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**THE SILK TEXTILES FROM THE MEDIEVAL TOWN OF NYSA IN POLAND**

**Abstract:** As many as 258 textile fragments have been discovered within the area of the medieval town of Nysa. In this group, woollen artefacts dominate. However, among the discovered fabrics, a group of 9 silk products can be distinguished. The most distinctive artefact within this group is the textile produced in the combination of gauze weave and satin weave. The remaining part of the group was crafted in plain weave, which is the dominant weave in medieval silk textiles acquired in archaeological excavations. The explanation for this fact is that within the extensive range of luxury silk textiles, those produced in plain weave were the cheapest ones.

**Keywords:** silk, textiles, Middle Ages, Nysa, Silesia

In the Middle Ages, Nysa was one of the most important urban centres in Silesia. The town was founded before 1223<sup>1</sup> and grew as the capital of the duchy of the prince-bishops of Wrocław, thus becoming the capital centre concentrating crafts and commerce. Protection and privileges provided by prince-bishops and the convenient location at the point where trade routes crossed contributed to Nysa's growing prosperity.

The development of commerce involved creating necessary devices. The main marketplace in Nysa was the Market (Rynek), whose shape was formed by the local traffic artery<sup>2</sup>. The oldest building at the Nysa Market known from the sources was the tradesmen's house mentioned in a document of 1245. Since 1303, it was already a two-storey brick building featuring 24 trade rooms on the ground floor dedicated to broadcloth trade. A street called Sukiennicza – 'Broadcloth Street' – still runs across the Market of Nysa<sup>3</sup>. The example above testifies that textile trade was a fundamental branch – and, in some periods, the main branch – of the town's commerce, the object of transactions being mainly Silesian broadcloth including production from Nysa<sup>4</sup>. Both local and imported fabrics were most likely traded here. Textile trade in Nysa was subjected to regulations introduced by the prince-bishop and could only take place at broadcloth stalls so to ensure that producers-craftsmen did not sell their goods

directly from their workshops<sup>5</sup>. The trade was run by stall-keepers – retail and semi-wholesale traders – and wholesalers who exported and imported goods.

The facts presented above reveal that textile production and trade played an essential role in medieval Nysa. Textiles were obviously universally used by town dwellers – a fact which is, however, poorly reflected in archaeological evidence acquired in the course of archaeological examination. Textiles belong to the category of organic materials which easily yield to degradation in soil layers. While many organic materials (such as wood or leather) and many objects made of them have been preserved in medieval cultural layers, fragments of textiles are found relatively rarely.

During the excavation works conducted within the area of the historical centre of Nysa, 31 groups of textiles have been acquired. They were found during the rescue archaeological works performed at the occasion of the town centre's reconstruction in the second half of the 20<sup>th</sup> c., as well as during excavations run in recent years for the sake of various constructions. The discovered evidence has been acquired from 16 various archaeological excavations performed between the years 1958-2015. The artefacts are, in majority, small scraps, some of which are partially rotten or charred<sup>6</sup>.

As many as 258 medieval fragments of textile products in total have been found within the town area. Small part of the woollen fabric evidence was described and analysed in the 1960s by A. Nahlik (20 fragments)<sup>7</sup>, whereas the

<sup>1</sup> Małeczyński 1960, 449.

<sup>2</sup> Kębłowski 1972, 6.

<sup>3</sup> Krawczyk 2009, 21 (with further reading).

<sup>4</sup> Kębłowski 1972, 15.

<sup>5</sup> Kębłowski 1972, 17.

<sup>6</sup> Antosik and Krawczyk 2014, 10; Antosik 2015.

<sup>7</sup> Nahlik 1964a; Nahlik 1964b.

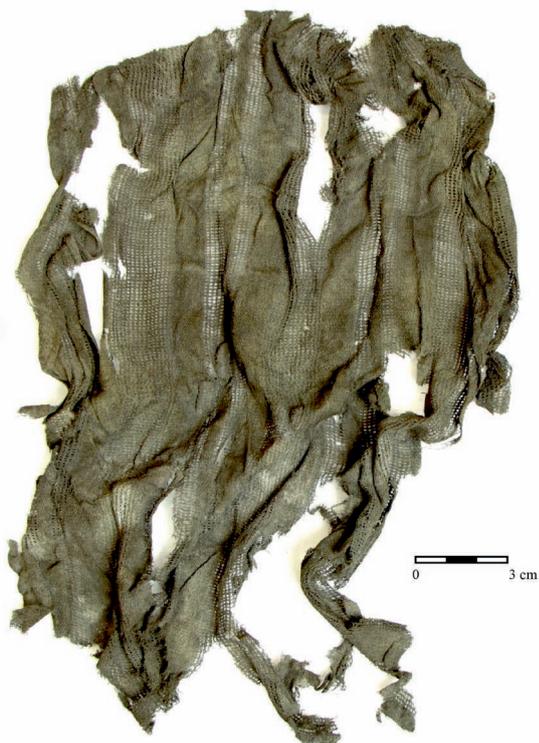


Fig. 1. Fabric no. 63.MNa/A/191/24. Photo A. Rybarczyk.

remaining part of the group was only examined in the years 2014–2015<sup>8</sup>.

The present study discusses excavated silk textiles which have not been described and analysed as of yet. Undoubtedly, the most interesting artefact distinguished in the textile evidence from Nysa is the fabric discovered within the trench III at Karola Miarki St., marked with the inventory number 63.MNa/A/191/24. It is a large (18×27 cm) fragment of brownish-green textile (Fig.1). Microscopic examination revealed

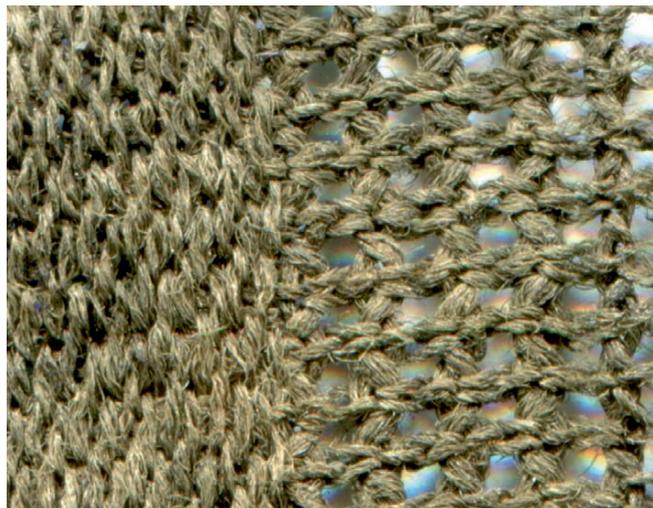


Fig. 2. Fabric no. 63.MNa/A/191/24. Close – up. Photo A. Rybarczyk.

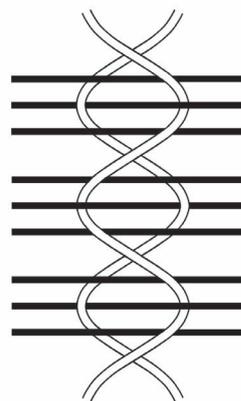


Fig. 3. Gauze weave in fabric no. 63.MNa/A/191/24. Drawing E. Wtorkiewicz-Marosik.

that the material used to produce was silk, yet the thickness of the fibres being greater than in other silk fabrics and the matt surface of the product suggest that raw silk was employed here which was not subjected to the process of removing sericin (degumming). Not only is the textile remarkable for its material, but for the structure in the first place, as based on two weave types: 1/4 weft-faced satin weave and gauze weave (Fig. 2). In the parts produced in satin weave, the thread count amounts 45 threads in the warp and 28 threads in the weft per 1 cm. In the parts made in gauze weave, the thread count is 7 threads in the warp and 9 threads in the weft (grouped in threes) per 1 cm. Gauze weave is here produced by crossing threads of the warp, between which 3 threads of the weft run intertwining with the warp similarly as in plain weave (Fig. 3). The two weaves, satin weave and gauze weave, employed alternatively, form vertical stripes. The repetitive sequence presents as follows: a stripe of satin weave, 11 mm wide – a stripe of gauze weave, 7 mm wide



Fig. 4. Fabric no. MNa/A/732/9, found at Biskupa Jaroslawa St., segm. 16-18 and 18-23. Photo A. Rybarczyk.

<sup>8</sup> The textile artefacts were analysed and described within the project financed by the National Science Centre (NCN) granted on the basis of decision no. DEC-2012/07/N/HS3/04122.



Fig. 5. Fabric no. MNa/A/732/9, found at Biskupa Jarosława St., segm. 0-6. Photo A. Rybarczyk.

– a stripe of satin weave, 5 mm wide – a stripe of gauze weave, 7 mm wide – a stripe of satin weave, 11 mm wide – and finally, a stripe of gauze weave, 22 mm wide.

The presented textile has been preserved in a very poor state, torn and vulnerable to further destruction. One selvedge is preserved, but it does not differ from the rest of the fabric whatsoever.

The next 4 fragments of this interesting textile were discovered in the trench II, at 23, Kostrzewy St. (inv. no. MNa/A/174/12). The largest one is 16.5×26 cm. The next two ones feature visible traces of being rolled and stitched. The thread used for the stich has not been preserved and so an assumption arises that it was made of plant material.



Fig. 6. Close – up of fabric no. MNa/A/732/9, found at Biskupa Jarosława St., segm. 0-6. Photo A. Rybarczyk.

Undoubtedly, the presence of the same textile in trenches situated a distance away is puzzling. Yet since the described evidence has been acquired during past excavations, it cannot be excluded that it was a mere mistake in the process of inventorying.

The artefacts from the trench II were archaeologically dated to the Late Middle Ages, while the ones from the trench III – to the 13<sup>th</sup>-16<sup>th</sup> c. The described textile is undoubtedly a product of medieval silk textile production, even though its dating cannot be established more precisely.

Another silk textile discovered in Nysa, inv. no. MNa/A/732/9 (found at Biskupa Jarosława St., segm. 16-18 and 18-23), has also been preserved in several fragments (Fig. 4). It is a plain weave fabric with two preserved selvedges, which informs us of the original width of the cloth: as little as 7 cm, the fabric being very narrow. The selvedges have are not distinguished anyhow from the rest of the fabric. The textile is exceptionally delicate even for silk, and it was woven of very thin threads. Both the warp and the weft are Z-spun. The twist is particularly strong in the weft, which caused the thread to twirl into tiny loops, which affects the overall appearance of the textile whose surface features characteristic creases. The thread count is 60 threads per 1 cm in the warp and 31 threads per 1 cm in the weft. Summing up the lengths of the individual preserved fragments, we can estimate that the original length of the artefact was not less than 93 cm. On one of the fragments, a decorative stitch can be observed, executed with silk cord or several thicker threads. The textile is dated to the 13<sup>th</sup>-14<sup>th</sup> c.

The inventory number MNa/A/732/9 (found at Biskupa Jarosława St., segm. 16-8) marks another silk textile of similar



Fig. 7. Fabric no. MNa/A/202. Photo A. Rybarczyk.

parameters as the previously described one. In this case, too, both selvages of the plain weave fabric have been preserved, which reveals that the product was narrow – its original width reaching as little as 10 cm. This time around, the selvedge is distinguished from the rest of the textile – its warp is based on slightly thicker threads than in the rest of the artefact. The selvedge is around 5 mm wide. Both the warp and the weft are Z-spun. Just like in the previous artefact, the warp thread here is twisted very strongly, which produces an effect of tiny loops observable under the microscope and an irregular, creased surface of the fabric. There are 55 threads in the warp and 46 threads in the weft per 1 cm. One of the preserved fragments of the fabric is very long – c. 65 cm and another one is two times shorter, being 32 cm of length. On both fragments, traces of a decorative stitch performed with a silk cord are visible.

To one of the discovered fragments of this fabric, yet another silk textile was sewn, preserved as a tiny scrap. Only its plain-weave selvedge, 3 mm wide, has survived until present day. Within this small width, c. 18 warp threads (rather thick and untwisted) and c. 15 weft threads, also untwisted, can be observed. The described textiles have also been found in the layers dated to the 13<sup>th</sup>-14<sup>th</sup> c.

The next silk artefact from Nysa (inv. no. MNa/A/732/9, found at Biskupa Jarosława St., segm. 0-6) is a brown plain weave fabric, preserved in two fragments sewn together with a silk thread (Fig. 5). Unfortunately, in this case, only one

selvedge has been preserved, so that establishing the original width of the product remains impossible. The selvedge differs from the rest of the fabric, since its first warp thread is slightly thicker than the others. The warp threads of the selvedge are very densely arranged.

The warp employed in the described textile is Z-spun and its thread count is c. 37-38 threads per 1 cm. The weft is untwisted, thicker than the warp, and has 27 threads per 1 cm.

In the course of the artefact's length, being 4.5 cm, the fabric assumes a slightly openwork character, resulting from uneven intervals between the warp threads (Fig. 6). This change in the warp density brought a delicate effect of long, loose weave of the weft. The dimensions of the artefact are 22×12 cm, and similarly as with the previous textiles, it is dated to the 13<sup>th</sup>-14<sup>th</sup> c.

The last one of the silk textiles discovered in Nysa (inv. no. MNa/A/202) belongs to artefacts, whose chronology can be estimated as the Late Middle Ages or the Early Post-Medieval times. The plain weave fabric, presently dark brown, has been preserved in two fragments. The larger one (18×23 cm) consists of two pieces sewn together with a thick silk S-spun thread plied of 2 thinner untwisted threads (Fig. 7 and 8). The smaller fragment has dimensions of 18×5 cm.

Both the warp and the weft of the described artefact are untwisted. The very thin warp has thread count of 86 threads per 1 cm, and the thicker weft has 20-21 threads per 1 cm.

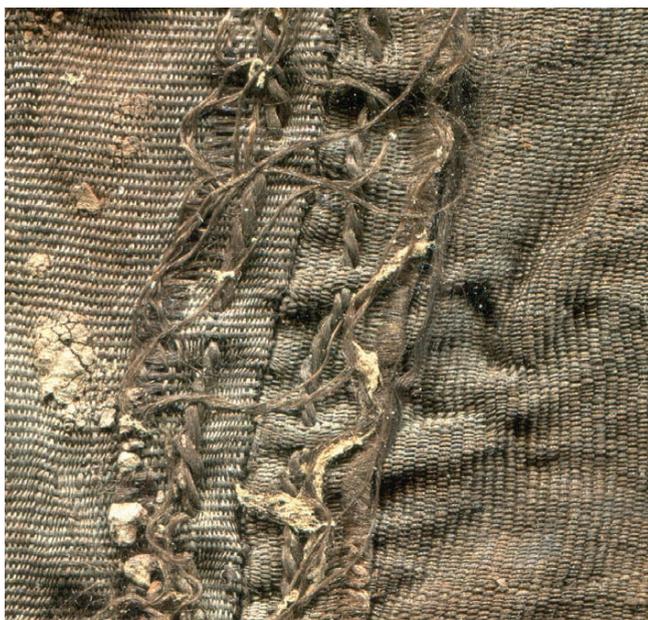


Fig. 8. Fabric no. MNa/A/202. Close – up. Photo A. Rybarczyk.

The collection of silk textiles discovered during the excavation works conducted in Nysa may be small, yet it is definitely interesting. The textile woven in the combination of gauze weave and satin weave seems unique, and the authors of the present study know of no analogous example. Apart from the uncanny weave structure, the fabric is distinguished for its greenish colour, untypical for archaeologically acquired textiles, which suggests that the artefact was dyed. The authors are intending to subject the fabric to further expert examinations in future, which would permit to determine what substances were used for dyeing.

The remaining part of the collection appears more typical. Plain weave prevails among the medieval silk textiles

acquired in the course of excavation works<sup>9</sup>, which can be simply explained by the fact that among the extensive range of luxury silk textiles, those produced in plain weave were the cheapest ones. However, the review of the plain weave silks from Nysa shows how great diversity can occur among textiles having the same weave structure and how significant for the final appearance of the textile are other technological parameters like the thread count or the thread twist.

The examples of narrow textiles whose entire original width has been preserved are particularly interesting. Similar artefacts are known from other places, just to mention the fabric from Kołobrzeg, 8 cm wide<sup>10</sup>, or the fabric from Elbląg, 14 cm wide<sup>11</sup>. The qualities of these artefacts – their translucency and dimensions (small width and – in case of the artefacts from Nysa – also confirmed considerable length) suggest that these are most likely remains of women's head-covers or head decoration.

The last question to be discussed is the origin of the described textiles. While the fact that these are imported goods remains unquestionable, the exact location of the workshops which produced the fabrics appears, at least for now, impossible to determine. Only in the case of the first one of the described textiles assumptions can be made concerning the place of production. The origin of gauze weave, for lexical reasons, is usually linked to the territory of Palestine, yet this attribution has been questioned<sup>12</sup>. In the 9<sup>th</sup>-12<sup>th</sup> c., workshops producing gauze were active in Spain, and just before the Early Post-Medieval period, gauze weave fabrics were also crafted in Italy, especially in Venice<sup>13</sup>. When it comes to plain weave textiles, their production was greatly widespread and cannot be linked to any exact silk textile production centre functioning in the Middle Ages.

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<sup>9</sup> Maik 1997, 174.

<sup>10</sup> Maik 1996, 304, 313, fig. X:23.

<sup>11</sup> Rybarczyk 2016, 38.

<sup>12</sup> Emery 1980, 191.

<sup>13</sup> Michałowska 2006, 100.

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## Streszczenie

### Tkaniny jedwabne ze średniowiecznej Nysy

Z terenu średniowiecznej Nysy pochodzi zbiór 258 fragmentów tekstylnych. W zespole tym przeważają zabytki wełniane. Jednakże wśród odkrytych materiałów znajduje się także grupa 9 wyrobów jedwabnych. Produktem, który wyróżnia się jest tkanina wykonana w kombinacji splotów gazejskiego i atlasowego. Pozostałą część zbioru wykonano w splotcie płóciennym, który jest dominujący wśród średniowiecznych tkanin jedwabnych pochodzących z wykopalisk. Fakt ten można tłumaczyć tym, że spośród szerokiego asortymentu luksusowych tkanin jedwabnych, te wykonywane w takim właśnie splotcie były najtańsze.