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# Preserved textiles from the cesspit in Plasy convent and remains of liturgical textile

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## Abstract

In 2016, a cesspit from the 18th–19th centuries was archaeologically excavated in the convent of Plasy, Czech Republic. During the excavations, a large number of organic artefacts was found, with a number of textile fragments and a complete preserved pair of shoes. These fragments represent the remains of the clothing production process, which provided everyday clothing for the monks during the baroque period. Some items are fragments of luxury silk fabrics which have been used for the liturgical garments, and some included remnants of different sewing techniques.

Keywords: textile, monastery, cesspit, cistercian

The Cistercian monastery in Plasy, located in western Bohemia 25 kilometres north of Pilsen, was founded in 1144 by the Duke of Bohemia Vladislav II and his wife Gertruda. This paper discusses the archeological research conducted at the cesspit of the convent Plasy. The cesspit was used from 1700–1828, and was likely still in use by 1854. The aim of this paper is to present some of the textile fragments preserved in the cesspit context and found during the excavations. The monastery's cesspit textiles provide evidence for the activities of a monastic community in a non-urban environment during the 17th and 18th centuries, for which there has not been any material in the Czech context.

The first monks came from Langheim Abbey in the Diocese of Bamberg (Vlček et al. 1997: 417–425; Krček 2013: 79). In the Middle Ages, the monastery expanded its property due to the church farmyards, which were managed by the monks. The first long period of prosperity ended with the Hussite Wars in the 15th century; in 1420, the monastery buildings were allegedly set on fire by Hussite troops and the surviving monks scattered into the surrounding region, often to Pilsen or even beyond the borders of Bohemia. The monks later returned to the convent and gradually regained the lost property.

The second significant period of prosperity came after the Thirty Years' War in the 17th century. During that period, the entire monastery was remodelled several times. Abbot Christofer Tengler (CZ: Kryštof Tengler) instituted significant building modifications between 1661 and 1668; further modifications were initiated by Abbot Evžen Tittl between 1707 and 1736, with the help of well-known architects John Blasius Santini (CZ: Jan Blažej Santini) and Christoph Dientzenhofer (CZ: Kryštof Dientzenhofer). In 1785 the monastery was dissolved by Emperor Joseph II and the monks either went abroad or became priests. Chancellor Metternich bought the former monastery buildings

in 1826 and had them adapted into a chateau, at which time a number of structural modifications were made to all the buildings. (Vlček et al. 1997; Krček 2013). Today, the site is a state property run by the Czech National Heritage Institute.

## 22.1. Historic cesspits and research in the Czech lands

Historic cesspits are identified and excavated relatively frequently in Czech lands (Šíroky 2000; Krajíc et al. 2017). In many cases, these are rescue excavations associated with subsequent construction activities; even when full excavations are not possible, at the very least samples are taken from any such contexts. Thus, in the last 20 years a number of surveys have been conducted in urban contexts: In Prague's Nové Město (New Town), two septic tanks from townhouses dating to the 15th and 16th centuries were investigated in 2008–2009, yielding pottery fragments and a large amount of plant remains (Cymbalak and Matějková 2012: 69); likewise, a cesspit in the southern town of Tábor was found on the site of a medieval townhouse (Krajíc 1998). Analyses from other Czech cesspit excavations have been published, including detailed macro-residual analysis (Čulíková 2008 and 2014). Many of these analyses prioritize discussions on local crops and diet, with little attention given to textiles and other materials—in the case of the Prague cesspits, flax is only mentioned as part of the macro-residual analysis (Cymbalak and Matějková 2012: 69)

## 22.2. The cesspit feature

In 2015, the Department of Archaeology of the National Heritage Institute and the company Řehák–Speleo s.r.o began a systematic survey beneath monastery. At that time, the stone floor tiling sank in the corridor of the Abbatis residence once the backfill placed under the floor tiling had dried out, thus its volume shrank. The cesspit was included in John Blasius Santini-Aichel's 1709 building plans, although the adjacent toilets were removed and the pit was closed during the 1828–1833 rebuilding. The mouth of the cesspit was identified after the floor tiling was removed; the elliptical sump was reinforced with sandstone blocks. The upper part of the structure was demolished during earlier rebuilding projects, before it was filled in the 19th century. (Hus and Waldmannová 2018: 149).

The backfill material was removed in 2016 and the archaeological layer was excavated in 2018. A total of 48 cubic metres of material was removed, which contained a number of finds from daily life at the monastery. Apart from pottery, plant remains, fruit pits, small bones, pins, buttons, scraps of paper, and a dog collar, other objects were revealed as well. (Waldmannová 2017; Hus and Waldmannová 2018). A large group of finds consisted of textiles and leather fragments. Also noteworthy were the fragments of a pair of shoes, which were subsequently reconstructed (Pilná 2017). The research was conducted under the auspices of the archaeological department of the National Heritage Institute and the individual types of finds were evaluated by the relevant specialists.

The head of the excavation team, Marcela Waldmannová identified a total of 2474 textile fragments, which were then sent to the West Bohemian Museum for conservation. First, all of the fragments were soaked and gently washed in distilled water. The coarse impurities were mechanically separated, and then the process of soaking in distilled water was repeated. Disinfection with n-butyl alcohol was also performed. The fabrics were slowly dried and flattened on alkaline paper. They were then placed on alkaline paper on 77 pieces of frames under glass (Beránková 2017). The textiles were left in groups approximately as they were excavated (personal communication by the conservator M. Beránková). The textiles were analysed after conservation by the author.

During the registration process the textiles were first macroscopically analysed, under 5x magnification. Individual fragments were numbered, drawn and measured to ascertain maximum dimensions for all fragments. If possible, the weave and density were determined and the direction of the warp and weft was drawn. Fragments with clear characteristics were evaluated directly, whereas fragments with unclear features were indicated for further microscopic processing. Two fragments were excluded from the assemblage because they were made of leather. The microscopic processing took place in the autumn of 2021 with the cooperation of conservator Jitka Kottová.

The primary aim of this research was to describe the quality of textiles used in the abbey in everyday life. The textile fragments are assumed to have entered the pit as otherwise unusable remains in the context of hygienic use. In the course of the specialised research on liturgical textiles in Czech lands, the question was raised whether the range of textiles found here could also reflect the luxury materials used for the production of liturgical textiles, since only a limited number of liturgical vestments from the 18th century have survived in the furnishings of the monastery's Assumption church. For example, there are only three preserved chasubles from the 18th century in the Assumption church (Pilná 2022).

### 22.3. Characteristics of the textile assemblage

The entire textile assemblage consisted of 2474 fragments (Pilná 2018). Overall, wool fragments dominate the assemblage, with 2220 fragments; silk fabrics are represented by 203 fragments, and linen by sixteen pieces. Likewise, plain weave dominates the collection (514 fragments), followed by twill fabric (360 fragments), with complex weave (without damask nine fragments) and damask (five fragments) representing a fairly small proportion of the materials; additionally, there are several pieces of knitted fragments (eight pieces) and tablet woven fragments (four pieces).

The woollen fragments are mostly in plain weave (1336 pieces); of the remaining fragments felted ones (505 pieces) are the next most abundant, followed by twill (353 pieces). More complex weave patterns were identified in only fifteen woollen fragments. Among the silk finds, combined weaves predominate (159 pieces), of which 150 are satin weave (atlas). Plain weave was identified in 33 silk fragments, and twill in three silk fragments. Flax occurred only in sixteen plain weave fragments.

### 22.4. Shapes of the fragments

Most of the fragments are small in size (Figures 1–2), and seem to be small pieces resulting from garment production—e.g. when shaping the cut, when altering garments during or after fitting, or when re-stitching a garment. Most bear no sewing marks. By way of illustration, some fragments have a distinctive elongated rounded shape, as is often seen after cutting off the lower edge of the garment. Others are rounded on both sides, as is used to modify armholes.

In total, 34 fragments exhibit tailoring marks: stitches, tabs, cross-stitch embroidery, and/or buttonholes. A fragment with buttonholes also includes a neckline modification.

To approximate the fragment sizes in the dataset, five fragment groups were determined by size: The first Group (A) does not exceed 15 mm in one of its dimensions and 50 mm in the other, or both dimensions do not exceed 20 mm. Fragments in the second Group (B) do not exceed 15 mm in one of its dimensions, while the other is arbitrary, and their shape is elongated and narrow. The third Group (C) contains fragments up to 100 mm in one of the dimensions, which can be described as small and medium-sized in the context of the assemblage, but usable. Finally, the last Groups (D



Figure 1. Set of preserved textiles No. T005-TU16 before conservation (Frame No. 5). (Photograph: V. Pilná)



Figure 2. Set of preserved textiles No. T005-TU16 after conservation (Frame No. 5). (Photograph: V. Pilná)

and E) consist of fragments over 100 mm in one of the dimensions or bigger – in the context of the set they can be considered large. It is clear that the classification is indicative and very simplistic, but it is meant to roughly reflect whether the fragments could be put to further use based on their sizes.

Altogether 234 fragments can be classified in Group A which contains the smallest fragments. These are essentially not reusable beyond applique, fillers, or similar creative utilisations. Group B contains 488 fragments, and are the product of shortening garments, trimming seam allowances etc, which also renders these fragments rather unusable due to their narrow width. Group C, which contains 752 pieces, includes materials which, while not completely unusable, are small enough to serve as small patches, or as pieces in an applique. The relatively reusable Group D contains 621 fragments, and within the set the larger pieces in Group E contains 377 fragments.

Almost 60% of the fragments fall into the group that render them difficult to reuse due to their size. Other 25% are difficult to reuse due to both their size and/or shape, as the numbers recorded here represent their maximum dimensions. Thus, an elongated semicircular fragment which reaches a width of 60 mm only at its widest point will narrow on both sides. As such, it can be concluded that the textiles entered the pit as waste from tailoring or garment alterations rather than as sanitary waste. Additionally, written evidence indicates that garment production, or at least some level of tailoring and/or alterations, took place on the monastery premises (Krček 2013: 103). Furthermore, paper fragments were also abundant in the pit. Regular tailoring produces a number of unusable remnants, and the monks' garments were certainly made from the same fabrics with the same weave and quality; this indicates that the remnants found in the cesspit were the result of the regular production of "uniforms", and cannot be compared with the refuse of a common tailor's shop.



## 22.5. Fragments of liturgical textiles

From the information presented, it is clear that most of the fragments came from the production of common monks' clothing. The silk remnants probably originated from efforts to modify the paraments used in the liturgical service. In the entire assemblage, however, there are only five silk fragments with a pattern that can certainly be considered suitable material for ceremonial liturgical textiles (chasubles). All of the patterned silk fragments have partially preserved their original red and golden colour, which are associated with liturgical textiles: red is used in Catholic tradition to celebrate the feast of the Holy Martyrs; white, and gold (both singly and together) are used in many liturgical feasts and festive occasions, including Christmas services, All Saints Day, baptisms, priestly ordinations, and weddings.

The three fragments marked T002-TU6a, T032-TU68B (Figures 3–5) and T002-TU6b (Figures 6–9) are golden-pink lampas silks. The fabric is full silk, and has double warp and double weft. A yellow motif (likely floral) is woven on a pink ground. The basic weave is an eight-weave warp satin, woven with silk thread with a slight twist. The pattern weft does not have a noticeable twist, protruding at the pattern and above the lance warp; the pattern is bound in twill weave. The basic warp has 28 threads/cm, the basic weft 70 threads/cm. (Kottová 2021: 1).

The other two fragments, T006-19O and T064-118R, are gold silk damask. The motif cannot be reconstructed entirely, but there are fragments of what appear to be floral tendrils. The basic warp is a five-weave atlas and the design is a ten-weave atlas. In the warp, there are 120 threads/cm, in the weft 26 threads/cm. (Kottová 2021: 9.)

Furthermore, silk fabrics in linen plain weaves were also discarded. These fragments can be considered liturgical textile lining fragments, as were used in several preserved chasubles from that period. The satin weave silk textile fragments were possibly an upper part of liturgical vestments, and could also be considered as lining fragments.

## 22.6. Discussion

The most frequently represented fabrics in the collection show us the range of common textiles which the monks used to make their religious clothing. The clothes may have been made in the convent, or



Figure 3. Set of preserved textiles No. T032-TU67 before conservation (Frame No. 32). (Photograph: V. Pilná)

were at the very least altered on site. Among the servants in the abbey at the time of the dissolution in 1785 there is evidence for a “monastery seamstress” named Marie Anna Kabátová (Krček 2013: 103). After the dissolution of the monastery an auction was held in 1786. The auction report was preserved and details the fabrics left at the prelate’s residence, including various types of linen and a material listed as a “packet of various coloured silks” (*Česká státní účtárna 1688–1921: part 276*).

When compared with the written evidence, it is clear that the assemblage does not cover the full range of fabrics used in the convent. While linen was also present among the cesspit fragments, according to the records it was used more often than these fragments suggest. The preserved linen fragments thus represent the quality of at least some types of such textiles used in the convent. The collection also shows a great deal of economy in sewing—generally, only the smallest and unusable scraps were thrown away.



Figure 4. Set of preserved textiles No. T032-TU67 after conservation (Frame No. 32). (Photograph: V. Pilná)

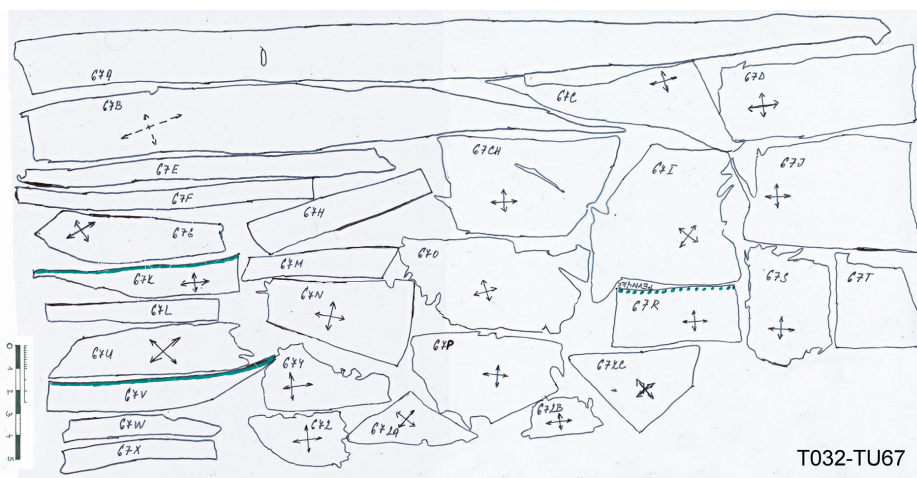


Figure 5. Drawing of set of preserved textiles No. T032-TU67. (Drawing: V. Pilná)





Figure 6. Set of preserved silk textiles No. T002-TU6 before conservation (Frame No. 2). (Photograph: V. Pilná)



Figure 7. Set of preserved silk textiles No. T002-TU6 after conservation (Frame No. 2). (Photograph: V. Pilná)

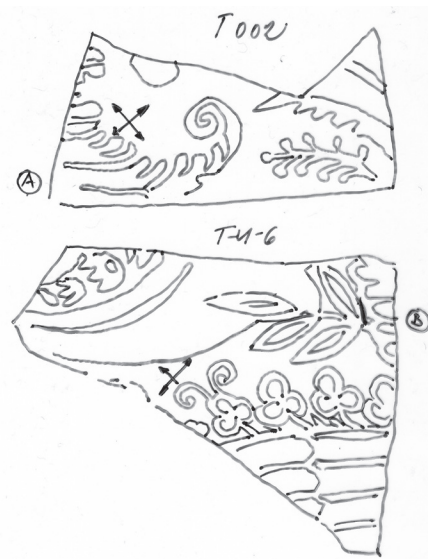


Figure 8. Drawing of a set of preserved silk textiles No. T002-TU6. (Drawing: V. Pilná)



Figure 9. Details of preserved silk textiles No. T002-TU6. (Photographs: V. Pilná)

Why were the textiles being thrown into the cesspit? Could the scraps have been used for sanitary purposes? Following the analysis, the nature of the textile ensemble comes into conflict with purely hygienic use in some respects. If these fragments were merely “toilet paper”, they would have been deposited into the pit over a longer period of time, and likely would have included a wider, more varied assemblage in terms of weave pattern and fibre. In addition, many of the fragments are also small enough to be unusable or at the very least very uncomfortable when used for such a purpose. The fabrics are often repeated in the set. This is clearly visible in the silk fragments. There are fragments of only two different patterned fabrics. A large percentage of paper fragments were also represented among the finds. Additionally, many of the fragments are also too small to be unusable or at the very least very uncomfortable for such a purpose. If the textiles in this assemblage were used exclusively in this sense, they would likely have contained a wider variety of textile types, similar to the research of Jarmila Čiháková (Čiháková and Müller 2013: 144). The composition of assemblage thus resembles more of a one-time cleaning of a tailor’s workshop and comprising only the remnants of the last few projects, including two pieces for the liturgy. Thus, the textiles in this case may only have been temporarily used for hygienic purposes, or a quick disposal of tiny remnants, although this explanation contradicts the generally accepted explanation for the discovery of textiles in cesspits.

This also speaks to the whether liturgical garments were sewn in the convent; indeed, liturgical vestments were certainly being sewn or altered on-site, based on the presence of silk fragments in the set and from written sources that mention silk remnants before the auction in 1786. (Krček 2013: 103; *Česká státní účtárna 1688–1921: part 276*).

## 22.7. Conclusion

After excavating the cesspit in Plasy monastery, the textile finds were cleaned and conserved. Due to the uniqueness of the site, the materials and dimensions of all recovered textile fragments were documented. Because of the large size of the assemblage, only some fragments were selected for more detailed analysis. The analysis provided information on the quality of the wool fabrics used in the monastic community. These fabrics were probably intended for the clothing of the order members. In addition, there were silk fragments likely originating from the production of liturgical vestments. The research enabled us to compare the range of textile materials used in the 18th century in the religious community with those intended for civilian clothes, as well as the possibility of comparison with previous periods in other religious communities.

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