored warp ikats made using these dyestuffs, live north of Mamasa and PUS, and northwest of Toraja regions. These dyestuffs were occasionally brought to the surrounding areas.

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