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Textile Finds from a Chieftain's Grave

Preliminary Report from Poprad-Matejovce, Slovakia

Introduction

A double-chambered chieftain's grave from Poprad-Matejovce discovered in 2005 is dated to the early Migration period (late 4th/early 5th century AD). Over four months in 2006, an interdisciplinary group of specialists covering archaeology, archaeobotany, geology, geophysics, palynology, dendrochronology and conservation carried out the rescue excavation (Pieta and Roth 2007; Belanová and Pieta 2007; Pieta 2009; Štolcová *et al.* 2009, Štolcová and Zink 2013; Lau and Pieta 2014). It was done in collaboration of three institutions: the Archeologický ústav Slovenskej akadémie vied in Nitra, the Podtatranské múzeum in Poprad and the Archäologisches Landesmuseum, Stiftung Schleswig-Holsteinische Landesmuseen, Schloss Gottorf in Schleswig. Although the grave was penetrated by ancient robbers, it yielded abundant evidence of organic finds: wooden furniture parts, leather objects, bast fragments and layers of textiles. Fragile waterlogged organic finds as well as in situ blocks were transported to Schleswig, where they were stored at a temperature of -20°C and since then have been processed step by step under laboratory conditions.

The grave consisted of outer and inner chambers made of European larch (*Larix decidua* Mill.) with a north-south orientation (Fig. 1). At a depth of five metres below the present surface, the base of the structure was constructed as a platform of twelve over four meter long timbers set on two round beams. On top of it was the outer log-built chamber of L: 3.95 m, W: 2.70 m and H: 2.00 m. It was covered using 12 solid beams. The sarcophagus-like inner chamber (2.90 x 1.70 m) was built in a muntin-and-plank construction, covered with a gabled roof and pediments on each side. The grave was insulated by a layer of charcoal from the surrounding area. The ancient robbery event not only caused surrounding silt sediment and underground water to fill it up, but also helped to preserve the organic objects. Additionally, very few goods were left in the grave after the robbery and most of those that remained had been displaced. The dispersed human body remains belong to a 20-25 year-old male individual with a height of 171 cm. Apart from that, there was a pendant made of a golden *solidus* of the emperor Valens (375 AD), some pottery, a glazed *mortarium* and a bronze Hemmoor bucket. Also found were a gaming board with glass gaming pieces, a bronze arrowhead, a silver clasp, a silver awl with

Fig. 1. View of the grave at the end of the excavation in 2006 (Photo: Karol Pieta).

wooden handle, an amber bead and many hazelnuts spread around the floor of the inner chamber. Above all, there were many parts of wooden furniture turned on lathe (*e.g.* a death bed and a round table), layers of textiles, various leather objects and a basket. The wooden parts of the grave construction are still being conserved in Schloss Gottorf in Schleswig. After a time-consuming conservation process, the wooden

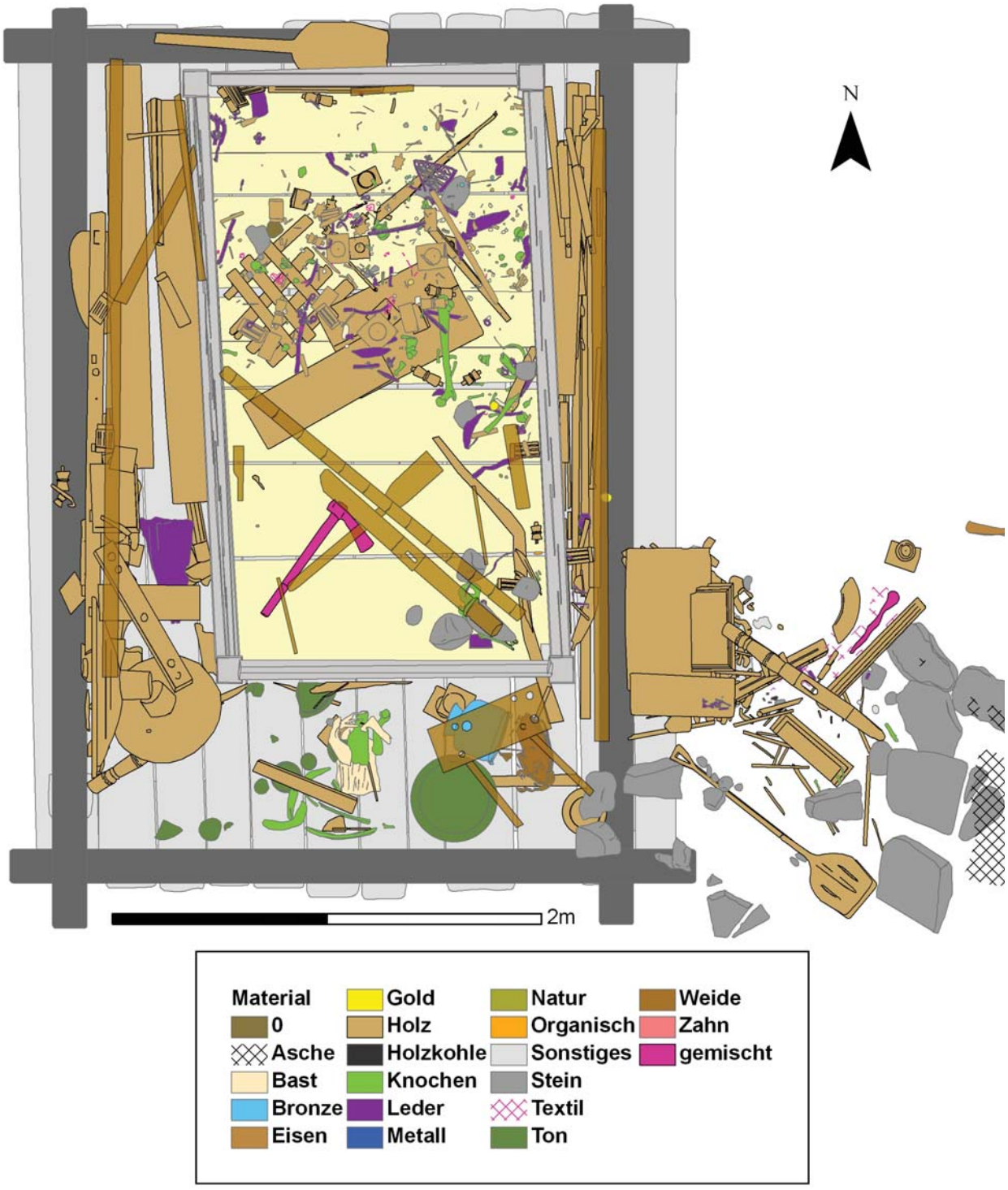

Fig. 2a. Detailed GIS-based visualisation of the grave (© Karin Göbel).

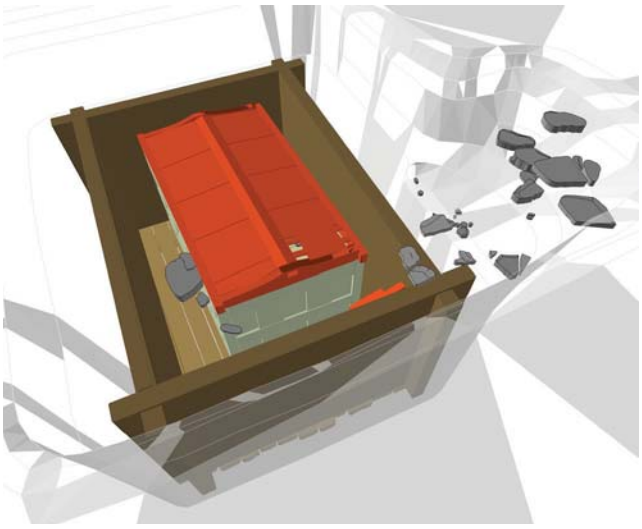

Fig. 2b. 3D-reconstruction of the inner and outer chamber (© Karin Göbel).

Fig. 3. Documentation of fragile organic finds in the laboratory (Photo: Claudia Janke).

Fig. 4. Tablet-woven textile fragment with severely degraded threads in both systems (Photo: Tereza Štolcová).

furniture was transported to Slovakia in 2013. First analyses of the grave inventory in the Geographical Information System (Fig. 2a) as well as outputs of 3D-digitalised finds (Fig. 2b) have shown very exciting results. However, the final evaluation and laboratory examination of *in situ* blocks is still an ongoing process, and it has great potential to give us a much deeper insight into the culture of the early Migration period in northern Slovakia.

Processing of the in situ blocks

The laboratory examination of the *in situ* blocks was executed in several stages (Fig. 3). It started in Schleswig in 2008 within the European project *Clothing and Identities – New Perspectives on Textiles in the Roman Empire* (*DressID*) when parts of the floor of the inner chamber were examined (Štolcová *et al.* 2009; Štolcová and Lau 2013; Štolcová and Zink 2013). Stable and cold laboratory conditions with a suction unit were established to process the large waterlogged *in situ* blocks. The cleaning of the fragile organic objects was done with a fine air-brush and demineralised water, small brushes, delicate dental tools and tweezers. All the stages of the excavation were accompanied by close examination through an operation microscope. Thus, even the finest structures of textile remains in the soil of an *in situ* block could be traced. Among other things the documentation was made with the help of a drawing tube attached to the microscope. This guaranteed an exact documentation of delicate but mostly decayed textile remains and their surrounding context. All sketches and photographs were later edited and integrated into the Geographic Information System database (Štolcová and Zink 2013, Fig. 9). The organic finds retrieved from the blocks were processed in the wood conservation department in Schleswig or stored in a freezing room for further treatment. These excavation and documentation methods have also been applied to the latest stage of the laboratory research, which started in 2013 under the German Research Foundation's project *Das frühvölkerwanderungszeitliche Kammergrab von Poprad, Slowakei – Ein interdisziplinäres Forschungsprojekt*

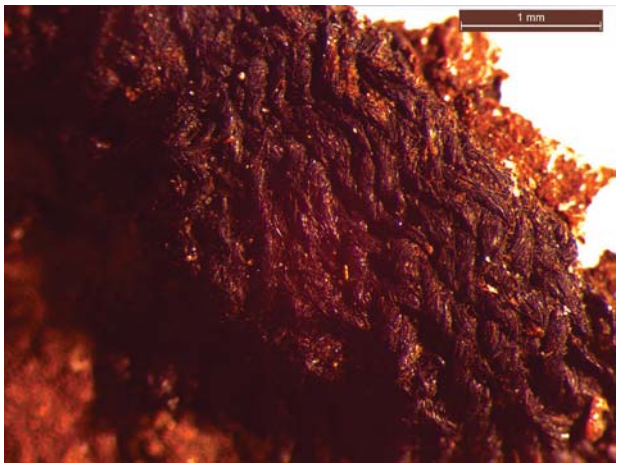

Fig. 5a. Detailed photo of the carbonized fabric made in sprang technique (Photo: Tereza Štolcová).

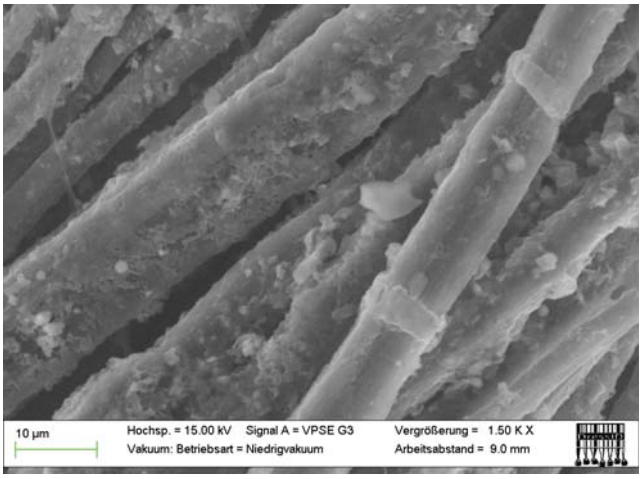

Fig. 5b. Plant fibre from sprang textile fragment identified in SEM (Photo: Sylvia Mitschke).

zur Auswertung eines außergewöhnlichen Fundes (The Migration-period chamber grave at Poprad, Slovakia – an interdisciplinary research project for the evaluation of an extraordinary find). In collaboration between the Centre for Baltic and Scandinavian Archaeology in Schleswig, the Niedersächsisches Landesamt für Denkmalpflege in Hannover, the Koninklijk Instituut voor het Kunstpatrimonium in Brussels and the Curt-Engelhorn-Zentrum für Archäometrie in Mannheim, the remaining *in situ* blocks are currently being processed in Hannover and are revealing new and interesting finds.

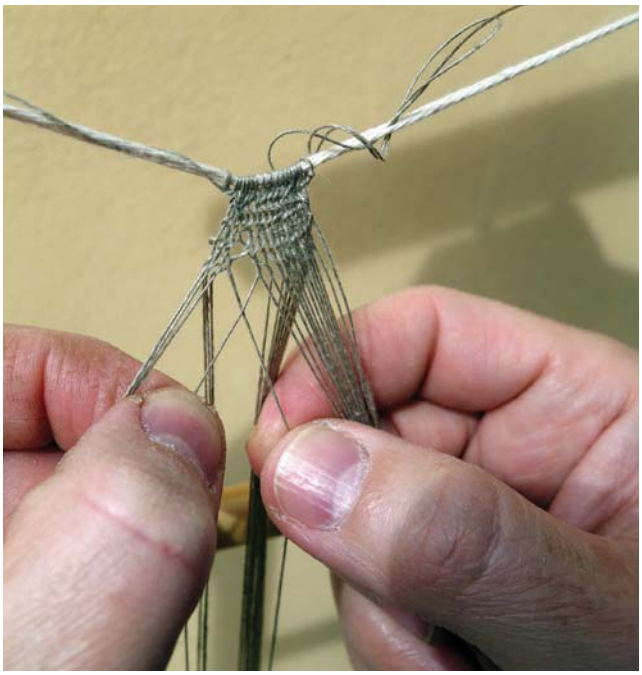

Fig. 5c. Reconstruction of sprang technique based on the find from the grave (Photo: Tereza Štolcová, reconstruction by Juraj Zajonc).

Results

Although textiles were the least preserved organic material from the grave, it was still possible to detect many layers of various types. Most of the textiles could be determined as being made of sheep's wool (OVIS) the preservation of which may have been caused by the acidic environment in the grave. Apart from remains of decayed tabbies, twills and microscopic fragments of golden threads, it was possible to identify several tablet-woven textiles, a single piece of sprang and parts of a slit tapestry fabric. The large collection of recovered leather objects is assumed to have been connected to the textiles as well.

Tablet-woven textiles

On a small wooden plank from inside of the inner chamber, the remains of woollen tablet-woven textiles were still attached (Štolcová *et al.* 2009, 273, Fig. 10). One of the fragments was made with approximately nine four-holed tablets, which corresponds to c. 36 threads per cm. The pattern 3S-3Z-3S consists of three tablets twisted in the same way (S) alternating with three tablets twisted in the opposite way (Z). Due to their poor state of preservation it was possible to determine neither the spin direction nor the original dimensions (Fig. 4).

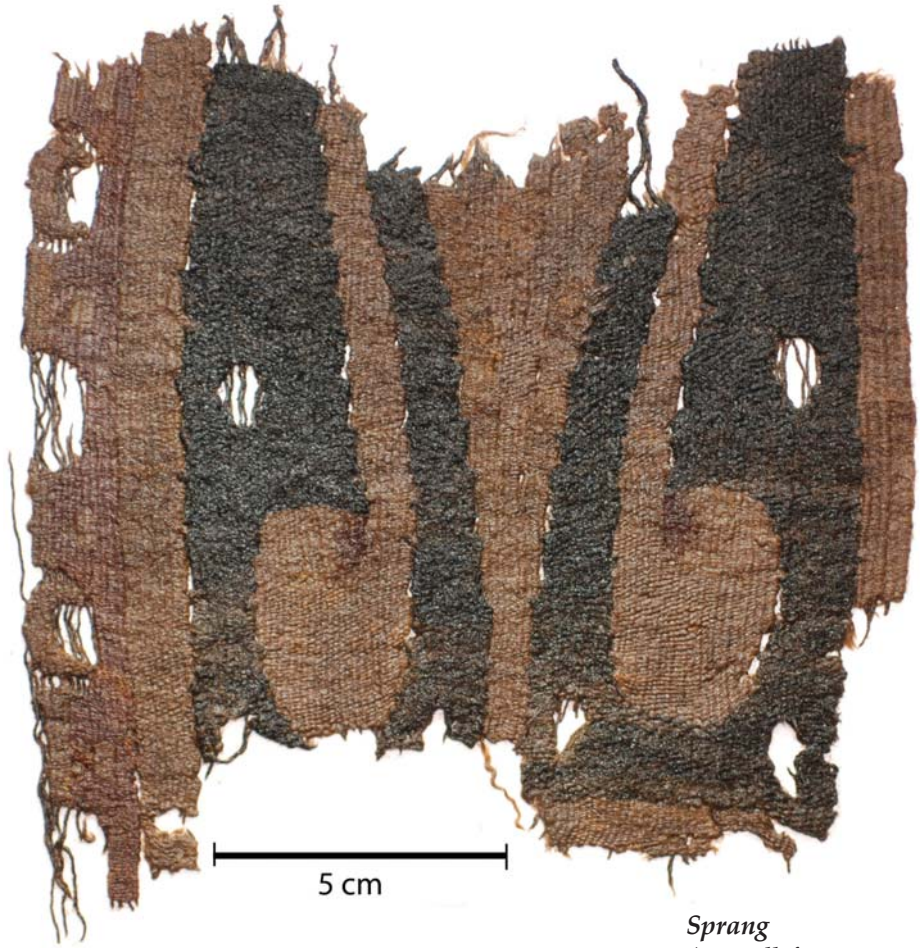

Fig. 6a. Largest preserved piece of a slit tapestry textile (Photo: Dorte Schaarschmidt).

Fig. 6b. Detail of the reinforced selvedge of the tapestry textile (Photo: Dorte Schaarschmidt).

Sprang

A small fragment of sprang fabric (6 mm x 2.5 mm) preserved through carbonisation was found on the bottom of the inner chamber (Fig. 5a). Its analysis with the scanning electron microscope has proved that it was created from very fine, about 0.2 mm thick z-spun threads, made from a plant material, most possibly linen (*Linum usitatissimum* L.) (Fig. 5b). The fragment consists of a simple interlinked sprang 11/11 structure with alternating z and s twists in each row (Seiler-Baldinger 1994, 52, Fig. 95b). Its reconstruction showed that the rows with S twists were made from the right to the left side whereas the rows with Z twists were executed from the left to the right (Fig. 5c).

Tapestry

Recent examination of a wooden plank from the eastern side of the outer chamber revealed one of the best preserved textile fragments in the grave. After recovery, unfolding and initial cleaning, it was revealed that the textile was produced in a slit tapestry technique (Fig. 6a). It consists of many fragments within which the largest piece has a size of 14.5 cm x 16.7 cm. Its reinforced selvedge was created by a brown weft running over three warp threads (Fig. 6b). The ground plain weft-faced weave creates a palmette-

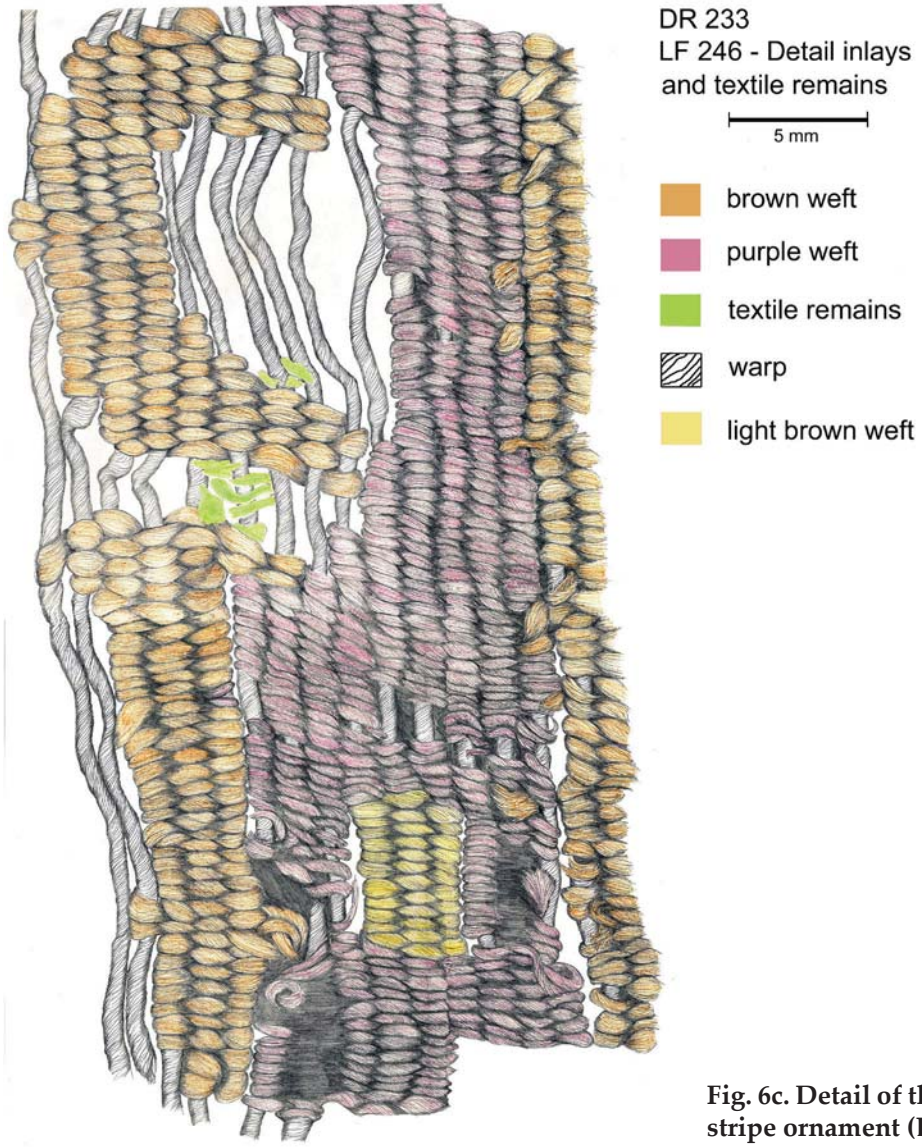

Fig. 6c. Detail of the half-moon shapes and reddish stripe ornament (Drawing: Dorte Schaarschmidt).

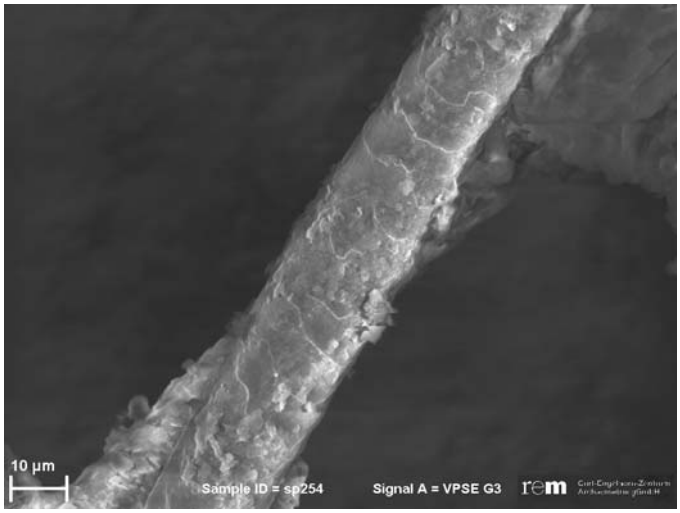

Fig. 6d. Sample of aligned woollen remains in the openings in SEM (Photo: Sylvia Mitschke).

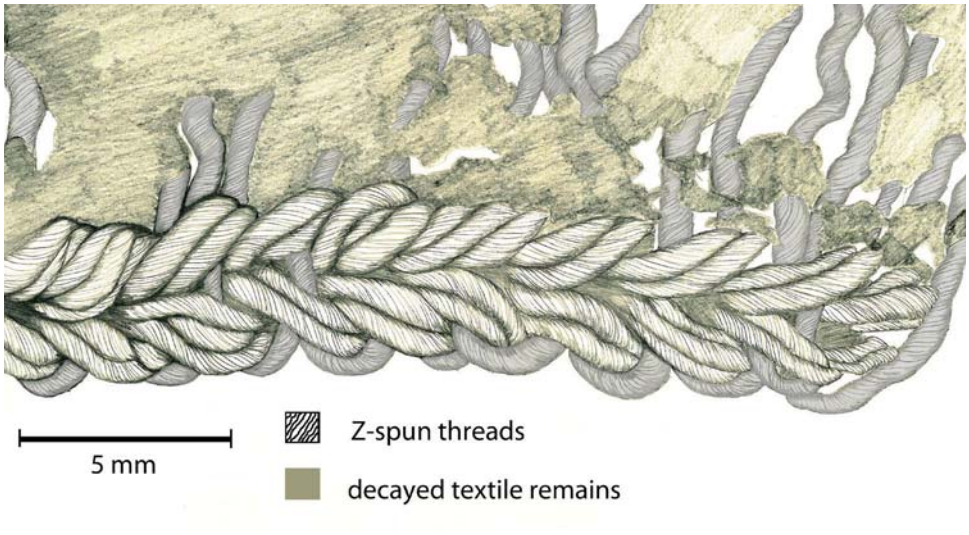

Fig. 6e. Detail of a braided border from the tapestry textile (Drawing: Dorte Schaarschmidt).

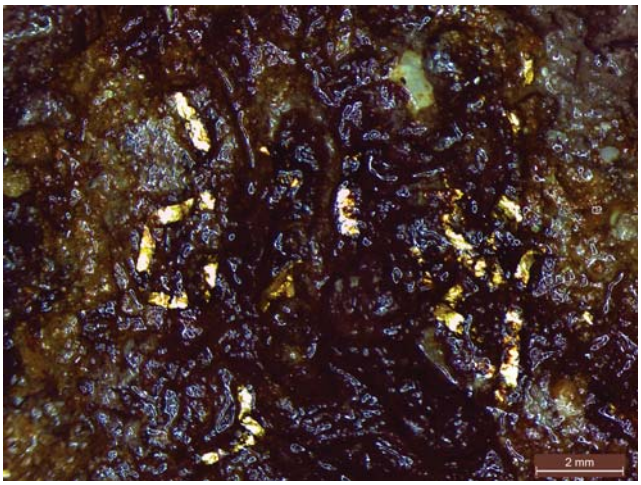

Fig. 7a. Remains of gold strips found in decayed layers of textiles (Photo: Tereza Štolcová).

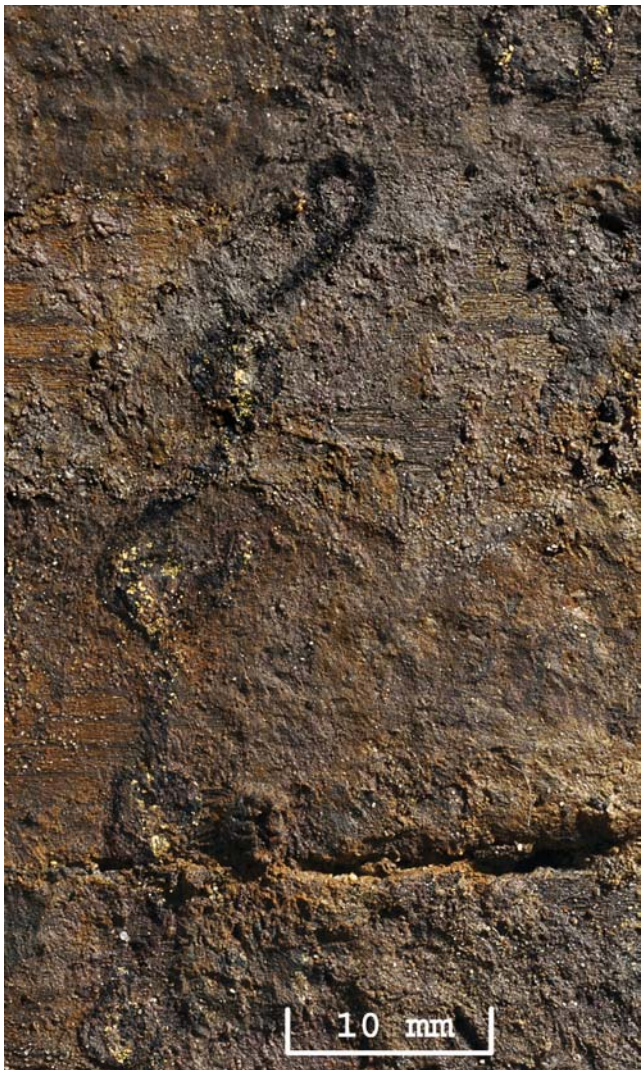

Fig. 7b. Looped thread with fragments of golden strips wound around the black core (Photo: Tereza Štolcová).

like pattern through the use of at least three different coloured wefts. The palmette is formed by brown and black wefts with an inlay of red threads in the rounded areas followed by an intricate ornament of a reddish stripe with light brown squares and half-moon shapes set in wide openings (Fig. 6c). Microscopic traces of textile remains in these openings indicate that they were originally filled with another, presumably finer, yarn (Fig. 6d). The different coloured parts of the fabric[1] are connected through the continuing use of the same warp with another weft and thus show the typical slits, creating a slanting edge in the ornament. Coloured parts are also connected using a variation of dovetailed joints with two weft threads turning back around a common warp thread of the adjacent area and creating a straight line in the pattern. Both warps and wefts were identified as woollen. The warp threads are 0.65 mm thick and their thread count is about nine to ten threads per cm. The different coloured wefts vary slightly in their thickness from 0.4 mm to about 1.0 mm. Depending on which colour was used for the weft, the thread count differs from seven to eight weft threads per cm in the black areas, about 15 weft threads per cm in the brown areas and up to 20 threads in the reddish stripe of the ornament. The most distinctive threads of black, brown and red colour were determined as z-spun whereas the least preserved remains, which originally filled the symmetrically arranged openings, were only microscopically identified as woollen remnants of aligned structure. An ongoing examination of the last *in situ* block found in the same area as the above described piece yields further details of this textile. It is a horizontal edge of the same tapestry textile with remains of warp threads finished in a braided style (Fig. 6e).

Gold threads and gold embroidery

Scattered all over the floor of the inner chamber, remains of gold threads and thin gold strips were found in decayed layers of textiles. These include either fragments of gold strips wound around a decayed black core or remains of narrow and straight stripes cut from a gold leaf, which are c. 1 mm wide and 20 µm thick (Fig. 7a). Lastly, a gold thread with a black core creating seven loops in a spiral-like ornament has been preserved (Fig. 7b). It can be presumed that it was originally part of a larger piece of embroidery.

Textiles and leather

So far, more than 80 single leather pieces were found in the grave. Most of the leather finds were well preserved due to the slightly acidic pH-value of the soil, as well as the waterlogged conditions. All of them

Fig. 8a. An ornamented open-work leather piece of triangular shape, size c. 20 x 23 cm (Photo: Tereza Štolcová).

Fig. 8b. Leather trefoil attached to a strip, remains of stitching clearly visible (Photo: Tereza Štolcová).

Fig. 8c. Leather loop (Photo: Tereza Štolcová).

bear traces of stitching and therefore may have been connected to an already decayed underlying material, most probably textiles (Fig. 8a). They consist of various ornamental pieces like numerous trefoils (Fig. 8b) or leather loops (Fig. 8c) and strips of many sizes and types. Presumably they were parts of clothing.

Future perspectives

As research on the Poprad-Matejovce grave is still ongoing, it is not possible to state the exact cultural context of the grave. Chronologically it belongs to the so-called North Carpathian Group, whose settlements can be found in hilly areas of northern Slovakia, but graves from this region are very rare (Pieta 1991, 376; Lau and Pieta 2014, 361). The costly construction of both chambers, as well as the inventory containing coloured tapestry pieces, remains of golden threads and intricate leather objects points to the highest social class in Europe, known from comparable Late Roman graves like Pilgramsdorf (Lau 2012; 2014), Neudorf-Bornstein (Abegg-Wigg 2014) or Gommern (Becker 2010). The influence of the Roman Empire is visible in many aspects on the finds from Poprad, above all in the form of the inner grave chamber and the furniture as well as some grave goods like the golden *solidus* or the glazed *mortarium*. However, the date and place of the burial also indicate that there may be many different elements intermingled together. Strontium isotope analyses planned for the near future will hopefully answer questions about the origins of these finds. Further conservation, detailed documentation, technical analysis and evaluation of textile and leather remains as well as colour and dye analyses will bring essential insights into the production and use of textiles in the Late Roman period and the beginning of the Migration period from the territory of Slovakia.

Notes

1. Samples for dye analyses of this textile were submitted to Ina Vanden Berghe from the Koninklijk Instituut voor het Kunstpatrimonium in Brussels.

Acknowledgements

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