

## The fiber making and *terfo* weaving tradition of the Sobei people of Papua

Christopher Buckley<sup>1\*</sup>, Enrico Y. Kondologit<sup>2</sup>, Yudha N. Yapsenang<sup>3</sup> and Sandra Sardjono<sup>1</sup>

<sup>1</sup>Tracing Patterns Foundation, Berkeley CA; <sup>2</sup>Museum Loka Budaya, Cenderawasih University; <sup>3</sup>Balai Pelestarian Kebudayaan XXIII (Cultural Preservation Center XXIII)

### Abstract

This paper describes the process by which Sobei people in Sarwar Village, on the north coast of Papua, make yarn from palm leaves and weave this into a cloth called *terfo*, using a backstrap loom. We share details of this isolated and endangered technique that have not previously been recorded and correct some errors and omissions in earlier accounts. The Sobei, who speak an Austronesian language, are the only traditional loom weavers on the island of New Guinea. They are practitioners of a type of weaving that was formerly found in several Melanesian islands, but which was never as widespread as the better-known weaving traditions in the Indonesian and Philippine islands. Their yarn-making technique has importance for understanding how leaf fibers were processed before the arrival of cotton in the region. The foot-braced loom used by Sobei weavers is unique in the region and raises interesting questions concerning its origins.

**Citation:** Buckley, Christopher, Enrico Y. Kondologit, Yudha N. Yapsenang and Sandra Sardjono. The fiber making and *terfo* weaving tradition of the Sobei people of Papua. *Fiber, Loom and Technique* 2023, 1: 1-16.

**Copyright:** © 2023 The authors. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

**Publication date:** 15th June 2023.

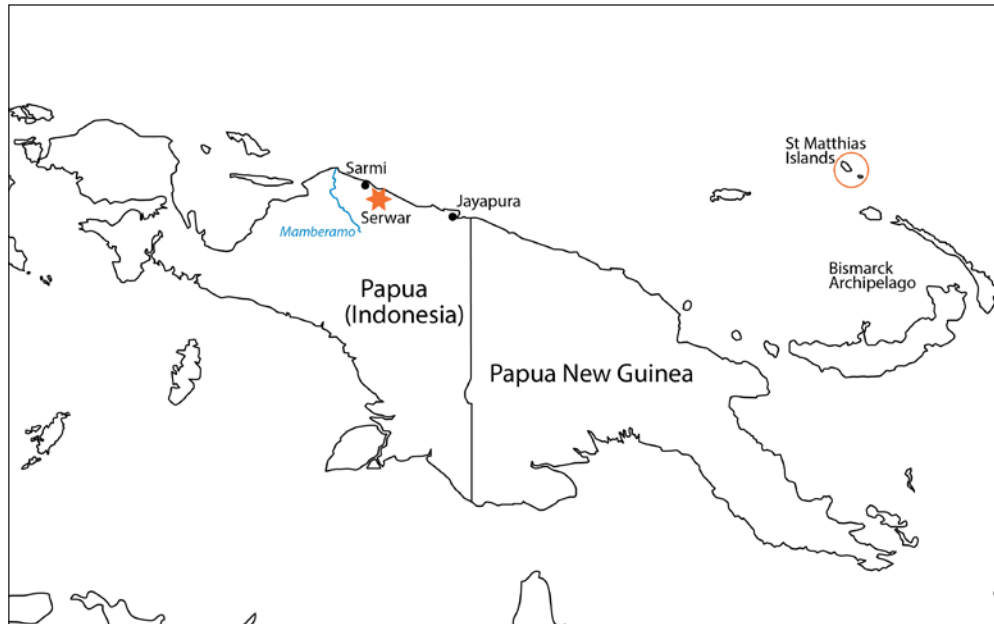
\* chrisbuckley888@hotmail.com

### Introduction

The Island of New Guinea has a rich textile-making tradition based upon the making of bags and other items using a knotless, loomless netting process (MacKenzie 1991), which is practiced by both coastal peoples and those in the interior. Loom weaving, in contrast, is rare, with the exception of some recently arrived immigrants from other parts of Indonesia. The only group of people who appear to have a long history of weaving on New Guinea are the Sobei, who are the subject of this article.

Most of the inhabitants of New Guinea speak Papuan languages, which are presumed to be descended from the languages of the earliest settlers who arrived in the region around 60,000 years ago. In enclaves along the north coast, as well as parts of the eastern peninsula, Austronesian languages are spoken. These languages are descended from those spoken by settlers who arrived around 3000 years ago.

Across Island Southeast Asia (ISEA) Austronesian speakers are associated with loom weaving, generally using simple body-tensioned looms, in which the cloth beam is attached to the weaver's waist by a backstrap. In the nearby islands of East Nusa Tenggara weaving is common amongst coastal communities. In Melanesia, comprising New Guinea and the offshore islands, it is less commonly encountered, even amongst those speaking Austronesian languages. Amongst the Austronesian-speaking peoples along the New Guinea coastline, speaking languages belonging to the Oceanic branch of the Austronesian family and numbering more than 100 varieties, loom weaving is only found amongst the Sobei. In the remote Pacific islands, inhabited by an Oceanic subgroup speaking Polynesian languages, it is absent, and bark-cloth and plaiting are the only textile-making techniques.



1. Map of the region, with locations mentioned in the text

The earliest report of weaving by Sobei people (that we are aware of) is an article by Goslings (1928), which he assembled based upon second-hand information and items collected by early travelers to the region. Goslings reproduces a photograph of a woman weaving using a foot-braced body tensioned loom, taken by V. Obdeijin in 1922, and briefly describes some examples of Sobei weaving equipment and textiles. A related tradition and loom on the island of St Matthias, which is part of the Bismarck Archipelago (now part of Papua New Guinea) was described in more detail by Parkinson (1907), Chinnery (1925) and Nevermann (1933). This will be discussed below.

Weaving was also present on the nearby island of Wakde, as a loom in the Tropenmuseum collection shows (WM-21185). The weaving here appears to have been similar or identical to that on the mainland.

In more recent times the loom of the Sobei people was described by Yoshimoto (1990). His work was based on a loom on display in the regional ethnographic museum in Jayapura, which is in poor condition. He does not appear to have visited the Sarmi region or seen weaving in person, and his diagrams of the 'Sobei Type I and Type II' looms contain errors, which have been reproduced in subsequent publications.

More recently, Howard and Sanggenafa (1999), and Yapsenang and Kondologit (2015) have published overviews of the craft and the social significance of terfo weaving, based on first-hand observations. Aspects of the interesting fiber processing method remain undocu-

mented however, and accurate descriptions of the loom and warping process are lacking. This article aims to fill in these gaps.

## Background: the Sobei people and region

The Sobei are one of the five major groups who live in Sarmi regency, which lies to the east of the mouth of the Mamberamo River (Fig. 1). The five groups consist of Sobey, Armati, Rumbuai, Manirem, and Isirawa: based on these names a Dutch anthropologist, Van Kouhen Houven, gave this regency the name 'Sarmi'. The Sobei people are relatively few in number, comprising a few thousand individuals who inhabit several villages and some small islands, including Sarwar. As noted, they speak an Austronesian language which is classed with the Oceanic branch. Within this grouping the Sobei language is in a branch of its own. Its relationships to other branches of the Oceanic languages, which include the Western Oceanic languages, Micronesian languages, and Polynesian, are unclear.

The Sobei people are organized into clans and sub-clans. Out of five main clans, three (the Senis, Iroti and Bers) are present in Sarwar village, which is the location of our study. The clans are patrilineal, with important resources such as land, sago harvesting rights and ownership of coconut groves passing through the male line. Members of the clans tend to marry exogamously, and they live in extended family groupings in the village (Yapsenang and Kondologit 2015).

In former times, the Sobei were reliant on gathering sago and other forest products, and on hunting pigs,

cassowary and birds in the forests using bows and arrows (aided by hunting dogs), and on fishing. The latter activity was carried out from March to July, when the wind direction was favorable (blowing from east to west). Today they continue to fish, and also farm vegetables as well as banana, coconut, papaya and other crops. In recent years cocoa plantations have become important to the local economy. Many new migrants have also arrived in the Sarmi region from other parts of Indonesia .

The traditional religion was animistic, based on the propitiation of ancestor spirits and other spirits in the local landscape, some associated with nearby mountain peaks. Each village maintained a traditional *Karwari* house, where sacred objects were kept, ceremonies performed, and traditional meetings held. These houses were destroyed after the arrival of Dutch missionaries in 1911-12 and the conversion of the people to Christianity. Traditional beliefs and rituals survive however and continue to be conducted alongside Christian worship (Yapsenang and Kondologit 2015).

## The legendary origins of weaving

Weaving is said to have begun amongst the Sobei people when a local spirit named Seus, who lives in a Banyan tree, was disturbed by villagers. Seus fled back to his tree, leaving his woven mat behind, which was picked up by a man named Senis, who found that the mat was 'beautiful, like the colors of the rainbow'. Senis figured out how to weave this kind of mat, at first by tying warp onto two tree branches and threading the weft with a needle. Later, he learned how to weave sitting down at a horizontal loom. He taught this skill to his sister Ibroda Senis, and subsequently the tradition was carried on and passed down by women (Yapsenang and Kondologit 2015).

Weaving today is passed from older female relative to younger, typically from a mother or aunt.

Traditionally, the art of weaving seems to have been of considerable social significance within the Sobei community. Weavers place great emphasis on lineage, which confers the 'right to weave' on certain women. Weavers trace their lineages back to certain key weavers in the past. The Sarwar villagers recall that in 1928, during the Dutch colonial era, 'Grandmother Puebai' from the Merne clan traveled to Batavia to demonstrate *terfo* weaving at an art and culture exhibition, an event that is remembered in the community as a great honor. This story is corroborated by the looms and textiles that were collected around this time by J.C. van Eerde, who was Director of the Department of Ethnology for the Dutch East Indies. He collected several looms and textile samples for the Tropenmuseum while on a trip to Indonesia

in 1929. The catalog entries for these items, which are still in good condition, record that looms were obtained after an exhibition held at the Batavian Society of Arts and Sciences in Weltevreden, at which looms from various regions were exhibited and live demonstrations by weavers were staged. The museum examples of looms are discussed below.

Grandmother Puebai taught Nebawer Sefa, who in turn taught Aneta Weyasu, an important figure in the recent history of Sarwar weaving. Weaving is also associated with the Teyen subgroup of the Senis clan. Today there are more than a dozen women who know how to weave in Serwar, but there are differences of opinion within the village about which weavers possess the 'authentic' right to weave. Reverence for ancestry and clear recollection of lineages is a distinctive feature of Austronesian language speaking communities and weaving traditions in other parts of the Indonesian archipelago.

As the demand for ceremonial textiles has diminished, and women's time is taken up with new concerns, the *terfo* weaving tradition has come to the brink of extinction on several occasions during the last 100 years, but has undergone periodic revivals, in part due to governmental attention and interest. The characteristic foot-braced loom, described below, is now no longer used, weavers having switched to more convenient looms with frames. Older women can still remember how to set up and weave on this loom, and some of the local names of loom parts are still recalled. Most weaving is now carried out using shop-bought yarns, especially brightly-colored synthetic yarns (locally called 'wool'). A limited amount of weaving is carried out with traditional palm fiber, mainly for ceremonial hip cloths worn by women, where it is combined with shop-bought yarns. The palm from which the fiber is extracted is now scarce, and the fiber processing is time-consuming and labor-intensive.

## Raw materials

Fiber for *terfo* comes from a palm called *pe'a* or *kara* which grows in the forests<sup>1</sup>. The young shoot (*ta'no*) is harvested before the palm has flowered, when the leaves are soft and supple enough to be processed into fiber. The tree is cut down with an axe or machete, between 6am and 8am, either at the time of a new moon or at the time when the moon has just begun to wane. Some villagers also pay attention to the condition of the tides before deciding when to harvest. Suitable palm shoots (Fig. 2) are hard to find and must come from land that the harvester has a traditional right to exploit.

The long palm shoot is harvested by men, then brought back to the village where women take over the job of processing the fiber. The best (softest and whitest) fiber



2



3



4



5

2-4: Fiber preparation: freshly harvested *pe'a* palm shoot; removing the central rib from the palm shoot; leaf bundles; boiling leaf bundles

is found in the center part of the palm shoot. The leaf stalks (fronds) are first pulled apart from the shoot, and individual leaves are removed from the hard center rib of each frond (Fig. 3). The rib is then discarded. The remaining leaves are folded and tied into bundles (Fig. 4), and then boiled in water for 1-2 hours until they are soft (Fig. 5). The boiling takes place in a pot on an open fire.

Leaves from the older fronds are also used as source of fibers and processed the same way. Older leaves must be boiled for longer to soften them, however.

After removing the bundles from the hot water and leav-

ing them to cool for a while, the soft outer layer of the leaves is removed by peeling it off from both sides (Fig. 6). This part will become the yarn: the rest is discarded.

The peeled strips are then gathered into bunches and laid on a wooden board and scraped with the edge of a spoon, or the shell of a freshwater mussel, to remove soft pithy material (Fig. 7), after which the fibers are knotted together at one end (Fig. 8), rinsed and hung up to dry (Fig. 9).

When the fiber is dry, usually after 1-3 days, the strips are shredded into smaller widths, using the fingers or a sharp point such as a pin.



6



7



8



9

6-9 Fiber preparation (continued); stripping the inner part of the palm leaf; scraping the leaves to remove pith using the edge of a spoon; tying up freshly scraped leaf bundles; leaf bundles hanging up to dry.



10



11

10-11 Dyeing palm leaf yarn using turmeric (left) and turmeric with lime (right); drying the dyed yarns

## Dyeing

At this stage in the process the fibers are usually dyed, though this step can also be carried out after the fibers have been made into yarn. Sobei weavers recognize five principal colors: white (ie undyed yarn, called *fepamo*), black, red, blue and yellow. These they associate with colors in the natural environment, particularly those from three kinds of strikingly colored fish that are sometimes caught, and the colors of edible caterpillars and cocoons found in the forest. Certain combinations of these colors are recognized as being appropriate for *terfo* cloth: common combinations are red, white and purplish-blue or yellow, white and blue.

### Dye recipes include:

- A red color (*federa*) made from scrapings from the roots of the mare tree, mixed with lime
- A red-brown shade made from the roots of the *noni* plant (*Morinda citrifolia*)
- Black (*femeno*) from the fruit of the meoerta tree
- Purplish-blue from the fruit of the *menwafo* tree ('ink tree')
- Dark green from old palm tree leaves, boiled
- Light yellow from *yone* (turmeric)
- Brown from *yone* mixed with lime

Of these, we saw light yellow and brown shades being prepared from turmeric, which was pounded into paste (Fig. 10). Dyes were thoroughly kneaded into the palm fibers with the hands, before being hung up and left to dry with the paste still on them (Fig. 11). The dry materials are brushed off the fibers once they have dried out.

## Making yarn

The next stage in the process is to twist the palm fibers to make continuous, Z-spun yarn. For this, Sobei weavers use no spindle or other spinning device, but roll the fibers on their thighs. Thigh-rolling is also used by other groups on Papua to make bast fibers into yarn for net bags, but the similarity in technique ends there.

The method of extending rolled the yarn to make a continuous strand is unique in our experience. The yarn-maker begins with a bunch of palm fibers, tied together at one end. From this she selects a group of fibers (around 5-15, depending on their thickness) and rolls them on her thigh (Fig. 12), stopping at the point where the loose fibers become too thin or too few. Some yarn makers add one or more knots (simple half-hitches) as they do this (Fig. 13). She then takes this length of newly-rolled yarn and applies the loose ends to the beginning of the next group of fibers to be rolled, near to where the fibers are tied in a bunch, laying them alongside. She adds a knot to join the yarn to the next group (Fig. 14), and then proceeds to roll that group. When this group has been rolled into yarn, the procedure is repeated. Unlike yarn for net bags, the Sobei yarn is not plied.

Eventually, the entire bunch has been twisted into yarn, each section joined to the next. The sections are still attached to the nub of fibers remaining from the top of the bunch, by a few strands of unrolled fiber, so the yarn now consists of a series of loops that are joined to the nub. Cutting each of these strands, close to the rolled



12



13



14



15



16



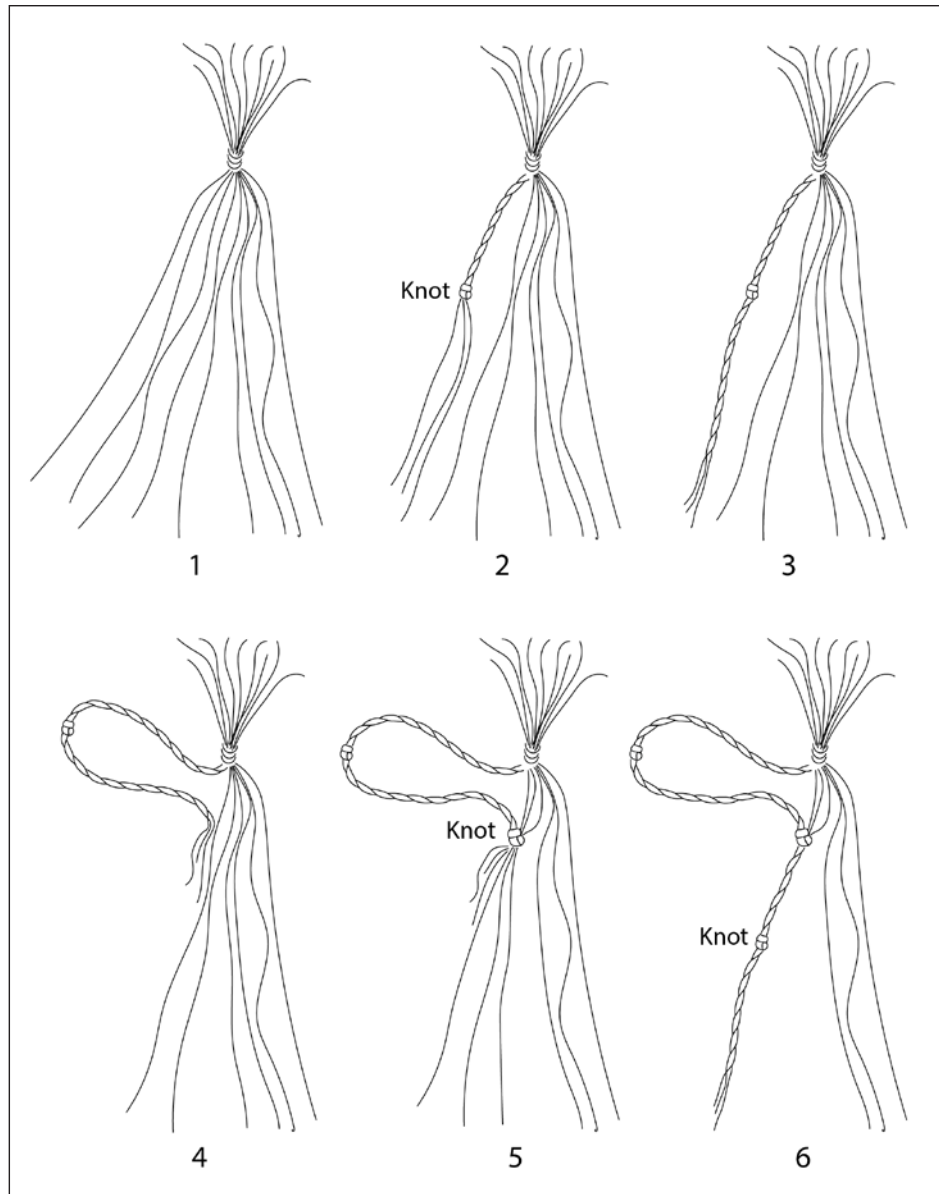
17

12-17. Yarn making: Marike Ambani, assisted by Aleta Ambani, demonstrates yarn production using the dried palm fiber (see text for description of the process, also Fig. 18)

yarn, releases each section to produce a continuous length of yarn (Figs. 15 - 17). The entire procedure is illustrated diagrammatically in Fig. 17.

This method of making yarn might have been used in other islands in Melanesia, but detailed descriptions of fiber processing from other weaving traditions in the region are mostly lacking. At present only a small number of loom-based weaving traditions in the Asia-Pacific region continue to use leaf fibers such as palm, most such usage having been usurped by the spread of cultivated cotton during the last millennium. In some places, such as the island of Mindanao (Philippines), leaf (*abaca*) fibers are used untwisted, as flat strips, by T'boil, B'laan,

Mandaya and other related groups. Benuaq weavers in the eastern side of Kalimantan similarly weave skirt-cloths using flat, untwisted palm fiber (*doyo*). Textiles made from banana palm fiber in the nearby island of Sangihe were similarly made from flat, untwisted lengths of fiber, joined by knotting (Buckley 2022). The Sobei practice of making a twisted yarn from leaf fiber rather than using the fiber as flat, untwisted strips is different from most of the yarn making practices previously recorded.



18. Drawings of the steps in Sobei yarn production: 1 a group of fibers is selected and rolled on the thigh. 2: one or more knots are added as the yarn is rolled. 3: the yarn is rolled until just a few unrolled fibers remain hanging loose. 4: the yarn is doubled back and the loose fibers are applied to a new group. 5: a knot is added to attach the old length of yarn to the new group. 6: the new group is rolled and knots are added, then the sequence is repeated. When all the fibers have been twisted into yarn, the short lengths of loose fibers that connect the knots to the central nub are cut, releasing the finished yarn.

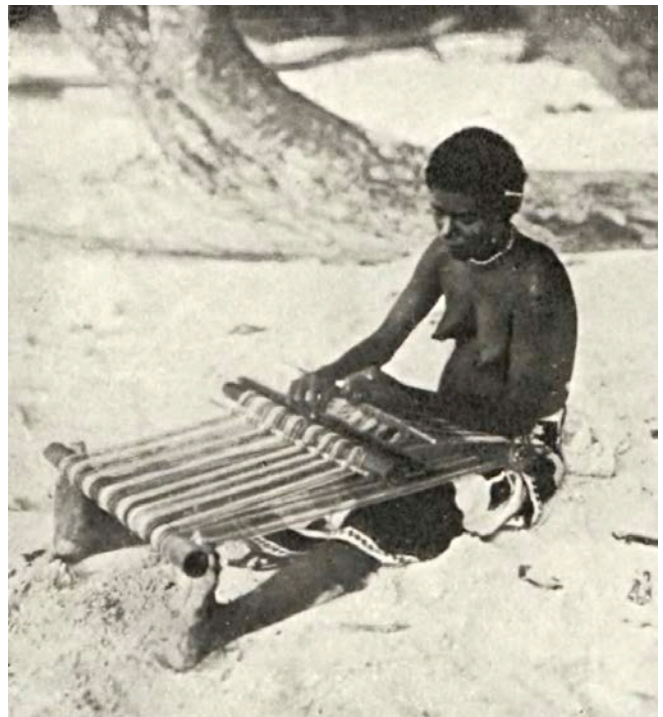
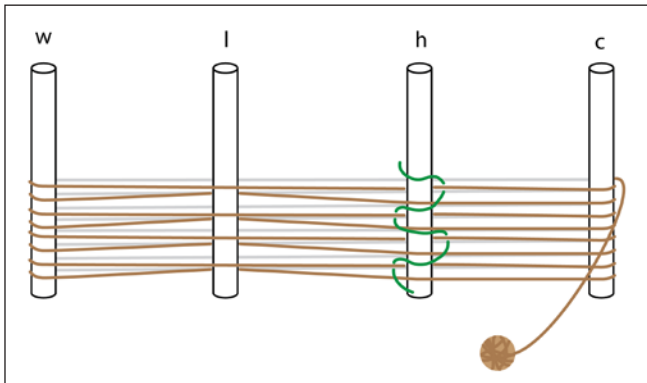
## Weaving

### Warping the loom

To create the warp for the loom, four sticks are driven into the ground, around which the warp yarn is wound. The outside sticks will eventually be replaced with the warp beam and cloth beam of the loom, while the middle two sticks will be replaced with a lease rod and the combination of shed rod and heddle rod. Warp is wound around the frame by two women working cooperatively: the warp is passed around the end sticks, and then alternately around the middle two, dividing it

into two parts. One part (the counter-shed) is attached to the heddle string, by passing it back and forth around one of the central sticks (Figs. 19 and 20). This creates a circular warp that includes a warp crossing, with a ready-made heddle attached. The method is quite similar to warping methods for simple looms in other parts of southeast Asia, including the island of St Matthias (discussed below), and in regions as far away as the Himalayan foothills (Dunsmore 1993:125).



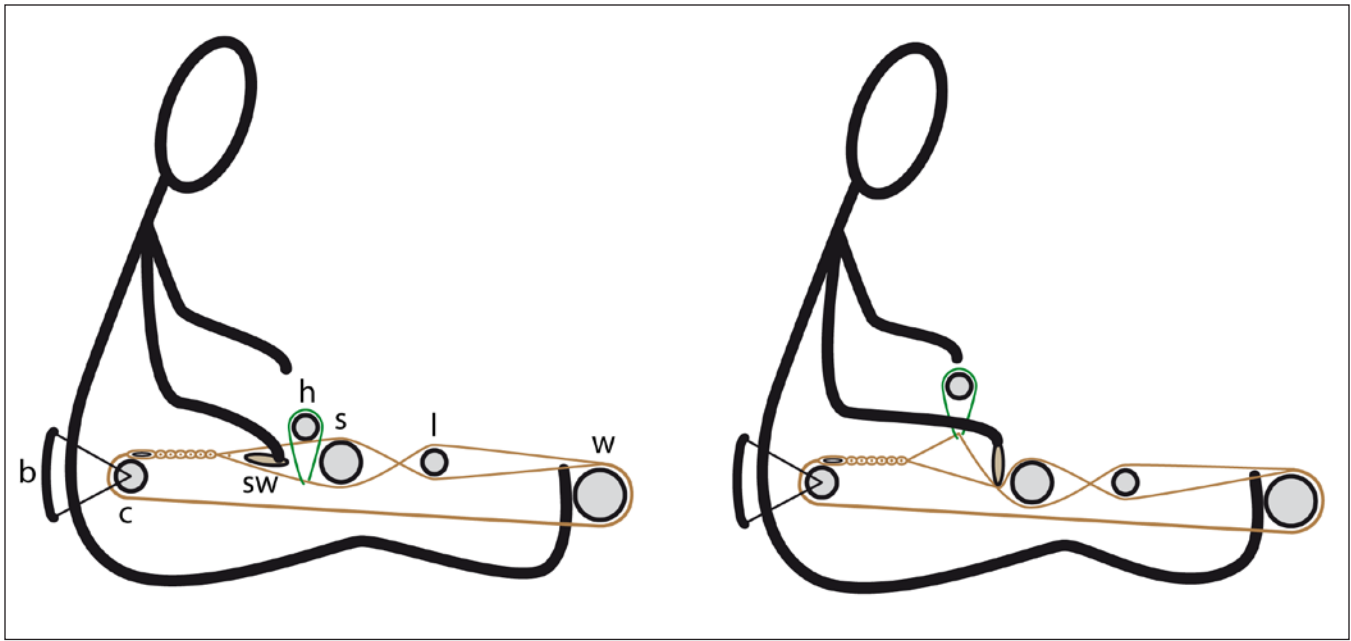


19. (above) Dartina Senis and Klarce Zeifan preparing the warp on four stakes in the ground

20. (below) diagram of the warping process. The heddle string is shown in green.

21. (above) Klarce Zeifan weaving on the traditional foot-braced loom.

22. (below) photograph of a Sarmi weaver taken in the 1920s (after Goslings 1928)



23. Diagrams of the traditional Sobei loom in operation, showing the opening of the natural shed (left) and raising the heddle to open the counter-shed (right). b = backstrap, c = cloth beam (*idoday*), sw = sword beater (*esdi*), h = heddle (*péija*), s = shed rod (*bo'oro*). l = lease rod, w = warp beam (*bedmafo*).

### Setting up the loom

When the warp is transferred to the loom, the four sticks are swapped for the loom parts, and the whole assembly is turned horizontally. A backstrap is attached to the cloth beam, and the warp beam is placed behind the feet. One or two sticks are inserted into warp openings next to the cloth beam, and then tied to the cloth beam, providing a firm platform for beating-in the first wefts.

### Weaving

Weaving then begins, passing a shuttle with the weft back and forth through shed and counter-shed, which are opened with the aid of the shed rod (natural shed) and heddle, in the usual way for body-tensioned looms (Fig. 20). The flat sword-beater (*esdi*) is inserted into the weft openings and then turned on its side to open them wide enough to allow the shuttle (*senggoni*) to be passed through. The shuttle merely consists of a stick with the weft wound around it. The sword is a symmetrical piece of hardwood with a long oval shape, pointed at both ends and with sharp edges on both sides.

When opening the counter-shed, by pulling the heddle rod upwards, the warp yarns tend to 'stick' to each other. The weaver overcomes this with a characteristic gesture, which can be seen in the photo reproduced in Gosling's 1928 article (Fig. 22), holding the sword against the upper surface of the warp and depressing it as she raises the heddle (Fig. 23).

The loom that we saw employed a single stick as a warp beam. A photograph of a Sarimi weaver taken in 1908, now in the Nederlands Fotomuseum<sup>2</sup> shows a weaver using a pair of round beams instead of a single warp beam. This is sometimes done by weavers using foot-braced looms, for example Ta'o weavers in Laos, and offers a couple of advantages. Firstly, it extends the length of the warp slightly. Secondly, by manipulating the two beams with her feet, the weaver is able to change the tension in the warp, which is useful for facilitating shed changes, particularly when wider fabrics are being woven.

### Terfo

The result of this process is a warp-faced textile, in which the weft is nevertheless visible (Figs. 24 and 25). The texture is fairly coarse. Knots that join the lengths of yarn can be seen, but these are neatly trimmed and are not prominent in the finished textile. Weaving continues until a short length of unwoven warp remains, at which point it is cut, so that the textile has fringes at both ends. A few additional knots are added to the fringes near the edge of the weaving, to prevent the end-wefts from coming loose.

In the past, some *terfo* was woven with check designs (Fig. 26), using wefts of the same colors (usually three) as the warps. Checks are rarely woven in traditional *terfo* today: most recently-made examples that we have seen have stripes of three colors.



24, 25 Left: *Terfo* cloth woven by Dartina Senis in 2007; right: detail of cloth. The cloth measures 26.5cm x 170cm (excluding fringes) and is woven from palm fiber, dyed with turmeric (yellow) and ink fruit (purplish blue). The pale stripes are undyed. Tracing Patterns Foundation Collection.



26. *Terfo* cloth in the Wereldculturen collections, Netherlands, collected in 1950s. The cloth measures 69cm x 88cm (excluding fringes). Inventory number RV-4976-3. Image licensed under Creative Commons 4.0 International License.



27. Sobei loom in the Tropenmuseum (Wereldculturen collections M-556-137a), collected in 1929. Image licensed under Creative Commons 4.0 International License.

### Examples of looms in the Tropenmuseum

As noted above, there are several examples of looms and loom parts from the Sarmi region in the Tropenmuseum in Amsterdam. Most of the looms were collected in the period between 1920 and 1930, the best and most complete examples being two looms (TM-556-137a and TM-578-11) collected by J.C. van Eerde in 1929 (Figs. 27 and 28). Of these, TM-556-137a was exhibited in the Netherlands at the Batavian Society of Arts and Sciences, shortly after van Eerde's return, as a photo (TM-60054950) in the Tropenmuseum archive shows. A small photograph is visible at the lower right of this exhibit, showing the weaver operating the loom. This might be a photograph of Grandmother Puebai, mentioned above.

There are several features on these looms that are not present on looms made more recently:

1. The cloth beams are distinctive: this can be seen most clearly in a separated cloth beam (TM-169-59, Fig. 29): instead of a fork at both ends, the beams have a fork at one end and an 'eye' (rather like the eye of a needle) at the other, the strap being permanently attached to this end. This is an unusual feature in a cloth beam, but one that is occasionally seen in looms from the nearby island of Sangir,

such as an example in the Tropenmuseum collection (TM-H-1831). The ends of some cloth beams, such as that in Fig. 29, are carved into the shape of crocodile heads with the jaws open. Crocodiles seem to have had a special significance for the Sobei people, and a number of carvings that include crocodiles are present in museum collections.

2. The looms appear to have coil rods. This is a rod that the entire warp is looped around once, which helps to keep warps organized and reduces the likelihood of tangling when the loom is rolled up at the end of a day's work. This feature was probably also present on the St Matthias looms and is a common feature on Southeast Asian looms that lack reeds. It is also found (for example) on foot-braced looms used on Hainan Island, off the southern coast of China (Boudot and Buckley 2015: 197, 201). Coil rods are an optional feature that can be omitted, especially on narrower weavings where tangling is less of a problem.

3. One of the looms has a wooden back-beam. This seems to be an optional feature since it is not present on all of the museum examples.



28. Sobei loom in the Tropenmuseum, with yarn samples (Wereldculturen collections TM-578-11), collected in 1929. Image licensed under Creative Commons 4.0 International License.



29. Cloth beam from a Sobei loom, in the Tropenmuseum (Wereldculturen collections TM-169-59), collected before 1923. Image licensed under Creative Commons 4.0 International License.



30. Frame loom, of the type currently used by most Sobei weavers, mounted with synthetic wool yarns.

## Recent developments in loom design

Recent changes in Sobei weaving, particularly incentives to weave wider and longer textiles (using shop-bought yarns) for commercial sale have sparked innovation in loom designs. Many Sobei men are skilled carpenters, and Yapsenang and Kondologit (2015) documented several different kinds of loom used in households in Sarwar village, including a vertical two-bar loom, and several kinds of horizontal looms with simple frames, in which the cloth beam and warp beams are fixed into the frame. Today, a horizontal frame loom (Fig. 30) is the most common kind used by Sobei weavers, who have also devised a kind of comb (reed) to keep the warp yarns evenly spaced and in order.

A description of one of these novel looms may have led Yoshimoto (1990) to draw a loom that he called the 'Sobei Type II' loom, with the warp beam and cloth beam tensioned with cords to stakes. We could find no trace of this loom in Sarwar.

## Discussion

Weaving on body-tensioned looms with circular warps is common throughout the islands in the Indonesian archipelago and especially in East Nusa Tenggara, but all of those looms have warp beams that are tensioned by attaching them to an external point, either by lodging it behind two stakes in the ground or attaching it to a house beam or similar. There are several other important differences in the Sobei tradition:

1. The Sobei loom, along with other looms in Micronesia and Melanesia, are warped on frames

consisting of three or four sticks embedded in the ground or stuck in a wooden base. This is an ancient method shared by many weavers in Southeast Asia. It is used by weavers using foot-braced looms similar to the Sobei loom in Taiwan and in Laos and Vietnam, as well as Batak weavers in Sumatra. Many weavers in East Nusa Tenggara however, for example in Lembata and Tanimbar, use a more sophisticated horizontal warping frame rather than vertical stakes.

2. The cognate forms for names of weaving parts that are common in the Indonesian archipelago, such as *balira/baliga/walira* (weaver's sword beater) and *apit* (cloth beam), that have been cited as evidence of a common origin of these traditions (Buckley 2017) are absent.

3. The Sobei loom, with its round warp beam and cloth beam, is different from looms found further to the north in Micronesia, where these beams are commonly plank-shaped, and the warp beam is fixed into an external support.

Might the Sobei loom be the result of a reversion to an older, simpler type of loom, by weavers who once used an externally-braced warp beam? At first glance this seems like a possibility, particularly as foot-braced looms are sometimes used as 'training looms' by weavers who use the externally braced type. For example, foot-braced looms are used by young weavers on the Micronesian island of Fais (Kramer and Damm 1937 p366), a practice that continues to this day (Rubinstein and Limol 2007). Similar training looms are sometimes used by weavers in the Himalayas, and adult weavers in this region occasionally use foot-braced looms for weaving narrow bands. Dunsmore (1993:167) illustrates a Tibetan weaver in the Dolpo region using this technique to make a narrow band. So, weavers who use externally-braced backstrap looms seem to have no difficulty in imagining or understanding the foot-braced variety. This does not mean however that a weaver would willingly switch from the former to the latter as her main weaving method. The foot-braced loom demands a different technique, particularly where adjusting the tension in the warp when changing the shed is concerned, a difference that becomes apparent when weaving anything wider than a narrow strap.

In fact, there is little reason why a weaver who is familiar with the externally-braced warp beam would switch to the foot-braced variety. It is more likely that weavers who use (or used) this loom for all of their weaving always did so, since looms are the most conservatively transmitted aspects of weaving, with lineages with impressive time depths (Buckley and Boudot 2017).



31. Woman weaving on the island of Emirau, St Matthias Islands. After Chinnery (1925:197 Fig 42).

As mentioned, there was one other location amongst the remote islands of the Pacific where foot-braced looms were used historically: the islands of St Matthias, which are part of the Bismarck Archipelago. The looms and warping frame that were described by Chinnery (1925) and Nevermann (1933) appeared to have been very similar to the Sobei examples (Fig. 31). The fiber was derived from the inner leaves of banana palm stems, and they were twisted into yarn on the thigh in a similar way to that practiced by Sobei weavers. The terms used for cloth beam (*aiau*) and sword (*aisolo*) are not obviously related to those used by Sobei weavers, however. The languages of St Matthias are an isolated group within the Oceanic subgroup, only distantly related to the Sobei language.

The linguistic differences suggest that there was little recent contact between these weaving groups, and that Sobei weaving is therefore not derived from St Matthias weaving or vice versa (contra Parkinson). Both traditions are more likely to have descended from early, Austronesian-language speaking settlers in the region and have remained separate for a long period of time.

The questions of the ultimate source of this tradition, and the source(s) of other weaving traditions in Melanesia and Micronesia, will be addressed in a future paper.

*Drawings and photographs are by the authors, unless otherwise stated.*

*The authors would like to thank Gideon Ambani and the weavers of Sarwar Village, including Marika Ambani, Aleka Ambani, Febiola Merne, Klarce Zeifan, Dartina Senis, Zara Zeifan, and Fera Asak, for their patience and hospitality, and for demonstrations of fiber processing and weaving.*

## Notes

1 Howard and Sanggenafa (1999) identify this as the *nibung* palm (*Oncosperma tigillarum*). This species has a thorny stem however, that looks different to the palm that we were shown. Yoshimoto identifies it as *Pigafetta filaris*, which seems more likely as it has a smooth greenish stem when young. There are more than 800 native palm species in New Guinea and identifying species is not a straightforward matter.

2 Inventory number WMR-904725, taken by Dr. Gijsbert Adrian Johan van der Sande, titled 'Vrouw aan een weefgetouw, Sarmi, Noord Nieuw-Guinea'.

## References

- Boudot, E. and Buckley, C. D. (2015)  
Roots of Asian Weaving: The He Haiyan Collection of Textiles and Looms from Southwest China. Oxbow Books, Oxford.
- Buckley, C. (2017)  
Looms, weaving and the Austronesian expansion. In: Spirits and ships: cultural transfers in early monsoon Asia. Singapore: ISEAS Publishing.
- Buckley, C. (2022)  
First migrants, first textiles. In: Textiles of Indonesia, the Thomas Murray Collection. Prestel.
- Buckley, C.D. and Boudot, E. (2017)  
The evolution of an ancient technology. Royal Society Open Science, 4(5), p.170208. <https://royalsocietypublishing.org/doi/10.1098/rsos.170208>
- Chinnery, E.W.P. (1925)  
Notes on the Natives of Emirau and St Matthias. Anthropological Reports No. 2. Melbourne, H.J. Green Government Printer.
- Dunsmore, S. (1993)  
Nepalese Textiles. British Museum Press.
- Goslings, B.M. (1928)  
Het Primitiefste der Primitieve Indonesische Weefgetouwen. Nederlandsch-Indië, Oud en Nieuw, 13:4, p112-125.
- Krämer, A. and Damm, H. (1937)  
Zentralkarolinen. Friederichsen, de Gruyter.
- Howard, M.C. and Sanggenafa, N. (1999)  
Terfo: Survival of a weaving tradition in New Guinea. Expedition, 41(3) 8-19.
- MacKenzie, M.A. (1991)  
Androgynous objects: string bags and gender in central New Guinea (Vol. 2). Taylor & Francis.
- Nevermann, H. (1933, 2010)  
St. Matthias Group. Translation by John Dennison. University of Otago Studies in Prehistoric Anthropology No. 22. Department of Anthropology, University of Otago.
- Parkinson, R. (1907)  
Dreissig Jahre in der Südsee: Land und Leute, Sitten und Gebräuche im Bismarckarchipel und auf den deutschen Salomoin-seln, Stuttgart, Strecker & Schroeder.
- Rubinstein, Donald H, and Limol, Sophiano (2007)  
Reviving the Sacred Machi: A Chiefly Weaving from Fais Island in Micronesia. In Material Choices: Refashioning Bast and Leaf Fibers in Asia and the Pacific, edited by Roy W Hamilton and B. Lynne Milgram. p154-165. Los Angeles: Fowler Museum, University of Los Angeles.
- Shinobu, Y. (1990)  
Typological Studies of Indonesian Handlooms:(1) Types and Distribution. National Museum of Ethnology. [In Japanese].
- Yapsenang, Y. N. and Kondologit, E. Y. (2015)  
Terfo Weaving: an Inventory of Intangible Cultural Heritage. Condologit Ministry of Education and Culture, Jayapura Papua Culture Preservation Center. [In Bahasa Indonesia].