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# Reconstruction of the 14th century textile in a burial from Valmarinniemi

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## Abstract

This chapter deals with small textile fragments found in a burial at the early medieval cemetery of Valmarinniemi, Keminmaa, Finland. The weaving structure of a tablet-woven band with bronze spiral tubes is studied and reconstructed. This analysis revealed that similar items dating to the late 13th or early 14th century have previously been found in Karelia and Estonia. To put this textile item into context, burial customs at Valmarinniemi cemetery will also be briefly considered based on the preserved accessories and funerary textiles found in the other burials.

Keywords: tablet-weaving, funerary textiles, bronze spirals, medieval burials.

## 20.1 Introduction

During the 14th and 15th centuries, a timber church with one room stood on an island in the Kemi-joki River delta area. It was the church of one of the northernmost Catholic parishes in Europe and surrounded by a burial ground. In 1981, researchers from the University of Oulu excavated this site, Valmarinniemi in Keminmaa, where the remains of this early medieval church were relocated. It is likely that the island functioned as an important centre shortly after it rose above the water level due to post-glacial uplift in ca. AD 1000. A total of 149 inhumation burials have been located there, of which 88 have been unearthed. The earliest burials were cremations (13 burials) and are earlier than the church, which was built most likely during the early 14th century. According to the AMS analysis, the cremations date to the 11th and 14th centuries calAD, and the inhumations date from the late 13th century onwards. At least 177 individuals were buried on the site. The church was burned by Russian raiders in the 1390s or during the early 15th century. (Ikäheimo et al. 2020). After that, a replacement church was built upstream where the current S. Michael's church is located (built ca. 1530 onwards) (Hiekkanen 2005).

The focus of this article is on small textile fragments found in Burial 24 at Valmarinniemi. The aim is to identify the textiles, reconstruct how one of them was made and consider its origin. Additionally, the chapter considers what these textiles can tell us about local early medieval burial customs. The woven reconstruction is based on detailed structural analysis done both under the stereomicroscope and using  $\mu$ CT scanning images.

## 20.2 Funerary attire, accessories and textile fragments at Valmarinniemi

Only little material evidence is preserved from the burials at Valmarinniemi. Additionally, the human remains in the burials themselves were poorly preserved. Human remains of a total of 82 individuals were identified in inhumation and 17 in cremation burials. Age and sex estimations were done by Heli Maijanen and in this article, we refer to the information provided in her report (2015). Of the individuals, 21 could be identified as children and 74 as adults (four remained unidentified by age). Of the adults, 19 were male or possible male and eight could be identified as female or possible female (Ikäheimo et al. 2020).

As such, burials represent the customs of early Christianity blurring with old traditions. Such merging of Christian and local or older traditional beliefs and customs was evident in the north until the 19th or even the 20th century (Ilmakunnas 2019: 129; Lipkin 2020). The inhumations are east-west oriented but coexisting cremations indicate a mixture of beliefs and traditions within the cemetery (Ikäheimo et al. 2020; Puolakka 2020). Another clear indication of the knowledge of Christian belief is the burials of two individuals wearing vernicle rings with Christ's figure. The size of the rings suggest that the deceased were both male, or the rings were used on gloves. One of the deceased – a young male – wearing a ring was found near the altar of the church, suggesting the clerical status of the deceased (Ikäheimo 2013; Ikäheimo et al. 2020). The other was buried outside the church, implying that their status was different from the one buried beneath the church floor. Additionally, this deceased had osteologically identifiable female features (Ikäheimo et al. 2020) and wore the ring on the left hand – whereas the other individual wore the ring on the right hand – further implying different statuses of these individuals in respect to one another (Lipkin et al. 2018).

As a borderland region with specific material culture (Puolakka 2019; Ylimaunu et al. 2014), Northern Finland can be considered as a region where people originating from different areas – possibly representing different ethnicities and burial traditions – coexisted and lived side by side. At Valmarinniemi, textiles were unearthed in 11 burials. Many of the textiles have been preserved due to their close association with metal items that bear witness to connections to the other areas along the Baltic Sea and Karelian Isthmus.

Preservation bias prevents full understanding of the character of the funerary attire, but preserved fabrics and fur fibres give some evidence. Finnish acidic soil is detrimental for the preservation of plant fibres such as flax, nettle and cotton, and fabrics made of these materials are often scarce (Lipkin et al. 2021). However, until today, the earliest piece of cotton fabric from Finland has been identified in Burial 101 (female, 20–30 years of age) at Valmarinniemi, suggesting the use of Asian luxury products in the far end of the European continent. White plant fibre fabrics, often made of flax or nettle, are common in later post-medieval burials in the region (Lipkin et al. 2021), cotton is less often found (Väre et al. 2021).

As at Valmarinniemi, fabrics made of a variety of fibre materials – wool, bast fibres, cotton – are found associated only with metal objects, it impossible to know what materials were mostly used and what kind of garments the bodies were wrapped in. However, the few fibres associated with the metals in some burials suggest that bear and deer furs (Vajanto 2017) were used in the burials either as accessories or as mattresses below the deceased. Additionally, one child, less than 10 years of age (Burial 53), was found with remains of a *nålbound* item associated with a bracteate (Albrecht of Mecklenburg, 1363–70) between layers of fabric giving the impression that the child in this burial wore woollen mittens and had a coin in their hand. Another *nålbound* fragment, woollen woven fabrics, tablet-woven bands, pseudomorphs on metal items and a 6–8-year-old child's headband were also found in other burials. Additionally, spiral decorations associated with fabric remains were found in

two burials (22 and 24). In Burial 154 a small, rounded silver button with child-sized teeth marks belonged to a child's attire. The button was found on the chest of the individual. In two other burials, similar buttons were also found (two in each). In Burial 39 the buttons were clearly close to the mouth (inside the mouth/neck and right side of the mandible) and both burials belonged to young individuals (Burial 33 possibly woman aged 20–30 years, Burial 39 aged 18–25), suggesting that such buttons could be associated with the attire of children or the young.

Later burial traditions in the region indicate that traditions and old customs played a significant role in choosing the fabrics and items for funerary attire. In Valmarinniemi, most of the preserved items suggest the use of real clothing items such as mittens, belts and headbands as part of the attire. Accessories such as buttons, studs, spirals and belt buckles suggest that at least some individuals were embellished for burial. Body parts could have been wrapped in pieces of fabric, but there is no clear evidence suggesting this. Unidentified fabric fragments could also be part of shirts, skirts, or aprons.

### 20.3 Fabric remains from Burial 24

Two textile items in Burial 24 indicate non-local material culture and connections to the east (KM 39304: 1450, Fig. 20.1). One of the items is a 2/1 woven piece of yellowish felted fabric 2 x 2.5 cm in size. One of the systems has 13 yarns/cm (z-spun, 0.6–0.8 mm in diameter) and the other 10 yarns/cm (1 mm in diameter). The other textile item is composed of three fragments. Two are pieces of tablet-woven bands (sizes 0.85 x 1.8 cm and 0.3 x 1.5 cm) that are together of equal width with the tablet-woven band in the third fragment (fragment size 2.1 x 2.1 cm, the width of the tablet-woven band, 1.4 cm). For this reason, it is likely that they once formed a whole or at least belonged to the same band. The textile fragments have been preserved because of four copper alloy spirals attached to the end of the tablet-woven band. The spirals are 0.7 cm in length and 0.3 cm in diameter. The metal wire used is 0.5 mm thick. Additionally, a few centimetres of Szz spun yarn (1 mm in diameter) was found associated with other fabrics.

There are several examples of using spirals as decorations from Southern and Eastern Finland, Karelia and the Baltics. The diameter of the spirals is smaller than that of those typically found in Fin-



Figure 20.1. Textile items in Burial 24 (KM 39304: 1450) consist of a 2/1 woven piece of felted fabric and a tablet-woven band with bronze spirals. Photo S. Lipkin 2021.



Figure 20.2. Microscopic photograph of the broken edge of the tablet-woven band shows the change of colours. Photo S. Lipkin & H. Puolakka 2021.

land (e.g. Riikonen 2019), and the fragment resembles the 14th century examples found in Estonia at sites such as Siksälä and Lõhavere (Rammo & Ratas 2018; Valk & Laul 2014: Figs. 67, 77). The composition of four bronze spiral tubes and a smaller bronze spiral decoration were first thought to belong to a decoration of an end of a shawl or an apron. However, if it were such a decoration, it is likely that more spiral tubes would have been preserved.

In the Kylälahti cemetery in Hiitola, Karelia, there are at least ten similar objects made with four or five bronze tubes and the remains of a textile attached. In some burials, just one row of spirals was found; some burials had two. All these decorations are from burials considered to date from the late 13th to the early 14th century. (Laakso & Belskiy 2018.) It is noteworthy that not all these decorations are from female burials; at least three were from burials where the deceased was identified as male. Some were from near the head of the interred. These further indicate that the spirals are not a part of an apron, nor were they associated with a specific gender.

It seems that the Hiitola bronze spiral decorations have the same features as the one from Valmarinniemi: the spirals themselves are quite small, only around 0.5 cm in diameter and 2 cm in length. The Hiitola decorations also seem to carry remnants of a thin tablet-woven ribbon, not a wide fabric. Closer examination would be needed to be fully certain of the nature of the Hiitola decorations. There is also a mention of such decorations from Kekomäki cemetery in Kaukola, Karelia. Schwindt mentions “*Two bands decorated with bronze wires*”, which look very similar to the decorations from Valmarinniemi and Hiitola (Schwindt 2012 [1893]: 30).

## 20.4 A closer look at the tablet-woven ribbon and its reconstruction

The tablet-woven ribbon in Burial 24 was woven using four wool yarns per tablet. There were 20 tablets, which totals 80 warp yarns altogether. Upon closer examination under the stereomicroscope, some coloured fibres and yarns could be seen, but not enough to reconstruct a pattern visually from the colours alone (Fig. 20.2). Some red and blueish-green yarns and fibres could be seen on the band. Additionally, some lighter colour was used to form the pattern, which could have been white or yellow. The blueish-green weft was also woollen.





Figure 20.3. Reconstructed tablet-woven band with bronze spirals. An additional loop of smaller bronze spirals was added to the other edge of the band. Photo H. Puolakka 2021.

The band was not a finishing band for a fabric. The weft consists of one yarn, going through and coming back on both sides. If this tablet-woven band was a finishing band of a fabric, the warp yarns of the fabric would have been used as the weft. If this was the case, there should be more than one yarn used as a weft yarn for the band, and the weft yarns would not travel back and forth continuously within the band.

Both edges of the band have tubular selvages woven with three tablets, which can be very clearly seen from the  $\mu$ CT-images of the band (Karjalainen et al. manuscript). Such tubular selvages were a common part of both Finnish and Baltic bands (Karisto & Pasanen 2020: 54–5; Rammo & Ratas 2015). There are no signs of the band being sewn onto another fabric. This indicates that it was used alone, most likely as a belt, according to the location of the fragments within the grave near the pelvic area.

The warp yarns were pulled through the bronze spirals. Additional woollen yarn, a little thicker than the warp yarns, was used to decorate and secure the edges of the spirals, as well as to hold the spirals together.

In reconstructing the pattern, the composition of the yarns of the band and the turning sequences showing in the  $\mu$ CT scan images were examined. There is a clear change of direction of half of the yarns/tablets visible on the larger piece of the band. This uneven turning sequence indicates that there is a visually simple pattern on the band. Uneven changes of direction (not changing the direction for all tablets at once) indicate a specific pattern, since there is no structural reason for it. What could be seen from the colours of the yarns supported a reconstruction of a simple S-shape. Tablet-woven bands with similar S-motifs can be found in the Kekomäki cemetery in Kaukola, Karelia and the Gaigovo barrows in the Southeastern Ladoga area. Both of these bands and cemeteries also date to the 13th and 14th centuries. (Kochkurkina & Orfinskaya 2016: 24–25; Schwandt 2012 [1893]: 22.)

The reconstruction was woven using plant-dyed two-ply wool yarns for the warp and a thinner plant-dyed wool yarn for the weft (Fig. 20.3). The end result was the same width as the original band, 14 mm. The colours seen on the band (blue, red, and a lighter colour) were chosen for the reconstruction of the band.

## 20.5 Conclusions

Since so little has been preserved, we do not know much about the medieval textiles from Northern Finland. However, the textiles and other elements placed into burials are always consciously chosen, and they may or may have not been the same clothes that the deceased used during their life. We know from other burials that the deceased may have worn the clothes only partially. The sleeves could be put onto the arms, whereas the rest of the cloth was placed only on the dead body (Karsten & Manhag 2017: 102–104). Furthermore, the archaeological evidence indicated that during the post-medieval period older clothes or other fabrics were often repurposed for the burial.

The remains of the funerary garments and accessories in the burials provide evidence for the use of luxurious products such as rare cotton, silver buttons and vernicle rings. Most of these preserved items were found in either children's or young adults' burials, which indicates that even though they died young, these individuals held an important role in their community. In addition to our case study, the preserved items in other burials in Valmarinniemi also imply that they were not locally produced. Instead, the Valmarinniemi cemetery holds many elements stemming from the southeast, Karelia and Estonia. However, it remains unknown as to whether the buried individuals were originally from these regions or whether the accessories and clothing items had found their way to the north in some other way.

A careful examination and reconstruction of minute textile items from Burial 24 provided essential information regarding the origin of the fabric in the burial. The tablet-woven pattern and the use of spirals point to an eastern origin, most likely in Karelia. Additionally, even though the processes of decay have been detrimental to the preservation of the fabrics and prevent us from understanding the nature of the funerary attire used in Valmarinniemi in full, the reconstruction of a tablet-woven band shows that the clothes and adornments that have been lost to time may have been brightly coloured, skilfully and well made.

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