

*In honorem Csanád Bálint*

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# ACTA ARCHAEOLOGICA

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# TEXTILE REMNANTS IN THE ARCHAEOLOGICAL HERITAGE OF THE CARPATHIAN BASIN FROM THE 10<sup>th</sup>–11<sup>th</sup> CENTURIES

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## INTRODUCTION

It is a well-known fact that organic remains represent only minute percentage of the archaeological finds from the 10<sup>th</sup>–11<sup>th</sup> centuries due to the climatic and soil conditions of the Carpathian Basin.<sup>1</sup> Most of the surviving objects are of small size and of poor condition. However, in order to shed light on the material culture of previous centuries, it may be of importance to re-examine this evidence.

In our present study we are going to give an overview of one group of finds, the textile remnants excavated in the graves of the Hungarian Conquest Period. In addition to presenting the most recent finds, we intend to give a brief summary of the old ones – either published or unpublished<sup>2</sup> – that can still be found in the storerooms of museums, adding a detailed description and determination of raw materials.<sup>3</sup> In this way we hope to lay down a material basis to compare our finds with the data of written sources (which are sometimes surprisingly detailed), as well as with similar finds from the wider (Eastern-)European regions, and in the case of imported objects, which are mainly made of silk, with the regions of their possible origin.

Mostly due to the poor preservation of the material, archaeologists in Hungary have generally failed to take into consideration the technical features of the textile remnants when identifying contemporary garments and textiles. In scholarly publications, hypotheses about the pattern designs of over- and undergarments were based on the position of the mounts decorating the clothings.<sup>4</sup> When trying to reconstruct these objects, archaeologists have mostly relied on written sources and on ethnographic observations. Csanád Bálint was the first archaeologist to adopt an up-to-date examination method of textile remnants originating from the 10<sup>th</sup> century. He was also the first to draw attention to the importance of the disintegrated, small fragments of clothing buried with the dead, as well as to their position in relation to metal objects found with them. His considerations regarding Grave 12 at Szabadkígyós-Pálliget are instructive even today: “Was it due to the family’s financial background or to the momentary state of the economy (perhaps commerce) that they were not able to saw mounts of the same type and quality on the expensive clothings?”<sup>5</sup> Archaeological research was greatly influenced by these consid-

<sup>1</sup> DUMA 1971, 127.

<sup>2</sup> We are grateful to all our archaeologist colleagues, who selflessly contributed to the examination of their finds, published or not.

<sup>3</sup> As a result of the technical examinations the data on numerous finds described earlier have been corrected.

<sup>4</sup> NEPPER 1993; KÜRTI 1996; etc. B. Kürti, an outstanding expert of women’s clothings in archaeology examining the age of the Conquest, came to the conclusion not long ago that the pattern design of a dress

cannot be reconstructed simply on the basis of the arrangement of metal mounts.

<sup>5</sup> BÁLINT 1971a, 73. Bálint’s analysis of silk raised a serious problem to the archaeological research of the Hungarian Conquest Period. This is the main reason for the statement that the wealth and the financial and commercial background of the families of the buried can only be proved with qualifications, simply based on the finds from the 10<sup>th</sup> century.

erations.<sup>6</sup> The idea that the state of wealth of those buried in the 10<sup>th</sup> century as well as their families' economic and commercial relations can only partially be determined, is somewhat attributable to these observations. The written sources, among other things, definitely indicate the important role played by valuable textiles in diplomacy and in commercial relations of the age, both in East and West, and the impact they had on the Hungarians of the 10<sup>th</sup> century. We assume, that the examination and a more detailed evaluation of the small number of textile finds from those days may offer further important data for our understanding of the 10<sup>th</sup> century material culture of the Carpathian Basin.

In the first part of our study we present a brief survey on contemporary or nearly contemporary written sources. In the following section we describe the accumulation and the research history of the relevant material in Hungary, which is followed by a technical analysis of existing textile fragments. On the basis of the results – completed with the description of the textiles found in the graves of the 10<sup>th</sup> century – we try to identify and compare the textiles examined by us with contemporary material outside the Carpathian Basin, and with the information at our disposal on the manufacturing centres.

#### I. DATA OF WRITTEN SOURCES

Several sources from the Early Middle Ages provide written data on the clothings of the Hungarians and the textiles used by them. Out of these sources the oldest ones come from the so-called Ğaihānī-traditōn. Ibn Rusta put down the text which says:

“*Kommen die Ungarn mit den Gefangenen nach K.r.h, so treffen sich die Rūm (Byzantiner) dort mit ihnen und halten Markt. Jene überlassen ihnen die Sklaven und erhalten dafür rūmischen<sup>7</sup> (byzantinischen) Brokat, Teppiche und andere Waren der Rūm (Byzantiner).*”

In Gardīzī's work, which is based on the same source, we can read the following:

“Their clothes are of brocade (dībā) and their weapons are [made] of silver and are goldplated.”<sup>8</sup>

It is also Gardīzī who tells us about the marriage customs of the Hungarians:

“And when they mount (up) to take the bride-price (be *kābīn bordan, pro, boridan/borridan*) (i. e. in a procession), the girl's father takes the groom's father to his house and whatever he has by way of sable (or marten) (*samūr*), ermine (*qāqom*), grey squirrel (*senjāb*), weasel, and underbellies of fox... [all of these] he brings together [and stitches] with needles and brocade (*bā ebrehā wa dībā*) to the amount of ten fur-coats (*pūstīn*).”<sup>9</sup>

As the written sources indicate, textiles from Byzantium and of other workshop traditions had already been known by the Hungarians before the 10<sup>th</sup> century. As stressed by Arabists as well, these products were commercial goods often mentioned in Islamic geographical literature.<sup>10</sup> Later, after having moved into the Carpathian Basin, the Hungarians often led plundering raids all over Europe. Referring sources note that part of the ransom and the booty of the Hungarians were valuable textiles. Mas'ūdī gave the following report about the Hungarian army camping at the walls of Byzantium, during their joint military campaign with the Pechenegs against Byzantine territories in 934:

“*Après avoir tué ou fait prisonniers [tous ceux qu'ils rencontrèrent] sur leur route dans les campagnes, les prairies et les villages dans lesquels ils avaient pénétré, ils arrivèrent sous les murs de cette ville, où ils campèrent environ 40 jours, échangeant les femmes et les enfants tombés en leur pouvoir contre des étoffes ou des vêtements de brocat et de soie.*”<sup>11</sup>

The most detailed description, however, was passed down by Leo Marsicanus, a monk in Monte Cassino, later the bishop of Ostia, in his *Chronica monasterii Casiensis*. During the Hungarian campaign to Italy in 937, the Hungarians exchanged their prisoners for ransom while camping near Capua. The text reads as follows: “*Quo*

<sup>6</sup> Completing this recently: RÉVÉSZ 1999, 69; KUSTÁR–LANGÓ 2003, 27–28.

<sup>7</sup> GÖCKENJAN–ZIMONYI 2001, 34–35, 74; ZIMONYI 2006, 240.

<sup>8</sup> MARTINEZ 1982, 162. Cf. GÖCKENJAN–ZIMONYI 2001, 177.

<sup>9</sup> MARTINEZ 1982, 162. Cf. GÖCKENJAN–ZIMONYI 2001, 177–178.

<sup>10</sup> For a detailed analysis, see NAZMI 1998, 30, 209, 251; ZIMONYI 2006, 242–243; POLGÁR 2007, 144–148. (The authors wish to thank to Sz. Polgár for his kind permission to make use of his PhD dissertation.)

<sup>11</sup> DE MEYNARD–DE COURTEILLE 1962<sup>2</sup>, 179. § 497.

*videlicet tempore cum multos de nostris hominibus captivassent, non pauca in eis redimendis expendimus, quorum haec summa est. Coronam de argento magnam cum catenis argenteis. Turibulum argenteum deauratum. Pocula argentea 4. Coclearia de argento tria pondo libre unius. Tarentos 20. Planetam diarodinam de bizanteis 15; aliam cum listis argenteis de bizanteis 16, et aliam cum leonibus. Urnas de pallio 4, longitudinem passuum 4, latitudinem palmorum trium. Pannum de altari diarodinum de bizanteis 16. Tapeta optima 16 pro bizanteis 67. Pannum admasurum pro bizanteis 8. Hostiales 3 pro bizanteis 13. Castanêas duas pro bizanteis 8. Pulvinaria serica tria pro bizanteis 10.*"<sup>12</sup>

This description clearly illustrates the proportion of textiles within the booty. The question is, however, to what extent does the data provided by the written sources reflect the grave goods that are dated to this period. Is it possible to find a close connection between the type of textiles placed in Conquest Period graves and the person's social status based on the other grave goods? Can the remnanting textile finds add to our knowledge with any data on the history of clothing or even chronology? Are the written sources and archaeological remnants of the region able to contribute in some way to the study of these finds? What kind of information can be gained about the usage of the textiles by the Hungarians and what role did they play in the connections between the wider region?

## II. HISTORY OF RESEARCH

According to the available publications, the first grave that definitely included textile finds was excavated in 1850 in the fields near Nagyrozvány, in Bodrogeköz: "Due to the wind the whole body of the knight got uncovered and was found with his horse, saddle, stirrup, and sword; the saddle was decorated with black marcelin silk and silver mounts in the shape of three-petalled flowers."<sup>13</sup> The finds soon perished, unfortunately, like contemporary pieces and due to the prevailing antiquarian thought, archaeologists failed to recognise textile remnants in the 19<sup>th</sup> century.<sup>14</sup>

The first textile remnant from the Carpathian Basin, which entered a museum collection and is still preserved, can be found on the cylindrical-shaped chape of a sabre found at Szolyva (Cat. 2.37.). In his article, T. Lehóczky gave a precise description of it.<sup>15</sup> Luckily, the remnants that corrodated to the chape in several layers have endured,<sup>16</sup> surviving its restauration in 1896 to the present day.<sup>17</sup>

Later on, textile remnants were also found among the remnants of the grave finds at Nagyteremia (Cat. 3.33–3.34.), in the former Torontál County. The finds of the looted grave(s) found in the field of the local doctor, Kr. Stock, were taken to the Society of Natural Sciences and were transferred to Hungarian National Museum<sup>18</sup> where they were inventorized.<sup>19</sup> According to Hunyár, there were canvas and textile remnants that were found. F. Pulszky, the first publisher of the description of the finds, mentioned the remnants in the museum, which, he believes, are "linen cloth remnants, one is finer, the other is coarser."<sup>20</sup> J. Hampel also described the two remnants: The larger one was approximately 12 cm long and 6 cm wide, while the smaller one was about 2,5 cm in length.<sup>21</sup> According to him the larger one was a "linen cloth" while the smaller a "tiny piece of lenian cloth decorated with pattern."<sup>22</sup>

<sup>12</sup> GOMBOS 1938, 1449. No. 3423.

<sup>13</sup> Quoted by RÉVÉSZ 1999, 9. The authors wish to thank to L. Révész for this reference.

<sup>14</sup> András Jóska, who graduated in natural sciences, was an exception, because he stressed the importance of biological and chemical (today we would say archaeometrical) examination at that time. Cf. VÉCSEY 1868, 52.

<sup>15</sup> "The two intact ends of the 2"-wide wooden sheath, which were covered with tabby and right over it there was a piece of leather, which was decorated with white dots in the shape of letter "O" on black background." LEHÓCZKY 1870, 204.

<sup>16</sup> MNM Honfoglaláskori Gyűjtemény [Conquest Period Collection of the Hungarian National Museum] 148/1870.10.

<sup>17</sup> FETICH 1937, 227.

<sup>18</sup> MNM Irrattár [Archives of the Hungarian National Museum] 100/1877.

<sup>19</sup> MNM Leltárkönyv [Inventory Book of the Hungarian National Museum] 1877. 29.

<sup>20</sup> PULSZKY 1891, 12; PULSZKY 1897, 126.

<sup>21</sup> HAMPÉL 1900, 669, Pl. LXXVI. 1–2.

<sup>22</sup> However, the finds did not survive. The inventory in 1958 found them missing.

Similar to the case of Nagyteremia, the textile remnants found in Grave 4 at Tarcal (Cat. 3.32.) did not survive either.<sup>23</sup> In the grave there were five undecorated ‘textile fragments’ with another three adhering to silver mounts in the form of the three-petalled flowers<sup>24</sup> all of which were brought to the museum.<sup>25</sup> The largest fragment has been preserved with three mounts, and this one might have measured approx. 5 cm in length and 2 cm in width.<sup>26</sup>

In Grave 16 at Tiszabezdéd a “multi-layered, thick lenian cloth” was found.<sup>27</sup> In the publication there are some organic remnants indicated under the mounts.<sup>28</sup> As these pieces also perished since then,<sup>29</sup> there is no way to prove if the mounts were found together with the “cloth” mentioned, or if they belonged to some “organic material of animal origin”<sup>30</sup> as indicated on the grave drawing.

Indeed, there was no demand for an intensive scientific examination of the existing textile remnants at that time, but already Hampel considered it to be verifiable that “noble ladies were buried fully adorned,”<sup>31</sup> although “the presence of silk remnants could not be established with certainty.”<sup>32</sup> At that time, due to the personal contacts of the Hungarian scholars, leading researchers of the period respected first of all the results published in German-speaking countries. Because of the general interest in orientalism, the examination of large-sized textiles from the Middle Ages was preferred not only in German-speaking countries but also in the Anglo-Saxon and Francophone world. These surveys were studied by the contemporary Hungarian experts, too,<sup>33</sup> but they attributed the clothing of the Ancient Hungarians as belonging to the heritage of the steppes, and their main aim was to research and reconstruct them.<sup>34</sup> Identifying the patterns of the textiles, the experts took into consideration the textiles preserved in the great Western European and American collections, but the reconstruction of the attire at the time of the Conquest, due to the Semperian thought,<sup>35</sup> was mostly carried out by considering the decorations found on the metal objects.<sup>36</sup> A development of the reconstruction was supported by the historical constructions of the age, the millennial celebrations with a romantic-positivist approach as well as scientific initiatives like the research by the count Jenő Zichy in Russia.<sup>37</sup> As a consequence of the orientalist approach it was the oriental parallels and the folkloristic examples which were regarded as ancient and emphasized. This orientalist approach determined for a long time the attitude of the research in respect to the attire too.<sup>38</sup> Perhaps owing to the contemporary excavation methods, no new groups of finds containing textiles, which could have helped a more detailed examination turned up.<sup>39</sup> However, the quantity of inorganic, primarily metal and bone, finds increased significantly thanks to the great number of graves excavated.<sup>40</sup>

New finds, which have survived in favourable circumstances, turned up in Józsa’s and Fettich’s excavations of the graves at Kenézlő (Cat. 2.22–2.24; 3.9–11.). Although scientific examination of the wooden remnants

<sup>23</sup> We failed to find out when the textiles had been removed from the finds.

<sup>24</sup> The exact number of the mounts is not known. According to J. Hampel there were 15 mounts in the grave (HAMPEL 1900, 716–718), while N. Fettich states wrongly that Hampel found only 12 of them. In his monograph Fettich wrote about only 9 objects and fragments of objects (FETTICH 1937, 223), today we consider these 9 objects to be part of the grave.

A further difficulty was how to interpret the three mounts, namely, András Józsa was unable to identify the exact place where they were found in the grave (JÓZSA 1895, 75). Later D. Csallány assumed, they might have decorated the shoe-wear (CSALLÁNY 1971, 285). Following a critical review of Csallány’s registry of finds, L. Révész considered these objects to be parts of the bow case (gorythos) because no mounted boots are known to be found in an authentic grave of a man (RÉVÉSZ 1992, 360; RÉVÉSZ 1996, 99). In this case, however, we would be forced to suppose that there was a textile decoration on the bow case or the mounts were not parts of the bow case. Cf. RÉVÉSZ 1992, 365.

<sup>25</sup> HAMPEL 1900, 717.

<sup>26</sup> HAMPEL 1900, 717. Pl. XCVI. 10.

<sup>27</sup> JÓZSA 1896, 408.

<sup>28</sup> JÓZSA 1896, 409.

<sup>29</sup> ISTVÁNOVITS 2003, 214; RÉVÉSZ 2003, 157.

<sup>30</sup> PROHÁSZKA–RÉVÉSZ 2004, 163, 166–167.

<sup>31</sup> HAMPEL 1900, 746.

<sup>32</sup> HAMPEL 1908, 109.

<sup>33</sup> HAMPEL 1907, 8; HAMPEL 1911, 56; SUPKA 1908.

<sup>34</sup> For a survey of research history, see KÜRTI 1996.

<sup>35</sup> LANGÓ 2005, 270–273.

<sup>36</sup> HAMPEL 1900, 812–825.

<sup>37</sup> JANKÓ 1897; PÓSTA 1897; HAMPEL 1898, 365; PÓSTA 1905; NAGY 1906; HAMPEL 1907, 45, 48; SUPKA 1908, 279.

<sup>38</sup> NAGY 1893; NAGY 1901; KRESZ 1978; ERDÉLYI 1978; LÁSZLÓ 1988, 78–80.

<sup>39</sup> The former excavations preferred concentrating on metal objects and the remnants of organic origin belonged to their scope to a lesser extent. All this was exemplified by Cs. Bálint’s confirming excavation where, in a grave already excavated by G. Csallány, he managed to find a textile remnant (BÁLINT 1991, 108). About the excavations in practice: LANGÓ 2007, 90–92.

<sup>40</sup> HAMPEL 1907, 44–45. About the rate of accumulation: BONA 1997, 350–351; LANGÓ 2005, 190–191.

from Kenézlő was carried out,<sup>41</sup> the textile fragments were neglected. On the other hand, data on the textile remnants found in the cemetery at Kiszombor-B, Grave 127 (Cat. 2.27.) at the same time were reported to the experts only half a century afterwards.<sup>42</sup>

Gy. László also failed to give a detailed description of the textiles found in the graves in his large monography of 1944 on the conquering Hungarians. He relied upon ethnographic and oriental analogies when he described the attire of the time. He thought that garments of the Hungarians in the 10th century were produced by domestic handicraft, which he attempted to prove with later written sources from the Árpadian Period.<sup>43</sup> The existence of domestic handicraft in the Árpadian period was supported by the report of István Méri on the settlement excavated at Tiszalök-Rázom where spindle-whorls were found in great number.<sup>44</sup>

The research of textiles from 10<sup>th</sup> century graves further developed due to Cs. Bálint's excavation at Szabadkígyós (Cat. 1.18–1.19.; 2.31–2.34.) in 1968 and the silk finds recovered there.<sup>45</sup> He managed to carry out an interdisciplinary research project<sup>46</sup> in connection with the cemeteries of Szabadkígyós, which was unprecedented regarding the excavations of this period in Hungary. The textile fragments were examined by M. Knotik, a textile-conservator in Szeged,<sup>47</sup> who identified hemp and silk remnants in the graves of the cemetery. Through his previous scholarship in France, Cs. Bálint was well aware of the results of the *Centre International des Études des Textils Anciens* in Lyon<sup>48</sup> by this time. In this way, not only did he realize the existence and importance of these finds but that of the cultural background that can be studied is based on them, too.<sup>49</sup> Based on his work, the finds could be broken up into two well distinguished groups: relatively simple garments that could be made at home and textiles that had been produced at different location.<sup>50</sup> At the same time, the textile remnants recalling the Byzantine workshop-traditions proved a multi-layered relationship between the two regions.<sup>51</sup> The results of this study also called attention to the well-known but generally neglected fact that without having any idea about grave goods perished after the burial it is almost impossible to form an objective idea about the “wealth” of the buried.<sup>52</sup> Parallel with the new finds, the experts attributed more importance to the understanding of the background of this group of objects, partly due to I. Ecsedy's results, which highlighted the Chinese-Turk connections.<sup>53</sup>

The finds at Szabadkígyós were followed by excavations, where some new textile remnants came to light, such as Graves 1 and 2 at Jánosszállás (Cat. 1.7–1.8.), Grave 5 at Eperjes-Takács-tábla<sup>54</sup> (Cat. 1.1.), and Kiskunfélegyháza-Radnóti M. utca<sup>55</sup> (Cat. 2.25–2.26.). The outstanding textile remnants from the cemetery at Algyő (Cat. 2.2–2.7.) and Grave 6 at Madaras-Árvai-dűlő (Cat. 1.12–16.; 2.28.) increased the number of carefully studied and published finds.<sup>56</sup> Fortunately, from as early as the 1960's an ever increasing number of textile finds arrived in the hands of experts for preservation, restauration and storage. From the whole country, more than 100 textile finds (on 95 registry numbers) from different ages have got into the collection supervised by M. Knotik, artist-craftsman and textile conservator in the Móra Ferenc Museum (Szeged). In her latest study, published in 2003, M. Knotik published the finds at Rétköz (Nyírség) dating from the 10<sup>th</sup>–11<sup>th</sup> centuries.<sup>57</sup> Among

<sup>41</sup> JÓSA 1914, 322; FETICH 1931, 84, 88.

<sup>42</sup> BÁLINT 1991, 143, 234–236.

<sup>43</sup> LÁSZLÓ 1944, 290–292.

<sup>44</sup> MÉRI 1952, 61, 65.

<sup>45</sup> BÁLINT 1971a.

<sup>46</sup> LOTTERHOF 1971; GULYÁS 1971; DUMA 1971.

<sup>47</sup> KNOTIK 1971.

<sup>48</sup> BÁLINT 1971a, 83; BÁLINT 1971b; cf. DE MICHEAUX 1963; VIAL 1964.

<sup>49</sup> BÁLINT 1991, 108–109.

<sup>50</sup> BÁLINT 1971b. By collecting the spindle-whorls in the graves of 10<sup>th</sup>–11<sup>th</sup> centuries, in his work, Cs. Bálint involved a new argument to verify the existence of domestic handicraft textile manufacturing, mentioned earlier.

<sup>51</sup> BÁLINT 1991, 108–109; cf. DIENES 1978, 114–115; BÁLINT 1978, 266.

<sup>52</sup> BÁLINT 1971a, 79. cf. KRISTÓ 1978, 128. Recently about the same, critically: MAROSI 1997, 162.

<sup>53</sup> ECSÉDY 1968; ECSÉDY 1971; ECSÉDY 1979; BÁLINT 1976, 149; BÁLINT 1983, 350; BÁLINT 1989, 28–29, 224, 256–257; BÁLINT 1990; RÉVÉSZ 1999, 69, 156; BÓNA 2000, 12.

<sup>54</sup> BÁLINT 1991, 21–28, 52–72.

<sup>55</sup> TÓTH 1974, 118–122.

<sup>56</sup> KÜRTI 1979, 333; KÓHEGYI 1980; KÓHEGYI–T. KNOTIK 1982.

<sup>57</sup> T. KNOTIK 2003. M. Knotik has begun the series of analyses of archaeological textile remnants in 1961 at the Museum of Applied Arts (Budapest) with an Avar find at the request of E. H. Tóth.

the analyses in the 1990s, it is J. Bakay's (HNM) work on textiles from the Period of Conquest, which is worth mentioning.<sup>58</sup> She examined the silk remnants of the exceedingly rich cemeteries at Karos (Cat. 1.9–11.; 2.18–21.). In addition to some short articles,<sup>59</sup> the most important results were achieved by publishing the results of examinations carried out on the textile remnants found in the grave at Gnadendorf, Lower-Austria<sup>60</sup> (Cat. 1.2.; 2.9–2.10.).

The importance of an accurate excavation and examination of textile remnants can be noticed in the archaeological research in whole Central-Eastern Europe. A good example was the international exhibition "*Europas Mitte um 1000*" where in addition to handicrafts like pottery and smithing, the objects of the textile manufactory, in spite of their little number, were on display separately, too.<sup>61</sup>

### III. EXAMINATION OF MANUFACTURING TECHNIQUES USED IN TEXTILE REMNANTS OF THE 10<sup>TH</sup>–11<sup>TH</sup> CENTURIES

Data on about 90 textile remnants have been gathered from the archaeological heritage of the Carpathian Basin in the 10<sup>th</sup>–11<sup>th</sup> centuries and from the literature on the subject. Examined fragments of about 60 of these remnants have survived.<sup>62</sup> From the distribution of the finds (*Fig. 6*), it emerges that Transdanubia – poorer in metal grave furniture – also falls behind the Upper Tisza region, county Hajdú-Bihar or even the southern part of the Great Plain in this respect as well. No far-reaching conclusions can be drawn from that, of course, but it is important to underline the special circumstance that textile remnants have normally survived attached to metal objects, usually being conserved beneath them.<sup>63</sup>

Some of the archaeological remnants examined<sup>64</sup> are actual pieces of examinable textile and some are imprints of such pieces. In several other cases, pieces of real material found are of a size or in a condition that precludes technical examination, and so these are discussed along with the imprints. The same table includes cases where published data on the textile remnants found are not detailed enough. The finds that could not be included in the detailed examination number 30 (*Fig. 22–30*).

Some of the technically examinable fragments consist of thread and some of fabric. Most of the thread fragments consist of flax fibres, but there are some of silk as well.<sup>65</sup> Traces of sewing with thread were observed on one fragment of linen found in one of the Algyő graves (Cat. 2.3.). However, most of the thread fragments were found to be securing the precious-metal fittings. This was particularly common the fittings adorning the necks of garments assumed to be shirts, where the thread held hooks drawn through slits in the fabric, usually in series, so that one thread held several hooks.

The materials and weaving techniques of the fabric fragments can be divided into two groups: those woven of silk and those woven of linen.<sup>66</sup>

#### III. 1. Silk remnants

Twenty fragments of silk fabric have been confirmed in the 10<sup>th</sup>–11<sup>th</sup>-century finds in the Carpathian Basin, from altogether 14 graves (Cat. 1.), of which the vast majority can be found East of the Danube. Sometimes several fragments were found in the same grave, e. g. in Grave 6 at Madaras (Cat. 1.12–1.16.) and Grave 12 at Szabadkígyós-Pálliget (Cat. 1.18–19). The silk fragments make up 35 per cent of all the textile remnants. Apart

<sup>58</sup> Her work was completed just after Révész's monography was published, so her results could not be included in the volume. We wish to thank to L. Révész for the possibility of publishing J. Bakay's results. Cf. RÉVÉSZ 1999, 56.

<sup>59</sup> HORVÁTH 1996, 125–127.

<sup>60</sup> MÜLLAUER 2006.

<sup>61</sup> TOMKOVÁ *et al.* 2000, 84–87.

<sup>62</sup> In several cases finds examined earlier have disintegrated, in which cases the earlier data have been used.

<sup>63</sup> In the authors' view, the relative frequency of the textile finds in the Southern Great Plain reflects a state of research there: several

came from the excavations of Cs. Bálint, a practiced excavator of textiles, and were in proximity to the Móra Ferenc Museum in Szeged, where M. Knotik could take over the finds and submit them to expert conservation.

<sup>64</sup> Most of the samples in the authors' database come from textile collection attended by M. Knotik.

<sup>65</sup> E. g. from Jánosszállás-Katonapart, Grave 1.

<sup>66</sup> The literature also includes data on cotton (BÁLINT 1976, 150) and wool (BUDINSKÝ-KRIČKA 1973, 41–44) finds. Cotton can be ruled out almost certainly. We had no chance to re-examine the data on the wool found in a grave in Zemplén.

from the examinable silk remnants, there are seven data on impressions of silk. Grave 6 at Madaras is an exceptional burial, from which a quarter of all the silk fragments have been found.

All the pieces examined belong technically to the samite group of textiles.<sup>67</sup> The remnants have one binding warp and two main warps with two wefts. The binding warp and one weft are bound in weft twill rib on the face of the textile (*Fig. 1–3*). The remnants are sparse, only 8–15 mm in size, and the very fragile state of the silk threads precluded determination of the proportion of weft. So more precise classification of the samite textiles could not be made. Nor could the colour or pattern of the fabric be discerned, as the pigments have deteriorated, turning the fabric to a brown colour. However, we take the view that the two wefts used for weaving makes it likely that the two wefts were of different colours. The analytical deficiencies do not affect the definition of the technical origins of the textile remnants.

Samite is the only type of fabric to retain its medieval name. This weaving style was known as *samitum*<sup>68</sup> in the Middle Ages. The name derives from the Greek *examitos* and the Latin *examitum*. The samite group of fabrics are categorized on the grounds of a single technical attribute: all the fabrics listed under it are 1/2 S filling twills, woven with two warps (a main warp and a binding warp) and two or more wefts (back and upper).<sup>69</sup> It is characteristic for the main warp to be seen on the front, due to movement of the main warp during weaving, and the others on the back of the cloth. The main warp and the binding warp are not seen in samite. The upper warp together with the binding warp binds in twill:

1. When it binds in tabby, it is known as a weft-faced compound twill.

In this case, the binding warp and one of the wefts bind in tabby when the ground is woven. When the pattern is formed, the binding warp and the weft bind in the twill (*Fig. 1*).

2. When it binds in twill, it is called samite.

The following two groups within the main groups are distinguished in technical terms:

2.1 The first group covers the samites, whose wefts are changed singly, so that one upper weft is followed by one back weft (*Fig. 2*).

2.2 The other group consists of the samites where the weaver has exploited the fact that the lower and upper wefts form a unit that can be alternated within the unit. So the draw boy needs to draw only half as many draw lines (*Fig. 3*).

The samite fabrics were woven on damask or draw looms. On the draft loom, the weaver was able to move the warps quite freely, so that the same combination of shafts lifted at the same time and performed the repetition of the pattern. There would be another person, usually a child, working on such a loom besides the weaver, to handle the pull cords or the draw twine handling the shafts. The draw boy was responsible for configuring the rapports while the weaver made the twill.

Weaving the wide textiles made in the imperial manufactories called for at least two weavers and two draw boys, to handled the width.<sup>70</sup> Drawlooms<sup>71</sup> began to spread at the latest in the 4th century, allowing samite to be made in large quantities in Byzantium and along the Mediterranean shores.<sup>72</sup> The silks with small patterns, woven alongside the beautiful, representative fabrics with large patterns, were mainly for clothing. These would have a strictly geometrical pattern. The whole area of the textile was latticed, with a regular, stylized plant or geometrical motif being repeated in each field. Researchers see in both types of ornament not only a tendency to follow the traditions of Late Antiquity, but important influences of the Sassanids and afterwards of the Islam. The pieces of small-patterned silk, considered to be the earliest ones have motifs which are strongly related to the those of so-called Coptic fabrics.<sup>73</sup>

<sup>67</sup> It is important to note that the pattern drawings in earlier publications show the incomplete textile structure of worn threads.

<sup>68</sup> The name covers a technically and regionally broad group of textiles, made between the 5<sup>th</sup> and 14<sup>th</sup> centuries AD in Persia, Syria, Egypt, Byzantium, and the Moorish regions of Spain. They are usually linen made of silk, but there are examples made of cotton or flax, with or without patterns. Most medieval silks in Europe survive in church treasuries.

<sup>69</sup> *Vocabular* 1971.

<sup>70</sup> ENDREI 1999, 168.

<sup>71</sup> KING 1981, 98–99. For the problems concerning the origins of Byzantine drawlooms, see MUTHESIUS 1997, 19–26.

<sup>72</sup> The first Byzantine silks made in these workshops were woven from imported raw materials.

<sup>73</sup> GRÖNWOLDT 1964, 19.

It is generally thought that the oldest centres in Byzantium for making this type of fabric were to be found in Syria<sup>74</sup> and Alexandria. These territories were lost to the empire after the Arab conquest and the focus of the textile industry moved to Anatolia and what is now Greece. The best-known researchers in the field – D. G. Shepherd, A. Jerusalemkaja, K. Riboud, A. Muthesius and G. Vial – have tried to connect origin of the samites to the place of manufacturing by looking at historical, art historical and technical aspects. Despite the fact that we know a great number of textiles of this type (analyses of 150 samites can be found at the Lyon Centre of CIETA), the questions of their age and the main manufacturing centres are discussed even today.<sup>75</sup>

### III. 2. Linen

The second category contains the linen-weave fragments of varying standards (Cat. 2.), whose raw material was flax in every case. Flax (*Linum usitatissimum*) is one of the earliest plants to be cultivated and comes from Egypt according to some authorities and the Caucasus according to others. The spread of the cultivation of flax and hemp in the Carpathian Basin was explored by L. Szolnoký.<sup>76</sup> Areas to the north of Hungary generally grew flax for fibre and those to the south flax for linseed oil.<sup>77</sup> The total of 40 fragments of linen fabric gathered so far into the archaeological heritage of the 10<sup>th</sup>–11<sup>th</sup> centuries constitute about 65 per cent of all the textile remnants. Apart from the fragments of linen fabric, there are four other data about impressions of such fabrics.

The material examined so far includes coarser linen with a weave of 8–14/cm and finer linen with a 16–30/cm weave. The coarser linen was presumably home-made out of domestic raw materials and the finer imported. There are also several written references from the Early Middle Ages to coarser and finer weaves of linen fabric.<sup>78</sup> The Book of the Eparch also states that linens of good quality were made in neighbouring southern areas, which emphasizes the importance of the linen exported from Bulgaria to Byzantium.<sup>79</sup> So it is not impossible that some of the high-quality linen appearing in the archaeological materials of the Hungarians in the Carpathian Basin may have been imported from the Balkans.

## IV. THE COMPARISON OF TEXTILES ON TECHNICAL GROUNDS

First, it is worth to compare the results of the technical studies of the 10<sup>th</sup>–11<sup>th</sup>-century textile finds of the Carpathian Basin with similar data on the finds from Eastern and Southeastern Europe.<sup>80</sup> Such a comparison has been carried out only once till now: G. Vial found – mostly on the basis of photos – the silk fragment from Szabadkígyós similar to the Lion Silk from Sens among the silks examined at CIETA.<sup>81</sup> Research assigned the Lion Silk of Sens to Zandanījī type silks. It is the only Zandanījī exemplar among the West European ones that can be dated with great certainty to the middle of the 9<sup>th</sup> century.<sup>82</sup>

<sup>74</sup> MUTHESIUS 1995a, 270–274.

<sup>75</sup> For an exhaustive summary on Byzantine silks, see MUTHESIUS 1997. As A. Muthesius, one of the greatest experts of the Byzantine and Islamic silk weaving in the Early Middle Ages has written: “Clearly, the surviving silks demonstrate a near identical silk production in Islamic and in Byzantine silk weaving centres by the tenth century.” (MUTHESIUS 1995a, 308.) For the problems concerning the difficulties on distinguishing Byzantine and Islamic silks see JACOBY 2004.

<sup>76</sup> In his view, the Slavic people in the Carpathian Basin had known flax for a long time when the semi-nomadic Hungarians brought in their culture of hemp usage at the end of the 9<sup>th</sup> century. The quality of both raw materials, however, fell short of what was found in other parts of Europe at that time (SZOLNOKY 1972).

<sup>77</sup> Hemp was more widespread due to the climatic conditions in the Carpathian Basin (BÁTKY 1921; MÁNDY 1971).

<sup>78</sup> Cf. note 111.

<sup>79</sup> Book of the Eparch IX. 5.

<sup>80</sup> Most of the contemporary silk finds from Western and Northern Europe are imports from the Mediterranean. Among the North European Viking finds, those in Denmark came primarily from the Holy Roman Empire, while those in Sweden arrived there through the Old Rus. Cf. HÄGG 1984, 215; HÄGG 2002, 212; KROG 1999; MIKHAILOV 2008, 200.

<sup>81</sup> Although G. Vial has only written regarding the silk fragment of Mindszent, that “[...] ce tissu nous semble être de SAMIT, qui était certainement un des tissus façonnés les plus courants et les plus recherchés fabriqués à Byzance.” (BÁLINT 1971a, 117), when he got the possibility to choose the closest analogy of the pattern drawing of the Mindszent silk, he selected the Lion Silk of Sens. We wish to thank to Cs. Bálint for the later reference.

<sup>82</sup> SHEPHERD 1981, 117.

The well-preserved textile finds from the early medieval cemeteries of the North Caucasus – usually connected to the Adyg-Alanic tribes – among which Zandanījī type silks dominate beside Chinese and Byzantine silks, provide further opportunities for comparison. Most of the stone-cist graves of these 8<sup>th</sup>–9<sup>th</sup>-century cemeteries are located on the sandstone terraces of the Northwest Caucasian mountains<sup>83</sup> (e.g. Moščevaja Balka, Hasaut,<sup>84</sup> Nižnij Arhyz<sup>85</sup>). Among them, the cemetery of Moščevaja Balka deserves special attention, where 568 graves contained *not only* silk, linen, felt, etc. remnants, but complete attires and other elements of clothing as well.<sup>86</sup> The more than 700 silk finds<sup>87</sup> reached the Alans controlling the North Caucasian section of the Silk Road from China, East Turkmenistan, the Central Asian Muslim areas<sup>88</sup> and Byzantium.<sup>89</sup> The textile finds of the cemetery were first analyzed by A. A. Jerusalimskaja,<sup>90</sup> who has recently been followed by many others in studying the North Caucasian remnants.<sup>91</sup> Jerusalimskaja distinguished territorial groups of origin – using mostly the technique of manufacture and art historical observations on the design elements.<sup>92</sup>

Approximately 100 finds represent the silks<sup>93</sup> from China and East Turkmenistan<sup>94</sup> in the material of the cemetery of Moščevaja Balka, which are, however, rather uniform: most of them are monochrome,<sup>95</sup> thin damast or undecorated taquete.<sup>96</sup> The designs created during weaving are usually small geometric motifs; larger, e.g. Tang style, garlands are known as well, but these make up only a small portion of the material. More frequent decorated textiles include taquetes with stamped design, which are polychrome and are dominated by blue, yellow and pink.<sup>97</sup>

The largest part of these types is made up by Central Asian (eastern Muslim) silks, which were called previously Sogdian silk.<sup>98</sup> Ca. 150 remnants were recovered, which represented more than 40 design types. These also belong to the samit group of textiles, like Byzantine silks; they are, however, of lower quality. During weaving the threads – usually dyed with plant-based dyes – were woven into raports usually 12–16 cm in diameter, but rarely larger than 24 cm. There are significant irregularities in the vertical length of the raports, probably because the workshops did not utilize reeds during the weaving process. Based on the colour variations of the background

<sup>83</sup> Small quantities of textile remnants are also known from the eastern regions of the Northern Caucasus, e.g. from the Northern Ossetian burial site near Zmejskaja stanica from the late Alanian Period (11<sup>th</sup>–12<sup>th</sup> c.), viz. from the cemeteries of Verhnij Čir-Jurt (Dagestan, 7<sup>th</sup>–8<sup>th</sup> c.) JERUSALIMSKAĀ 2000, 59.

<sup>84</sup> JERUSALIMSKAĀ 1992, 6, 10–14.

<sup>85</sup> KAMINSKAĀ 1988; KUZNECOV 1993, 214.

<sup>86</sup> E.g. SAVČENKO 1966; SAVČENKO 1997; SAVČENKO 1999; DODE 2007.

<sup>87</sup> SAVČENKO 1997, 122.

<sup>88</sup> These are the so-called Zandanījī silks, which were called Sogdian silks in the earlier literature. Cf. note 98.

<sup>89</sup> KAMINSKAĀ 1988, 201–204.

<sup>90</sup> JERUSALIMSKAĀ 1976; JERUSALIMSKAĀ 1983; JERUSALIMSKAĀ 1992; JERUSALIMSKAĀ 2001; JERUSALIMSKAJA 1978; JERUSALIMSKAJA 1996.

<sup>91</sup> ORFINSKAĀ 2001; DODE, 1998; DODE 2007. For the technical details and the origin of these silks, cf. SHEPHERD 1981; KAJITANI 2001.

<sup>92</sup> JERUSALIMSKAĀ 1995A, 62–71; JERUSALIMSKAĀ 1995b, 127–128; JERUSALIMSKAĀ 2000, 47–55; JERUSALIMSKAJA 2000b, 57–69; JERUSALIMSKAJA 2003, 16–25.

<sup>93</sup> The silk threads of the exemplars of this group are usually twistless, and in the case of the pieces published by Jerusalimskaja, on average 45–55 warps and 36–54 wefts can be counted per cm<sup>2</sup>. JERUSALIMSKAĀ 1992, Nr. 89–114.

<sup>94</sup> The differentiation between the finds of these two areas is not yet possible. Cf. JERUSALIMSKAĀ 1992, 12.

<sup>95</sup> Among the rare colours green and pink dominate.

<sup>96</sup> JERUSALIMSKAĀ 1992, 12–13.

<sup>97</sup> It is also interesting that stamped designs appear on a few damast fragments as well, with rather simple motifs, which are,

however, alien to the Chinese repertoire of designs. This may suggest that the Chinese raw material was decorated subsequently, during its transportation on the Silk Road – perhaps in Central Asia. JERUSALIMSKAĀ 1992, 13.

<sup>98</sup> According to the present state of research, the identification of these silks as “Sogdian” seems to be inappropriate. The term “Sogdian silk” was created by D. Shepherd in the 1959 publication of W. B. Henning’s reading of the “Zandanījī inscription” on the reverse of the silk in the church of Huy, Belgium (HENING–SHEPHERD 1959) and spread subsequently in the Western and also in the Soviet/Russian literature. Shepherd identified two chronological phases: Zandanījī I (7<sup>th</sup>–8<sup>th</sup> c. [?]) and Zandanījī II–III (8<sup>th</sup>–9<sup>th</sup> c.) SHEPHERD 1981, 116–118. According to her, the silk from Huy definitely dates from the beginning of the 8<sup>th</sup> century, which was confirmed by a find from Hasaut. SHEPHERD 1981, 117. Consequently, this represents an earlier type than the 8<sup>th</sup>–9<sup>th</sup>-century so-called Sogdian silks of Moščevaja Balka. It is a problem, however, that Zandana village (near Bukhara) does not appear in the written sources as a textile manufacture centre before the 10<sup>th</sup> century. Zandanījī is mentioned in Narshaksi’s History of Bukhara (end of the 10<sup>th</sup> century), but this term was always applied to fabrics made of cotton. SHEPHERD 1981, 109. Furthermore, the designs of real Sogdian textiles are different from those of the so-called Zandanījī silks. Cf. KAGEYAMA 2006. Most recently, B. I. Maršak (MARŠAK 2006) and V. I. Raspopova demonstrated through the analysis of the design elements on textile representations on Sogdian wall paintings and of Sogdian art (RASPOPOVA 2006) that the so-called Zandanījī silks are not Sogdian. To sum it up, in our opinion the term “eastern Muslim silks” is more appropriate to denote the silks appearing throughout Europe in the Early Middle Ages (Zandanījī I–III), than the term “Sogdian silks.”

and the designs, researchers differentiated between three groups: (1) orange, yellow, pink and green designs on a light background, (2) green, blue and white designs on a blue background, and (3) white with green or yellow details on red background.<sup>99</sup> The used threads are thicker and twistless, which is a technical characteristic of Far Eastern silks.<sup>100</sup>

A. A. Jerusalmiskaja assigned Constantinopolitan, “Egyptian” and “Syrian” silks to the Byzantine workshop tradition.<sup>101</sup> Ca. 50 silks from the cemeteries of Hasaut and Moščevaja Balka belong here, on which 30 types of designs can be observed, and include an exceptional silk band with a Greek inscription.<sup>102</sup> This circle comprises high-quality and very colourful finds except for a few local imitations. Almost all are samits with weft twill, where wefts are often dyed, altogether in five colours. This technique spread in a large area from the 6<sup>th</sup> century onwards, except for the Far East, where polychrome designs were still made with dyed main warp instead of dyed wefts. Another significant difference from the products of Far Eastern workshops is the strong Z twist of the main warps, which are usually twistless in the former case. Besides the high-quality weaving technique, Constantinopolitan silks (Group A) are characterized by the use of purple, deep blue, indigo, pink, etc. colours. Designs include large raport medallions (e.g. representations of griffins) and smaller, mostly geometric motifs. The second silk group of the Byzantine workshop tradition is made up of the products of 6<sup>th</sup>–7<sup>th</sup>-century Egyptian (Group B, mostly Alexandrian products) and 7<sup>th</sup>–8<sup>th</sup>-century Syrian workshops, which can mostly be dated at the North Caucasian sites to the 8<sup>th</sup>–9<sup>th</sup> centuries. A technical characteristic is their large density and the diminished intensity of the Z twist compared to the Constantinople-type. Red colour and polychrome designs, manufactured with wefts of at least four different colours, are especially typical for Syrian exemplars.

8<sup>th</sup>–9<sup>th</sup>-century silks manufactured probably in workshops in Asia Minor or Syria (Group V), which show strong Muslim influence especially in their small geometric designs and the Kufi signs, can also be assigned to the group under study. Group G includes the earliest silks, the 6<sup>th</sup>–7<sup>th</sup>-century fragments from Antioch and Ahmin-Panopolis with their characteristic deep blue background, a few exemplars of which were attested at Moščevaja Balka and Verhhnij Čir-Jurt as well.

From the above it seems clear that the silk remnants in the archaeological heritage of the Conquest Period of the Carpathian Basin differ significantly from those identified as Chinese or East Turkestanian products with regard to the technique of manufacture. They have a closer connection with the so-called Zandanijī and Byzantine silks. Unfortunately, the textile remnants at our disposal do not make the analysis of the design elements possible, which could provide important data on their origin, but similarities in weaving techniques do provide some indirect clues.<sup>103</sup> Based on these, we may establish that the fragments from the Carpathian Basin under study here are closest to the circle of Byzantine silks, since all are weft-faced taquete or weft-faced samit. The warps almost always have Z twist, while the wefts are twistless; furthermore, the densities<sup>104</sup> are also similar. Another connection between our and Byzantine silks is the use of originally possibly dyed wefts in pairs, which probably made up the design.<sup>105</sup>

The results of the technical analysis correspond to the evidence we have from Eastern Europe of that period. There are, unfortunately, only scanty remnants of textiles, but they all show close connections with the finds from the Northern Caucasus. We have some linen and silk fragments, which are of the same fabric and of the same quality as the textiles from the Caucasus<sup>106</sup> and there is even a complete *caftan* from the Saltovo-Majackaja culture (at the river Don),<sup>107</sup> which is identical with the Caucasian ones. Written sources may com-

<sup>99</sup> Symmetrical designs were created through the doubling of the design elements.

<sup>100</sup> In the case of the exemplars published by Jerusalmiskaja, on average 14–24 warps and 22–38 wefts count per cm<sup>2</sup>. JERUSALIMSKAĀ 1992, Nr. 65–91.

<sup>101</sup> JERUSALIMSKAĀ 1992, 11–12.

<sup>102</sup> JERUSALIMSKAĀ 1992, 80–81.

<sup>103</sup> In the comparison we can use the largest and most detailed data set of the textiles from North Caucasian graves.

<sup>104</sup> When comparing the data on densities, we had to proceed with caution, since in the case of the small and often damaged exemplars

we studied, this could have changed significantly compared to their original state.

<sup>105</sup> In the case of well-preserved Byzantine silks, their weft number is often 4–5. In the case of finds from the Carpathian Basin, there is one recorded instance for 3 wefts (KÓHEGYI–T. KNÓTIK 1982, CXII.3), but this find unfortunately is not suitable for study any more.

<sup>106</sup> E.g. Nizneljubjanskij cemetery, Catacomb 5.

<sup>107</sup> The *caftan* of a child, Majack settlement, excavated in 1978: Grave 2, Catacomb 1. JERUSALIMSKAĀ 2001, 93.

plete the information we can gather from the rather few finds from the steppe.<sup>108</sup> All of them indicate that in Eastern Europe textiles were imported both from Muslim and from Byzantine territories. It is sufficient to mention here only two famous examples: according to Ibn Fadlān's *Risala*, the caravans starting from Muslim territory and crossing the lands of the nomads to the north,<sup>109</sup> usually had textiles, including different kinds of silk and brocade, in their cargo.<sup>110</sup> The other piece of information is to be found in the DAI, where Constantine VII Porphyrogenitos informs us that the Pechenegs dealing with the inhabitants of Kherson received " [...] in the form of pieces of purple cloth, ribbons, loosely woven cloths, gold brocade, pepper, scarlet or »Parthian« leather [...]"<sup>111</sup>

The written sources perfectly agree with and complement the results of the comparative technical analysis of the archaeological finds. This can not be regarded as a simple coincidence, since M.V. Fehner has already reached similar results in the 1980s during his research on the silk remnants of the 10<sup>th</sup>–13<sup>th</sup> centuries from northern parts of Eastern Europe. According to the analysis of 400 fragments from 200 sites,<sup>112</sup> he considers about 70% of the material as originating from the Byzantine empire (Group no. 1).<sup>113</sup> Their majority belongs to the simple kind of Byzantine silks, which were produced with one-coloured weft, but there are many double-sided textiles, another characteristic feature of Byzantine silks in addition to the weft twill.<sup>114</sup> Only 30% of the 200 silk fragments involved in the research turned out to belong to the Zandanījī-type (Group no. 2)<sup>115</sup> or to come from Iran (Group no. 3)<sup>116</sup> or Hispania (Group no. 4).<sup>117</sup> The markedly high percentage of Byzantine silks confirms the conclusions of the above research, which can be summarized in the growing preponderance of Byzantine silks in the western parts of Eastern Europe. This indirectly confirms the information gathered during the technical analysis of the silk finds from the Carpathian Basin.

Beside the similarities, there are also striking differences, as the lack of silks with embedded metal (gold or silver) threads or the embroidery using the same kinds of metal threads,<sup>118</sup> all of which are often discernible in the contemporary finds coming from the Old Rus<sup>119</sup> and the North European Viking area.<sup>120</sup> It appears to be a reasonable

<sup>108</sup> For a collection and analysis of the data regarding textiles and costumes in the *Risāla* of Ibn Fadlān (one of the most important contemporary sources written by an author with personal experience), cf. NOONAN 2000.

<sup>109</sup> Ibn Fadlān says that the Ghuzzs got some garments from Marw: FREY 2005, 41. Cf. NOONAN 2000, 104.

<sup>110</sup> It was also Ibn Fadlān who mentioned that the throne of the Bulghar amir was covered with Greek brocade, and that there was even a tailor at the court, who came from Baghdad. FREY 2005, 50–52, 55. Cf. NOONAN 2000, 104.

<sup>111</sup> DAI 6. English translation: JENKINS–MORAVCSIK 1967, 53.

<sup>112</sup> The importance of these finds in the commercial connections of the period is clearly reflected by their distribution. Cf. FEHNER 1982, ris 1. Most of them were found in the valleys of the Dneper and Volga. Besides those ones from burials there are ten cases, where they appear in hoards. FEHNER 1982, 59.

<sup>113</sup> FEHNER 1982, 69.

<sup>114</sup> In the case of Byzantine silks the warps are strongly Z twisted and thin, the wefts, however, are thicker and usually twistless. Regarding the density of threads, the average textiles appear to have 20–70 warps and 36–120 wefts per cm, the high quality ones 60–120 per cm. The typical figures are 24–35 warps and 60–80 wefts per cm. FEHNER 1982, 60–65.

<sup>115</sup> The Zandanījī-type silks, analysed by M. V. Fehner, which he designates as Sogdian ones, have a low density (30–35 warps and 40–70 wefts per cm) and are one-sided. The warps and wefts are often of the same thickness (the warps being sometimes thinner) and they are often twistless. FEHNER 1982, 65.

<sup>116</sup> M. V. Fehner identified 22 one-coloured silks of Iranian origin (40–60 warps and 36–100 wefts per cm), which are quite similar to those of the Zandanījī-type, but their weaving quality is superior. FEHNER 1982, 66–67.

<sup>117</sup> Hispanian silks appear from the 10<sup>th</sup>–11<sup>th</sup> centuries in Eastern Europe. Their characteristic features are lightly twisted warps and metal threads, usually as wefts. These often occur alternating with

coloured wefts. Their density is inferior to high quality Byzantine silks (54–80 warps and 50–60 wefts per cm), and they are usually decorated with geometric patterns. FEHNER 1982, 67–69.

<sup>118</sup> The earliest piece belonging to this category from the early medieval archaeological record of the Carpathian Basin is the coronation mantle of King St. Stephan's (11<sup>th</sup> century), see JARÓ 2002. Another piece containing metal threads comes e.g. from a 12<sup>th</sup>-century grave from the vicinity of the church at Szentes-Kaján, Temetőhalom, Grave 33. TÜRK 2005, 217.

<sup>119</sup> According to earlier opinions (FEHNER 1993), textiles with metal threads appear only from the end of the 11<sup>th</sup> century onwards in the territory of the Old Rus (for a brief summary see MIKHAILOV 2007, 192). Most recently, however, K. A. Mikhailov collected 15 textile fragments, including samits, with metal (mostly silver) threads, which can be dated to the second half of the 10<sup>th</sup> century. They occur in graves of male and female individuals, both with inhumations (e.g. Gnězdovo, Barrow C-301) and incinerations (e.g. Timerëvo, Barrow 385). MIKHAILOV 2007, 193–195. Textiles with metal threads, similarly to the majority of other silks, are also Byzantine imports in Eastern and Northern Europe. FEHNER 1993, 4. The beginning of the manufacture of textiles with metal threads on the territory of the Old Rus cannot be dated before the end of the 11<sup>th</sup> century (MIKHAILOV 2007, 196).

<sup>120</sup> Dealing with Viking finds from Denmark, A. Krog called attention to the fact that the textiles with metal threads appear to become widespread along with several other Byzantine phenomena as a consequence of Christianization. It is intriguing, that mainly in female burials fibulas, which were characteristic features belonging to the traditional Scandinavian upper garment, gradually disappear at the same time (KRAG 1999). Among the Viking finds from Sweden one can refer to 16 chamber graves from Birka, containing textiles with metal threads. GEIJER 1938, 97–105. In Norway they are known from the finds of the royal barrow at Gokstad. HOUGEN 1973; see also MIKHAILOV 2007, 195.

explanation for the absence of the silks of the so-called Zandanĵi type, that after the 9<sup>th</sup> century it hardly appears in Western Europe, i.e. the production presumably ceased at this time, or it has lost his market because of the growing import of Byzantine silks.

It might be significant for Hungarian archaeology, that Grave 2, Barrow 1 at Dmitrivka, which was discovered last year in the vicinity of Komsomolsk (Ukraine, Poltava county), yielded among other important textile fragments some pieces of silk as well.<sup>121</sup> The grave contained 9 pieces of textile, including silk,<sup>122</sup> appearing on many different parts of the costume: on the footwear, funerary shroud and at the wrist, in connection with some corroded armbands.<sup>123</sup>

Our review is concerned mainly with the investigation of silk remnants, because they are imported goods and may furnish more and more detailed information about the commercial contacts and about the social structure of the Hungarians of the Conquest Period. But we have to deal briefly with linen garments too, because they make up the second main group of textile finds from the Carpathian Basin of the 10<sup>th</sup>–11<sup>th</sup> centuries. In this case we have again good parallels among the finds from the Caucasus,<sup>124</sup> North European Viking<sup>125</sup> and Old Rus territories.<sup>126</sup> As already mentioned, we can distinguish also in the Carpathian Basin between a tighter woven, high quality linen and another type of fabric, which is inferior in workmanship and was probably produced by domestic handycraft. The written sources also distinguish between a low quality coarse linen (*σάβανον*) and a fine variety (*λεπτή οθόνη*).<sup>127</sup> It might be inferred, that this last category has been imported, but in the case of linen cloths the unspecific nature of the raw material and the equally simple manufacture practically excludes an investigation regarding the place of their origin.

It is a fundamental difficulty in analysing the silk products which became known from the archaeological material of the Hungarian Conquest Period. Due to the special conditions of the Carpathian Basin, there are only very small remnants available for research.<sup>128</sup> In this way, the majority of the methods, which are normally used in analysing the products of the classic silk-manufacturing centres, cannot be applied in our case – as attested by the technical analysis above. Iconographic analysis is still playing an important part, besides today's increasingly refined technological observations, in defining the cultural and workshop relations, but since iconographic analysis is ruled out, we are forced to rely on indirect data when evaluating the textile remnants. As it is clear from the technical analysis above, most of the silk obviously arrived or could have arrived to the Hungarians of the 10<sup>th</sup> century from Byzantium, and therefore it is reasonable to give a brief overview about the possible sources and value of Byzantine silks in the Carpathian Basin.

#### V. THE BYZANTINE SILK INDUSTRY IN THE 10<sup>TH</sup> CENTURY AND THE HUNGARIANS

The 10<sup>th</sup> century was one of the heydays of the Byzantine silk industry. Beside the imperial workshop a network of private silk guilds was also working in the capital.<sup>129</sup> The available data suggest that the products both of the imperial workshop and those of the private guilds could reach the Carpathian Basin in the 10<sup>th</sup> century – although at the present state of research the silk fragments known from the archaeological material cannot be linked to either of them due to the above mentioned circumstances. It is known that the imperial workshop served exclusively the demands of the imperial court, i.e. part of the silks produced here was intended to serve the goals of Byzantine diplomacy. There was a strict rule from the 4<sup>th</sup> century onwards, according to which only the imperial

<sup>121</sup> Because of some other grave goods, the authors of the first publication considered the possibility to connect the grave with the ancestors of the Hungarians. SUPRUNENKO–MAEVS'KA 2007.

<sup>122</sup> Some fragments (e.g. nos 1 and 2) were identified on the basis of the technical description of the preliminary report as Chinese silk. SUPRUNENKO–MAEVS'KA 2007, 40. The published measurements (count per cm) show inferior figures as in the case of comparable finds presented by Jerusalimskaja, but the usually twistless warps and the thin wefts are strongly similar. Some fragments (e.g. no. 2) however, seem to belong to the Zandanĵi-type based on their technical features.

<sup>123</sup> SUPRUNENKO–MAEVS'KA 2007, 38–43. According to the published results of the textile analysis and the schematic drawings of the textile structure the Z-woven threads of the silks and their density

features also show some similarities with the finds from the North Caucasus and from the Carpathian Basin.

<sup>124</sup> DODE 1998.

<sup>125</sup> For a good review on the linen finds of Birka and Haithabu, see HÄGG 1986; HÄGG 2002.

<sup>126</sup> DAVIDIAN 1981.

<sup>127</sup> BRÉHIER 1950, 210–214.

<sup>128</sup> There are many kinds of chemical analysis used to determine the original colours of the silks (KOESTLER–INDICTOR–SHERYLL 1985; BALÁZSY 2002) and we would like to make use of them in the course of our future investigations.

<sup>129</sup> The faulty interpretation of LOPEZ 1945, 3–8 regarding the “private silk corporations” was corrected by VRYONIS 1963, 300–301 footnote 46.

was allowed to produce certain products for the emperor and his court, but this rule was partly abolished in the 10<sup>th</sup> century. We learn from the Book of the Eparch that the production of certain purple silks was also possible for the private guilds under strong state control.<sup>130</sup> This involved the possible danger, which the central government intended to avoid by all means, i.e. that certain products confined to the imperial monopoly could more easily be involved in illegal trade. This must have been the way Liuptrand of Cremona was able to acquire the silks, which were confiscated from him when leaving Constantinople.<sup>131</sup> The case of Liuptrand clearly shows that it was relatively easy for a foreign delegate to get even purple coloured silk illegally in the Byzantine capital (although it is questionable whether he succeeded in leaving either the capital or the empire's territory with it).

Among the elites under strong cultural influence of the imperial court there must have been a great demand for products of this type. Beside smuggling, the legal source of silks confined to imperial monopoly was the diplomatic gift serving the goals of Byzantine diplomacy.<sup>132</sup> In lack of written sources, unfortunately, there is no available information whether the Hungarian leaders received any silk as imperial gift and if they did so, in what quantity. Our sources do report, however, that the Byzantine-Hungarian relations, active before and during the Hungarian Conquest, did not cease in the 10<sup>th</sup> century.<sup>133</sup> Some evidence point to the fact that among the conquering Hungarians there was a serious demand for precious Byzantine textiles. It cannot be considered as mere coincidence that in addition to the gifts, which were not widespread in the contemporary society, the Hungarians seized other, less elegant means of acquiring silk products. As mentioned in the introduction, there are several accounts on the Balkan and Italian raids relating that the Hungarians exchanged their captives for Byzantine textiles, including silk (see above 2–3.). The presence of these products on the Balkans or in Italy is not surprising considering the relatively large-scale distribution of silks in that period. Since significant local production cannot be attested in any of the aforementioned regions in the 9<sup>th</sup>–10<sup>th</sup> centuries,<sup>134</sup> it seems reasonable to suppose import products from Constantinople or Syria or perhaps the Balkans, as well. Regarding the Balkans, N. Oikonomidès supposed on the basis of the geographical and chronological distribution of the seals of *kommerkiarioi* that the centres of Byzantine silk production shifted to this region gradually from the mid-third of the 8<sup>th</sup> century.<sup>135</sup> But due to the difficulties regarding the interpretation of the activities of the *kommerkiarioi*<sup>136</sup> and other available evidence, this theory cannot be confirmed unequivocally. The only proof of 9<sup>th</sup>-century silk production in the Balkans is the often-quoted statement<sup>137</sup> about Danielis' workshop in the *Vita Basileii*. On the other hand, the well-known Athenian, Corinthian and Theban workshops began to flourish only at the end of the 10<sup>th</sup> and in the 11<sup>th</sup> centuries, and their real boom becomes detectable from the middle of the 11<sup>th</sup> century.<sup>138</sup> The existence of earlier similar workshops cannot be attested in the Latin West either. Regarding Danielis's workshop, it seems to be interpretable as one of the private workshops<sup>139</sup> mentioned in the Book of the Eparch at the beginning of the 10<sup>th</sup> century which were established and maintained by a few rich aristocrats of the period to support their own demands.<sup>140</sup>

In spite of the central role played by the capital in the Byzantine silk industry of the 10<sup>th</sup> century, the very cases of the fabrics exacted by the Hungarians point to the large-scale incidence of Byzantine silks of different qualities. In the light of this fact, the prohibition of the Book of Eparch is of special interest. According to

<sup>130</sup> Book of the Eparch VIII.2.

<sup>131</sup> Liuptrand of Cremona: Relatio de legatione Constantinopolitana, cap. LIV–LVIII. For English translation, see WRIGHT 1930, 267–270.

<sup>132</sup> About the role of silks in Byzantine diplomacy see MUTHESIUS 1992, 236–248; MUTHESIUS 1995c, 231–244; SCHLOSSER 2005, 45–52.

<sup>133</sup> Although the Byzantine embassy to the Hungarians lead by Gabriel klerikos is not exactly datable, in all probability it could have taken place in the first half of the 10<sup>th</sup> century, see Constantine Porphyrogenitos: *De administrando imperio* 8. English translation: JENKINS–MORVACSIK 1967, 57. Albeit the extremely scarce source material does not report about any more similar missions, it is even likely to suppose that diplomatic actions must have taken place from time to time, including the exchange of gifts. The baptism of Gyula and Bulcsú, for example, also could have provided good opportunities to obtain noble Byzantine textiles in the 10<sup>th</sup> century. For the latter, see DAI 40. English translation: JENKINS–MORVACSIK 1967, 179.

<sup>134</sup> For the unsuccessful attempt of Louis the Pious to found a

workshop see LOPEZ 1945, 42. For a brief survey on silks circulating in Western Europe in the Carolingian Period see KING 1966, 47–49. For the possible ways of Byzantine silks to Western Europe see LOPEZ 1945, 35–41.

<sup>135</sup> OIKONOMIDÈS 1986, 44–45.

<sup>136</sup> See OIKONOMIDÈS 1986, 34–42; HENDY 1985, 626–634; MUTHESIUS 1995a, 274–279; DUNN 1993, 3–24.

<sup>137</sup> Vita Basileii 74. German translation: BREYER 1981, 124–125. For the available sources of early sericulture and silk production on the Balkans and in the Latin West see JACOBY 1991–1992, 453–460.

<sup>139</sup> JACOBY 1991–1992, 470; MANIATIS 1999, 294, 327.

<sup>139</sup> For the role of Danielis, the rich Peloponnesian widow in the emergence of the Macedonian Dynasty as a patron of the future emperor Basil I see TOUGHER 1997, 27–28 with further literature.

<sup>140</sup> Book of the Eparch VIII. 2. For the suggestion of the existence of private silk manufactures of the powerful and wealthy see HARVEY 1989, 183–184.

this source, the raw silk merchants (*metaxarioi*) of the capital were not allowed to sell their goods to either Jews or any merchants who intended to sell them outside the city.<sup>141</sup> Beside the foreign merchants, similar and extremely strict restrictions were prescribed on the end-product purchases of the non-residents of the capital: they could not buy purple or red silks of large sizes,<sup>142</sup> unsewn garments, except for their own use,<sup>143</sup> and silk garments of higher value than 10 nomismata.<sup>144</sup> These prohibitions are generally seen as a reaction of the central government to the danger that uncontrollable borderers could imperil the empire's monopoly with their profitable smuggling and could cause the devaluation of the political means inherent in silks.<sup>145</sup> For the same reason selling silk to foreigners without the knowledge and consent of the eparch was also prohibited.<sup>146</sup> But all of this is just one aspect of the question considered. It is difficult to imagine that residents living in the regions supplying raw material for Constantinople's silk industry would not produce silk fabrics for their own use and, to a limited extent, also for commercial purposes. (It could be one of the main reasons that the central government permitted, as mentioned above, some rich aristocrats to found their own workshops for their own use, and part of the goods produced in these seem to have been allowed to be sold with the intercession of the *vestiopratai*.<sup>147</sup>) In spite of this possibility, the main centre of production of the Byzantine silk industry in the 10<sup>th</sup> century was nevertheless the capital. As the government's strict centralising efforts, the imperial politics protecting the guilds of Constantinople which could be directly supervised and well taxed, and the allowance, or even support of the large-scale Eastern raw silk and end-product import show in the 10<sup>th</sup> century (or at least at the time of the writing of the Book of the Eparch) the raw material supply of the Byzantine silk industry was not entirely satisfactory.<sup>148</sup>

In spite of the relative abundance of available evidence on 10<sup>th</sup>-century Byzantine silks, we are unable to answer two questions that would be of particular importance to us. We do not have even approximate information about the output capacity of the silk industry revealed by our sources. Although it is obvious that we can not speak about mass-productions at that time, it seems to be less self-explanatory to determine which segments of Byzantine society could afford the use of silks. We have to accept, however, the opinion of G. C. Maniatis, according to whom: "To be sure, the low-income strata that comprise the bulk of the population did not enter the market, as the prices of silks were prohibitive for them. The primary consumer of silks remnanted the wealthy, state officials, the Church, the upper-middle class and their counterparts abroad."<sup>149</sup> Thus the other question is closely connected to the above-mentioned problem: What silk prices were fixed in 10<sup>th</sup>-century Byzantium? We do not possess numerical data in spite of the fact that the working principles of the market are well modellable.<sup>150</sup> Of course we can also be sure that "an enormous, unpatterned, plainly woven silk would be less expensive to produce than a tiny, murex dyed, patterned, complexly woven and gold embroidered silk, for example."<sup>151</sup> One of our best evidence for silk prices is the *De ceremoniis* according to which certain silk *tunics* were sold for 6–12 nomismata in the Capital.<sup>152</sup> The other significant data is the 10 nomismata value limit repeatedly mentioned in the Book of the Eparch which referred to the announcement requirement to the eparch. (The 16 nomismata value of a Byzantine chasuble, listed by Leo Marsicanus as part of the Hungarians' booty, unfortunately refers only indirectly to the prices fixed in Byzantium.<sup>153</sup>) Compared to the prices of the time, the aforementioned values meant very considerable amounts.

<sup>141</sup> Book of the Eparch VI. 16.

<sup>142</sup> Book of the Eparch IV. 1.

<sup>143</sup> Book of the Eparch IV. 8.

<sup>144</sup> Book of the Eparch VIII. 3.

<sup>145</sup> LOPEZ 1945, 22–23.

<sup>146</sup> Book of the Eparch VIII. 5.

<sup>147</sup> Book of the Eparch IV. 2.

<sup>148</sup> A separate guild was formed by merchants importing Eastern raw silks and end-products (they came primarily from Syria and Seleukeia). They were mentioned in the Book of the Eparch as *prandiopratai*. Cf. Book of the Eparch V. For a brief survey of its

operations see MUTHESIUS 1995a, 287–288; MANIATIS 1999, 298–300. For the significance of the Syrian raw silk import see MUTHESIUS 1995b, 325.

<sup>149</sup> MANIATIS 1999, 327.

<sup>150</sup> Regarding this issue, see the detailed analysis in MANIATIS 1999. For some basic problems of his interpretation see JACOBY 2004, 206 note 43.

<sup>151</sup> MUTHESIUS 1995a, 295.

<sup>152</sup> MORRISSON-CHEYNET 2002, 851.

<sup>153</sup> See note 12!

Tab. 1. Prices and wages in Byzantium in the 10<sup>th</sup> centuryWheat (1 modios = 12.8 kg)<sup>154</sup>

Date	Place	Price
Basil I	Constantinople	1/12 nomismata
960	Constantinople	1/4 nomismata
960	Constantinople	1/8 nomismata
ca. 963	Constantinople	1/15 nomismata
968–969	Constantinople	1/2 or 2/3 nomismata (crisis price)

Barley (1 modios = 12.8 kg)<sup>155</sup>

Date	Place	Price
960	Constantinople	1/6 nomismata (crisis price)
960	Constantinople	1/12 nomismata (normal price)
Before 964	Province	1/30 nomismata

Vineyard (1 modios)<sup>156</sup>

Date	Place	Price
985	Macedonia	4 nomismata

Oil (1 litra)<sup>157</sup>

Date	Place	Price
Late 9 <sup>th</sup> century	Constantinople	1/16 nomismata (“exceptionally low price”)

Cattle<sup>158</sup>

Date	Place	Price
10 <sup>th</sup> century	Unknown	3 nomismata

Ransom for persons of rank<sup>159</sup>

Date	Place	Price
925	Orio/Apulia	5000 nomismata (paid for a governor)
998	Antioch	6000 nomismata (paid for the son of Dalassenos)

Ransom for common people<sup>160</sup>

Date	Place	Price
966	Eastern frontier	80 nomismata (per person)

Prices of slaves<sup>161</sup>

Date	Place	Price
944	Empire	20 nomismata (Russian fugitive)
962	Aleppo	36 nomismata (Arab adult male)
962	Aleppo	20 nomismata (Arab adult female)
962	Aleppo	16 nomismata (young Arab)
962	Eastern frontier	30 nomismata (Greek adult male)
962	Eastern frontier	15 nomismata (adolescent male or female)

<sup>154</sup> MORRISSON–CHEYNET 2002, 822–823.<sup>155</sup> MORRISSON–CHEYNET 2002, 829 and note 38.<sup>156</sup> MORRISSON–CHEYNET 2002, 832.<sup>157</sup> MORRISSON–CHEYNET 2002, 838 and note 59.<sup>158</sup> MORRISSON–CHEYNET 2002, 839.<sup>159</sup> MORRISSON–CHEYNET 2002, 845.<sup>160</sup> MORRISSON–CHEYNET 2002, 846.<sup>161</sup> MORRISSON–CHEYNET 2002, 847.

Tab. 1. Prices and wages in Byzantium in the 10<sup>th</sup> century (cont.)Income of ecclesiastics<sup>162</sup>

Date	Position	Salary/year
10 <sup>th</sup> century	copy clerk	32 hyperpyra
10 <sup>th</sup> century	clerk	30 hyperpyra
10 <sup>th</sup> century	clerk	24–28 hyperpyra

Compared to the price of basic foodstuff, 10 nomismata seems to be a significant amount, since 1/12 nomismata was considered to be the average price of wheat per modios in the 9<sup>th</sup>–11<sup>th</sup> centuries,<sup>163</sup> while according to the *De ceremoniis* a cattle – which appeared to be expensive, but whose price varied according to natural resources of the region – cost 3 nomismata.<sup>164</sup> At this time “twelve nomismata was the price sought for a good horse.”<sup>165</sup> To sum up: “One nomisma seems to have represented the normal monthly wage for an unqualified (and unfed) worker, which was certainly sufficient to feed and even clothe a family.”<sup>166</sup> (Therefore we cannot wonder that according to Goetin’s calculations in 11<sup>th</sup> century Egypt “one pound of standard quality raw silk was equivalent to the monthly cost of living of an average working class family.”<sup>167</sup>) Compared to their modest income, the members of the lower middle class, i.e. “qualified workers, professional soldiers, and craftsmen, enjoyed a wide margin of income, three to ten times more than that of unqualified workers.”<sup>168</sup> The minimal value of 10 nomismata was significant and might as well have meant several monthly salaries of the members of the lower middle classes. (It is also worth recalling, that in 911 the annual stipend of soldiers and sailors of the central fleet was ca. 9 nomismata, while around the middle of the century the soldiers of the Rus tagma received 3 nomismata as annual salary.<sup>169</sup>) Regarding the wealthiest classes, however, the situation is quite different: “Important officials, judges or strategoi, as well as the wealthiest merchants and bankers, the incomes [...] differed from the first category [i.e. from the unqualified workers] by a factor of 150 or more.”<sup>170</sup> Consequently, it is quite clear that silk products were considered to be special goods on the Byzantine markets.

These considerations inevitably raise the following question: Is it possible that in the 10<sup>th</sup> century our ancestors acquired such a precious kind of textile only as gift or booty, or rather as commercial goods? As it was referred to in the above mentioned reports of the Ġayhānī-tradition, the Hungarians were very well aware of the easiest way of acquiring valuable Byzantine goods already in the 9<sup>th</sup> century, i.e. the participation in the very profitable slave trade of the time.<sup>171</sup> It is not recorded in our written sources, if the Hungarians maintained their interest in this form of trade after having settled in the Carpathian Basin, but the easy accessibility of potential slaves in neighbouring territories during the course of their military undertakings (usually and wrongly referred to as raids), and the great demand for this type of goods on Byzantine markets, practically exclude that they have given up this profitable business. Considering the prices of the time (cf. *Table 1*), they were able to acquire by selling or exchanging a slave the value of a silk garment with a relatively small investment. (A similar conclusion can be drawn from the data preserved by Mas‘ūdī and Leo Marsicanus: Ransoming their captives also indicates a quite well-developed business spirit [cf. *Table 1*]). In lack of precise evidence, one cannot make any statements about the involvement of the Bulgars living between the territory occupied by the Hungarians and Byzantium, but it seems to be unlikely that the recurring Byzantine-Bulgar wars would have prevented the Bulgars from joining this greatly profitable industry either as intermediaries or by taking toll from the merchants passing through their territories.<sup>172</sup> It is not known, whether the Hungarians were interested in some other kinds

<sup>162</sup> MORRISSON–CHEYNET 2002, 868.

<sup>163</sup> MORRISSON–CHEYNET 2002, 830.

<sup>164</sup> MORRISSON–CHEYNET 2002, 839, 841.

<sup>165</sup> MUTHESIUS 1995a, 264.

<sup>166</sup> MORRISSON–CHEYNET 2002, 872.

<sup>167</sup> MUTHESIUS 1995a, 264.

<sup>168</sup> MORRISSON–CHEYNET 2002, 872.

<sup>169</sup> Cf. MORRISSON–CHEYNET 2002, 861. We must not forget, however, that the above amounts did not mean a whole annual salary, only a smaller part of it paid in money. In addition to this, the soldiers’ allowance also included the “grain and clothes” given by the state.

<sup>170</sup> MORRISSON–CHEYNET 2002, 872.

<sup>171</sup> For the historical background of this trade see BÓNA 2000, 12.

of commercial transactions with Byzantium. If they were, they could definitely get silk from the capital or the provinces for other goods as well. Even observing the strict export regulations did not mean that every kind of silk export would have been impossible. Native or foreign merchants were allowed even in the capital to sell silk produced by private silk workshops. Among the regulations contained in the Book of the Eparch there is no such prohibition that would limit the maximum quantity of silk fabrics and clothes the native and foreign merchants were allowed to buy, provided that they observed the regulations, i.e. they did not want to take prohibited goods out of the capital,<sup>173</sup> they announced the purchase to the eparch,<sup>174</sup> and they had the goods approved by receiving the eparch's seal.<sup>175</sup> (Obviously, part of the goods bought by the Hungarians at Kherson in the 9<sup>th</sup> century also derived in this way from the silks shipped from Constantinople to the Crimea.) However, due to the silence of the sources, it is probable that the Hungarians did not belong to the most significant partners who also had some special legal status. It is not sure, of course, that our ancestors acquired their silk directly in Constantinople, since the Middle Byzantine state, contrary to the tradition of Late Antiquity, designated the points of foreign trade not only along the frontier, but sought to concentrate the foreign merchants in the capital, which was the centre of manufacture anyway,<sup>176</sup> in order to ensure a more efficient control of traders. Foreign merchants were allowed to stay 3 months at maximum in the capital at a special dwelling area designated to them,<sup>177</sup> if no special contract specified otherwise. According to our sources, Syrian, Bulgarian and Rus merchants possessed a special legal status. From the 8<sup>th</sup> century onwards, the special treaties concluded with the Bulgarians generally depended on the political situation, since they were usually able to extract special conditions during the militarily weak periods of Byzantium.<sup>178</sup> At the time of the Hungarian Conquest the situation was again favourable for the Bulgarians. Indeed, the transfer of the Bulgarian merchants' *mitata* to Thessaloniki served as a *casus belli* for Symeon in 894.<sup>179</sup> According to the Russian Primary Chronicle, the other privileged group, the Rus merchants, concluded a commercial treaty with the Byzantines in 907, which, according to the same source, was confirmed with smaller modifications in 911.<sup>180</sup> Already Lopez had noticed, however, that the Book of the Eparch did not mention the treaties with the Rus, and this fact indicated, according to him, that the treaty was not enforced.<sup>181</sup> One should, on the other hand, consider the problems regarding the formation of the Book of the Eparch, as well as the historical circumstances of the 907 treaty. Regarding the Book of the Eparch, the collection of the material and the compilation possibly started at the instigation of Photios, during his second patriarchy (877–886), approximately simultaneously with the early codification activity of the Macedonian dynasty,<sup>182</sup> while its proclamation came in the last years of Leo VI's reign (between September 911 and May 912).<sup>183</sup> At the same time it is interesting to remark that according to P. Speck's intriguing theory, endorsed by good arguments, the Book of the Eparch was originally just a "course-book"<sup>184</sup> made for the young Constantine VII Porphyrogenitos – or perhaps a collection compiled as a preparation for a later law book.<sup>185</sup> On the other hand, from the historical background of the Rus attack in 907, we still cannot find any circumstances that would definitely exclude the possibility of the conclusion of the treaty. Oleg's attack reached the Byzantine capital at the worst time in several respects. Significant forces of the imperial navy were taking part in the expeditions against the Muslims,<sup>186</sup> and Leo VI was entangled in the ravel surrounding his tetragamy. In February 907 he replaced Nikolaos Mystikos, the patriarch formerly excommunicating the emperor, with Euthymios, who seemed to be loyal to him, but this action only deepened the crisis, which was serious enough on its own.<sup>187</sup> It is not surprising at all that faced with such a difficult military

<sup>172</sup> For slaves arriving from Bulgaria to Byzantium see Pseudo-Mas'ūdī's account, quoted by FERLUGA 1987, 626: "*Lorsque la paix est conclue entre eux [les Boulgars] et les Roumis, ils encoi aux Roumis des jeunes esclaves des deux sexes, slaves ou d'une race analogue.*"

<sup>173</sup> Book of the Eparch IV. 1, VIII. 3, IX. 6.

<sup>174</sup> Book of the Eparch IV. 2, IV. 3, VIII. 5.

<sup>175</sup> Book of the Eparch IV. 4, VIII. 9.

<sup>176</sup> LOPEZ 1945, 26–27.

<sup>177</sup> Book of the Eparch XX. 2. Their dwelling area were called '*mitata*', a term translated by J. Koder as "*Händlerunterkunft*". Cf. Book of the Eparch V. 2, V. 5, VI. 5, IX. 7. KODER 1991, 95, 99, 111.

<sup>178</sup> FERLUGA 1987, 619–622; LOPEZ 1945, 31–34.

<sup>179</sup> OSTROGORSKY 1996, 208–210; FERLUGA 1987, 623–626. For an alternative reading, see MAGDALINO 1990, 198–201.

<sup>180</sup> Russian Primary Chronicle s. a. 904–907 and 911. English translation: CROSS–SHERBOWITZ–WETZOR 1953, 64–69. (Incorrectly under the year of 912. For the proper date see HELLMANN 1987, 649). Vasiliev's analysis convincingly proved the historical authenticity of the 907 Rus campaign, settling the former doubts, see VASILIEV 1951.

<sup>181</sup> LOPEZ 1945, 34.

<sup>182</sup> KODER 1991, 20–21, 31.

<sup>183</sup> KODER 1991, 31.

<sup>184</sup> SPECK 1991.

<sup>185</sup> Speck does not emphasize this aspect, but considering the codification activity connected to the names of Basileios I and Leo VI, this does not seem to be an unfounded supposition.

<sup>186</sup> VASILIEV 1951, 220. For the wider historical background of the events see CHRISTIDES 1981, 93–95.

and political situation, Leo VI attempted to remove the Rus from under the walls of Constantinople by every means: he even signed a commercial treaty with them and conceded serious rights to them. It is, of course, another matter, which he actually observed from this treaty after the removal of the Rus people. It is sure that, following the closure of the Eastern roads, leading through the Khazars,<sup>188</sup> the commercial interests of the Rus turned increasingly towards Byzantium. This could have led in 911 to the confirmation of the 907 treaty, which was perhaps not observed by the Byzantines once the direct danger elapsed.<sup>189</sup> To sum it up one cannot safely conclude that since the treaty of 911 was not included in the Book of the Eparch (published in 911–912), it never came into force. Compared with these treaties, the new commercial treaty concluded in 944 and mentioned by the Russian Primary Chronicle meant a step backwards.<sup>190</sup> In this treaty, the value of the ‘*pavoloki*’ (‘*pallia*, large silk fabric’ according to Lopez<sup>191</sup> or ‘*die Rolle Seidentuch [oder Leintuch], aus der die Segel zugeschnitten und genäht wurde*’ according to Hellmann<sup>192</sup>), which the Rus were allowed to buy, was limited at 50 nomismata.

The rather exhaustive analysis of these treaties above does not seem to be useless, since the Kievan Rus constituted a very significant commercial factor in Eastern Europe from the first third of the 10<sup>th</sup> century onward.<sup>193</sup> It is quite clear that the fashion of Byzantine textiles and the dress elements transmitted by them reached the large Skandinavian commercial centres (principally Birka) through the Kievan Rus.<sup>194</sup> We cannot exclude therefore that part of the silk products acquired by the Rus in the market of Constantinople probably reached the Hungarians in the Carpathian Basin on the commercial route starting from the Volga Bulgars and going through Kiev<sup>195</sup> already from the first third of the 10<sup>th</sup> century onwards. A similar scenario may be supposed for some of the dirhems known from the first half of the century.<sup>196</sup> Later on, in the second half of the 10<sup>th</sup> century, we have some other evidence for commercial connections between the Russians and the Hungarians. Under the year 969 we find the following entry in the Russian Primary Chronicle: “Svyatoslav announced to his mother and his boyars, ‘I do not care to remnant in Kiev, but should prefer to live in Pereyaslavets on the Danube, since that is a centre of my realm, where all riches are conducted; gold, silks, and various fruits from Greece, silver and horses from Hungary and Bohemia, and the Rus’ furs, wax, honey, and slaves’.”<sup>197</sup> Consequently, it was easy for the Hungarians to purchase Byzantine silks on the markets of Perejaslavec in the second half of the 10<sup>th</sup> century.

A brief outline of the activities of the third privileged group of the Byzantine market, that of the Syrian merchants, is significant for our topic, as well. A characteristic feature for the support of Syrian commercial presence in Constantinople is that, while unprivileged merchants were not allowed to stay in the *mitata* appointed to them in the capital longer than 3 months, the Syrians could spend up to ten years in the city.<sup>198</sup> Although those who transported the goods from Syria to the capital were subject to the 3-months restriction, the members of the *prandiopratai* guild were obliged to purchase their goods in all quantities and qualities,<sup>199</sup> and the marketing of

<sup>187</sup> For this problems see TOUGHER 1997, 153–163.

<sup>188</sup> ZUCKERMAN 1995, 268–269.

<sup>189</sup> Contrary to former views, according to which the 911 treaty was the confirmation of the 907 one A. A. Vasiliev interprets these as two separate treaties ending two Rus attacks respectively. Cf. VASILIEV 1951, 221–222.

<sup>190</sup> Russian Primary Chronicle s. a. 944. English translation: CROSS–SHERBOWITZ–WETZOR 1953, 74–77. For the historical background of this treaty see ZUCKERMAN 1995, 264–269. For the fields, which were more strictly ordered see HELLMANN 1987, 651–652. For the wares of the Byzantine–Kievan commerce see VASILIEV 1932, 324–325.

<sup>191</sup> LOPEZ 1945, 35.

<sup>192</sup> HELLMANN 1987, 648.

<sup>193</sup> For the new, much more convincing chronology of the Kievan Rus see CALLMER 1981, 47; CALLMER 2000, 42; ZUCKERMAN 1995, 259–269; ZUCKERMAN 2000; BÓNA 2000, 23.

<sup>194</sup> HÄGG 1983, 204–223; JANSSON 1988, 596–600; DUCZKO 1998, 300.

<sup>195</sup> POLGÁR 2001.

<sup>196</sup> For the most recent evaluation of 10<sup>th</sup>-century dirhem finds in the Carpathian Basin with further literature see KOVÁCS 2005. The German version of this article is about to be published in the next issue of the periodical *Antaeus*.

<sup>197</sup> Russian Primary Chronicle s. a. 969. English translation: CROSS–SHERBOWITZ–WETZOR 1953, 86. For the role of Perejaslavec see OIKONIMIDÉS 1983.

<sup>198</sup> The Book of the Eparch V. 2. speaks about Syrian merchants that had lived in Constantinople for at least 10 years: “[...] *die] Ansiedler aus Syrien, die einen Zeitraum von (mindestens) zehn Jahren in der Kaiserstadt verbracht haben [...]*” KODER 1991, 95.

<sup>199</sup> Book of the Eparch V. 4.

any unsold goods was to be solved jointly by the eparch and the guilds.<sup>200</sup> Behind this privileged status there must have been several important considerations<sup>201</sup> at the same time, and this is of greater significance to us, since the Syrian (in a broader sense, the Muslim Near Eastern) textile industry had an admittedly serious impact on the 10<sup>th</sup>-century Byzantine textiles (as it was true vice versa, as well).<sup>202</sup> Although we do not know in what quantity and proportion the eastern raw silk and end-products arrived to the Byzantine markets, it is quite probable that not only luxury articles were imported. (This is confirmed by the decree of the Book of the Eparch according to which the *prandiopratai* were obliged to buy the Syrians' goods "[...] *sofern es sich um Gewänder handelt, sowohl die besserer als auch die minderer Qualität [...]*".<sup>203</sup>) Based on this evidence it is assumable that some of the eastern silks entering Constantinople could directly (e.g. through a Hungarian merchant visiting the Byzantine capital) or via second or third hands (as booty or through intermediary commercial channels<sup>204</sup>) reach our ancestors in the Carpathian Basin.

To sum up the conclusions to be drawn from the above, it can be ascertained that the Hungarians were not excluded from the opportunity of obtaining Byzantine silks either in the 9<sup>th</sup> or the 10<sup>th</sup> centuries. Indeed, in the Carpathian Basin they had many more possibilities to practice the least elegant, but all the more profitable methods of acquisition, i.e. exchange the captives taken in the course of their western or southern campaigns (see above), or pillaging silk goods. Unfortunately, the insufficient amount of written sources and the small size of the textile remnants preserved in the graves do not allow us to choose between the above listed possibilities (i.e. gift, trade, booty), acquisition directions (Western Europe, Byzantium, as well as the Balkans, and Eastern Europe), and places of origin (Byzantine [including capital or provincial] or Islamic workshops) in the individual cases or on the whole, or – which would be more conceivable – exclude one possibility or another. It is only left to us to profess that almost all the possible ways of the time were open for the Hungarians to acquire silk. On the basis of the above mentioned facts we cannot prove, just consider it permissible to suppose, that in the 10<sup>th</sup> century (and essentially in its active and successful military periods) not mainly the scarce supply of the “market” (taken in the widest sense) but also the Hungarians' need for silk on the “demand side”, and their financial power could constitute the primary determining factors of the appearance of silk in the Carpathian Basin.<sup>205</sup> Under such circumstances – although we know almost nothing about the redistribution principles of the marketable goods originating from the military campaigns lead to different directions (also for the purpose of capturing the neighbouring Slavs as slaves) – it seems to be probable that silk fabrics and similar prestige goods could reach easier those members of society for whom under average conditions these goods would have been almost totally unaffordable. This type of mobility, however, was even at that time most probably characteristic only within certain limits. This made the goods, which were similar to silk, available for a much wider circle, but at the same time it was not able to lead to the social devaluation of these products. It was restrained by several factors: the limited quantity of the lootable and transportable goods, the rules of the market and gift-giving.<sup>206</sup> All this is of great significance when evaluating the social context of the textile fragments found in the archaeological material of the Carpathian Basin.

#### VI. OBSERVATIONS CONCERNING THE COSTUME COMPONENTS

It seems to be quite difficult to draw conclusions from the tables below, due to the questions mentioned above. The first problem is posed by the fact that based on the extremely small textile remnants it is very difficult to assess, what percentage of the costumes of the period are represented by the preserved fragments. This creates another obstacle in assessing the value of silk, whose price is otherwise very little known.

<sup>200</sup> Book of the Eparch V. 5.

<sup>201</sup> For these see MANIATIS 1999, 298–299.

<sup>202</sup> See note 75.

<sup>203</sup> Book of the Eparch V. 4; KODER 1991, 95.

<sup>204</sup> Book of the Eparch IX. 6.

<sup>205</sup> All this can be declared, of course, only by having it constantly in mind that neither the Byzantine nor the Islamic silk industry was settled for classic mass production.

<sup>206</sup> Leo Marsicanus' description demonstrates well what a small quantity of silk the Hungarians could take even from a cloister of such significance and financial power as Monte Cassino, if compared to the size of contemporary society.

Tab. 2. Non-ferrous metal objects and horse burials in graves with silk remnants from the 10<sup>th</sup>–11<sup>th</sup> centuries in the Carpathian Basin

<i>Grave</i>	<i>Gold object</i>	<i>Silver (or silver gilt) object</i>	<i>Bronze (or bronze gilt) object</i>	<i>Horse burial</i>	<i>Literature</i>
Eperjes-Takács-tábla, Grave 5, Nr.1.1.	–	1 silver gilt belt mount (?) 14 lozenge-shaped silver gilt mounts 8 silver round mounts	1 open bronze lockring 4 bronze buttons 4 bronze gilt plates	×	BÁLINT 1991, 71–72
Gnadendorf Nr.1.2.	–	2 open silver lockrings 7 silver gilt belt mounts 11 silver coins 1 sabre with silver gilt fittings	–	×	TOBIAS 2006
Gyoma-Kádártanya, Grave 1, Nr.3.2.–3.2.	–	9 silver gilt round mounts of a headgear 1 silver gilt round mount (supposedly belonged to the headgear or the garment) 1 open bracelet of silver sheet	–	–	KOVÁCS 1973, 9
Ibrány-Esbóhalom, Grave 172, Nr.1.3–1.4.	–	2 silver dress pendant ornaments 1 silver gilt round dress ornament 1 silver button	1 open bronze lockring	–	ISTVÁNOVITS 2003, 94, Pl. 86, 172
Ibrány-Esbóhalom, Grave 197a, Nr.1.5.	–	1 open silver lockring 2 silver gilt braid ornaments 1 lower part of a silver gilt dress pendant ornament 4 drop-shaped silver gilt pendants 1 open bracelet of sheet silver	1 bronze rattle 6 bronze buttons 1 twisted bronze neckring 3 bronze wire bracelets 1 bronze wire anklets 1 cross (lead)	–	ISTVÁNOVITS 2003, 97–99, Pl. 93–96
Ibrány-Esbóhalom, Grave 197b, Nr.1.6.	–	1 lozenge-shaped part of a silver coin (supposedly belonged to a headgear) 1 open silver finger-ring with narrow hoop	1 open bronze lockring 3 bronze wire bracelets 6 open bronze finger-rings with overlapping terminals 1 bronze wire anklet fragments of a bronze application of unknown function (supposedly belonged to a headgear)	–	ISTVÁNOVITS 2003, 99–101, Pl. 97
Jánosszállás-Katonapart, Grave 1, Nr.1.7.	–	6 silver round ornaments	–	–	BÁLINT 1991, 20–23
Jánosszállás-Katonapart, Grave 2, Nr.1.8.	–	2 silver earrings 1 silver finger-ring 1 silver braid ornament 1 silver gilt pendant ornament 1 silver gilt pendant ornament of a <i>caftan</i>	1 bronze finger-ring 2 bronze buttons	–	BÁLINT 1991, 23–26
Karos-Eperjesszög II, Grave 6, Nr.1.9.	1 open lockring	fragments of a silver sheet unknown function	–	×	RÉVÉSZ 1996, 16, Pl. 11
Karos-Eperjesszög II, Grave 11, Nr.1.10.	1 bezelled finger-ring with gem inlay	fragments of silver sheets of the dress 2 armbands of silver sheet 16 silver mounts of a sabretache sabre with silver gilt fittings	2 open bronze lockrings 1 bronze plate of the saddle	×	RÉVÉSZ 1996, 17–18, Pl. 17–20
Karos-Eperjesszög II, Grave 41, Nr.1.11.	–	2 open silver gilt lockrings fragments of silver plates	34 bronze mounts of a sabretache 3 bronze mounts of the hanging strap of the sabretache	×	RÉVÉSZ 1996, 23, Pl. 55–57

Tab. 2. Non-ferrous metal objects and horse burials in graves with silk remnants from the 10<sup>th</sup>–11<sup>th</sup> century in the Carpathian Basin

<i>Grave</i>	<i>Gold object</i>	<i>Silver (or silver gilt) object</i>	<i>Bronze (or bronze gilt) object</i>	<i>Horse burial</i>	<i>Literature</i>
Kiskundorozsma-Hosszúhát-halom, Grave 100, Nr.3.13.	–	18 silver coins	–	×	BENDE AT ALL 2002 <sup>207</sup>
Madaras, Grave 6, Nr.1.12–1.16. Nr.3.18–3.19.	–	2 open silver lockring fragments of a silver gilt braid ornament (?) 21 silver gilt lozenge-shaped dress ornaments 2 bracelets of sheet silver 34 silver boot mounts 1 fragment of a silver sheet of unknown function	–	–	KÖHEGYI 1980, 222, 226
Mindszent-Koszorúsdűlő, Grave 2, Nr.1.17.	–	21 small silver plates (supposedly belonged to the horse harness) 3 small silver plates with bronze rivets (supposedly belonged to the saddle)	1 Byzantine bronze belt buckle	–	CSALLÁNY 1941, 186; LANGÓ-TÜRK 2004, 369–372, Pl. 5. 6–7, Pl. 6–7, Pl. 9. 5–8
Mohács-Téglagyár, Grave 5, Nr.3.20.	4 round plates	32 silver round ornaments 26 silver round boot mounts 14 silver round ornaments 4 great silver gilt round belt mounts 4 small silver gilt round belt mounts 1 silver gilt small strap end silver sheet decorations of a saddle	10 hemispheric bronze gilt ornaments	×	KISS 1983, 241, Pl. 108. 8–17, Pl. 109–110
Szabadkígyós-Pálligetű tábla, Grave 12, Nr.1.18–1.19.	–	24 silver round-shaped dress ornaments of a <i>caftan</i> and an undergarment	–	–	BÁLINT 1971, 67–73
Zemplin (Zemplén) Nr.1.20.	1 gold neckring 2 gold open lockrings 4 gold bracelets gold sheets of sabre 5 gold sheet-fragments	2 silver gilt braid ornaments 1 silver cup 153 silver gilt mounts 3 silver belt mounts 2 silver strap ends (small) 1 silver gilt strap end (large) 124 silver gilt mounts  Mounts of horse harness: 4 leaf-shaped silver mounts 66 scaled silver gilt mounts 33 silver gilt mounts 6 silver gilt phalerae, 6 silver (pseudo)buckles 5 silver gilt small strap ends	1 lyre-shaped bronze buckle 3 bronze buttons	–	BUDINSKÝ-KRIČKA 1991, 71–72

<sup>207</sup> The grave has been published in 2002. While restoring the leather remnants, two pieces of textile (ca. 1x1 cm, most probably silk) were isolated. The remnants were preserved between the leather

and some coins. One piece was found under the right leg in connection with coin E/17, the other one was lying on the left side of the spinal column adhering to coin E/8.

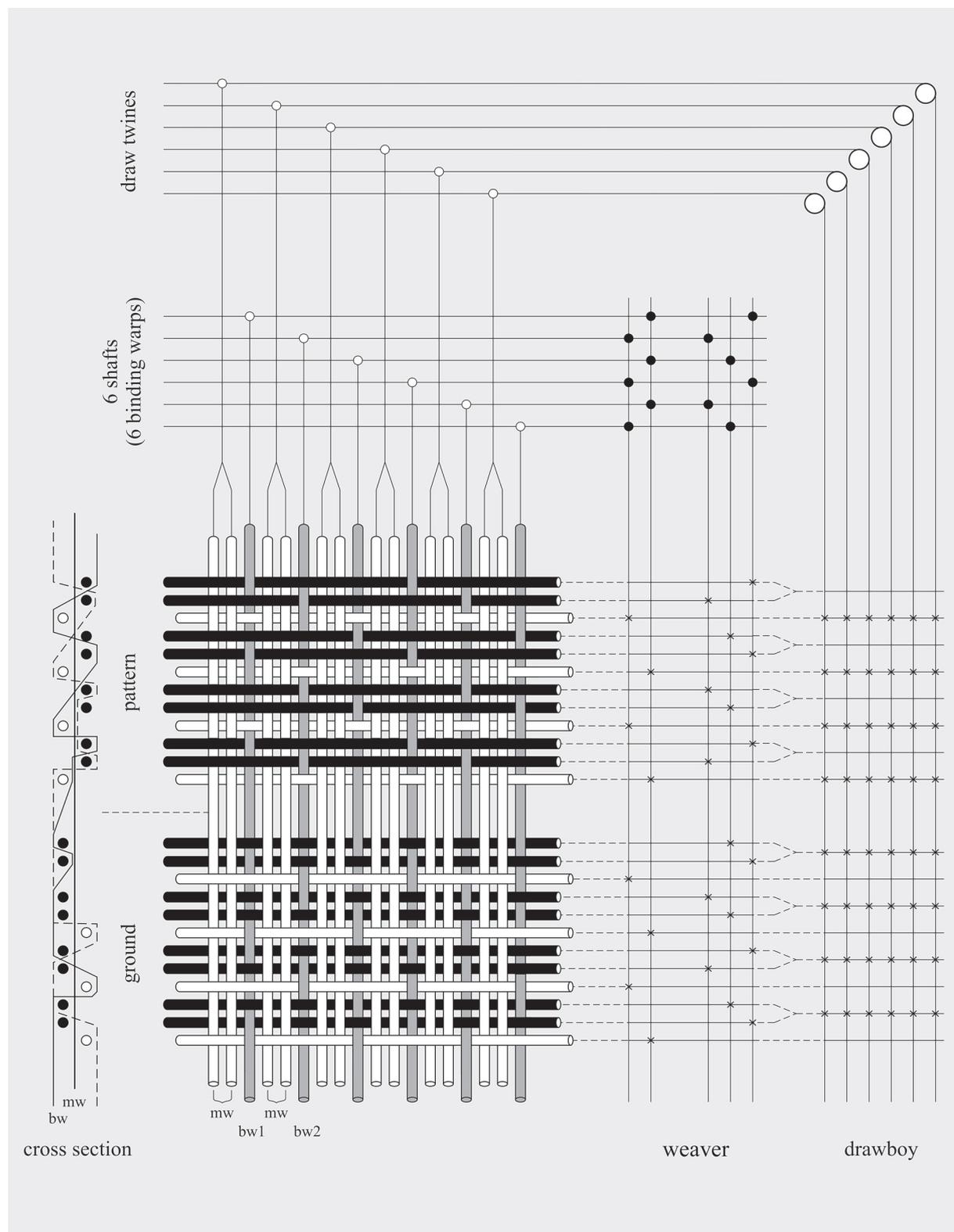


Fig. 1. Schematic drawing of the weft-faced compound twill (tabby and 1/2 weft twill, S diagonal rib) Proportion: I, II; II, I

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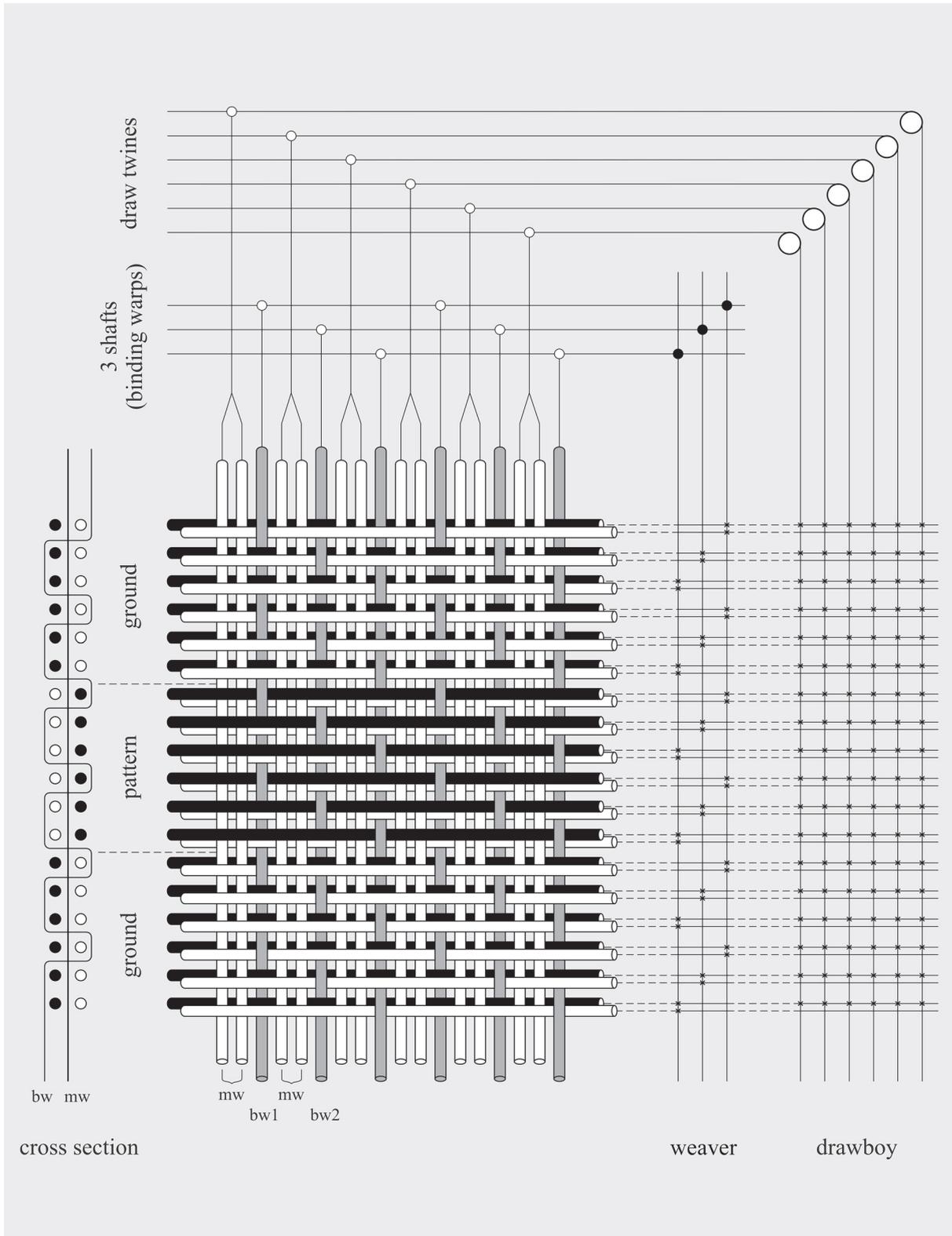


Fig. 2. Schematic drawing of the 1. type of the 10<sup>th</sup>-11<sup>th</sup>-centuries samits in the Carpathian Basin (samit, 1/2 weft twill, S diagonal rib)  
Proportion: I, II; I, II

*Acta Archaeologica Academiae Scientiarum Hungaricae 60, 2009*



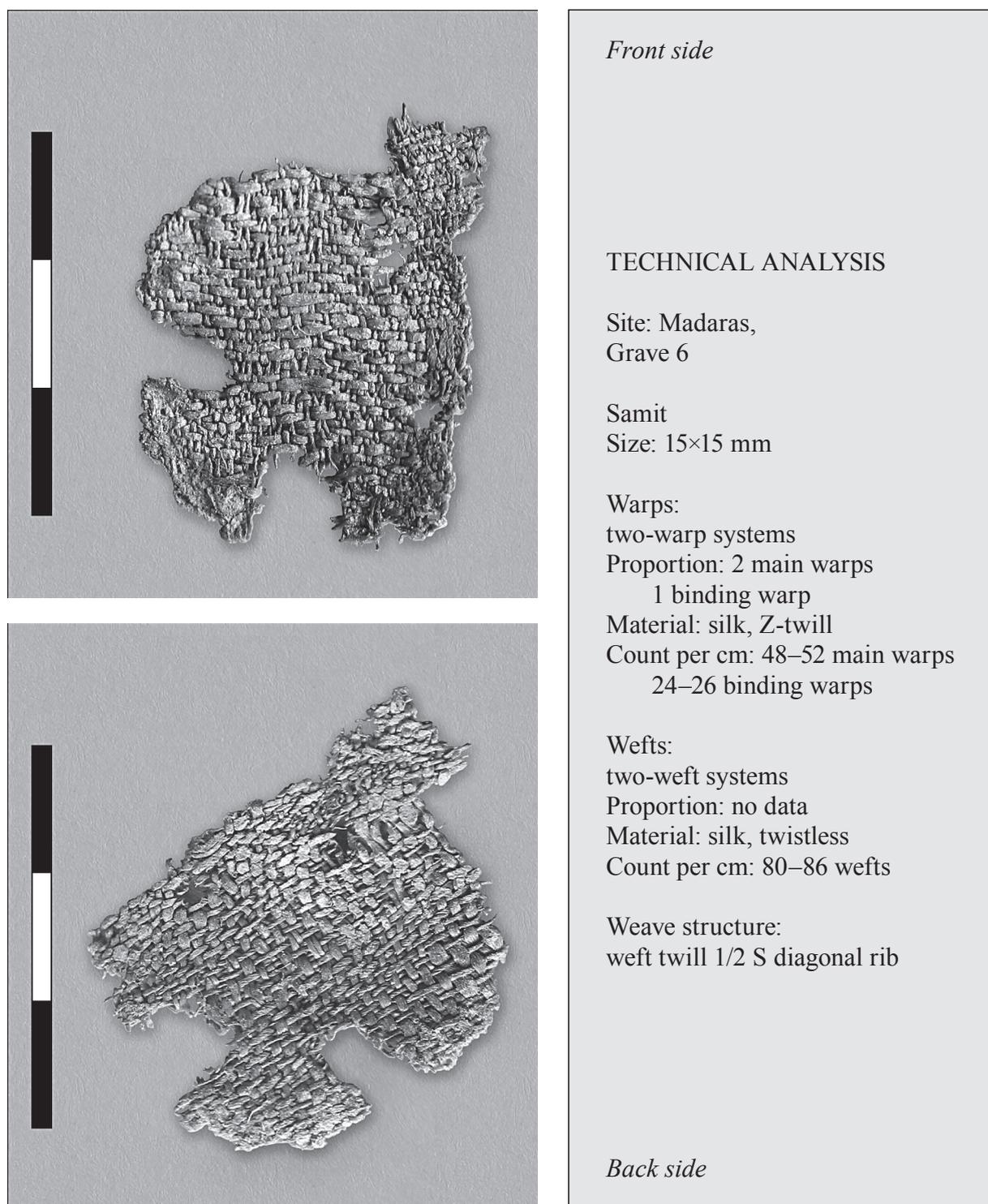
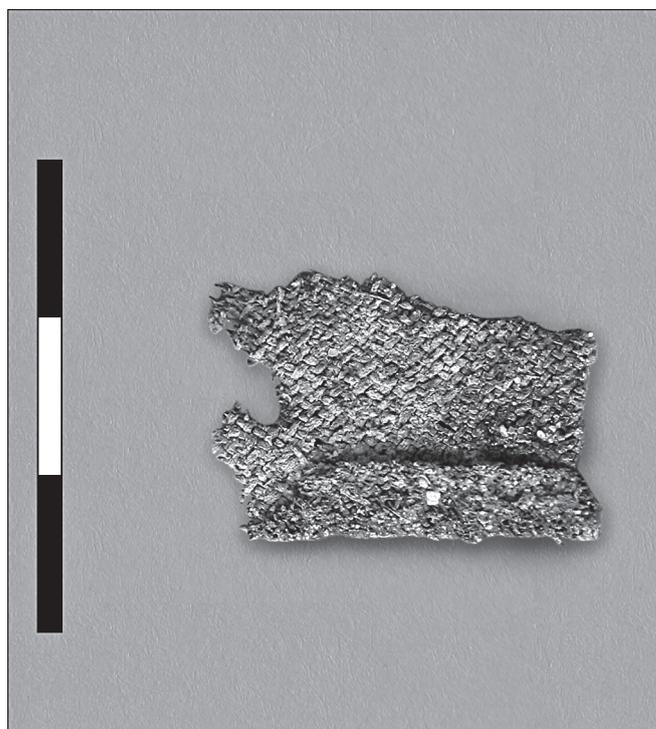


Fig. 4. Silk remnant from the Grave 6 at Madaras



*Front side*

#### TECHNICAL ANALYSIS

Site: Ibrány–Esbóhalom,  
Grave 197a

Samit

Size: 10×7 mm

Warps:

two-warp systems

Proportion: 2 main warps

1 binding warp

Material: silk, Z-twill

Count per cm: 36–40 main warps

18–20 binding warps

Wefts:

two-weft systems

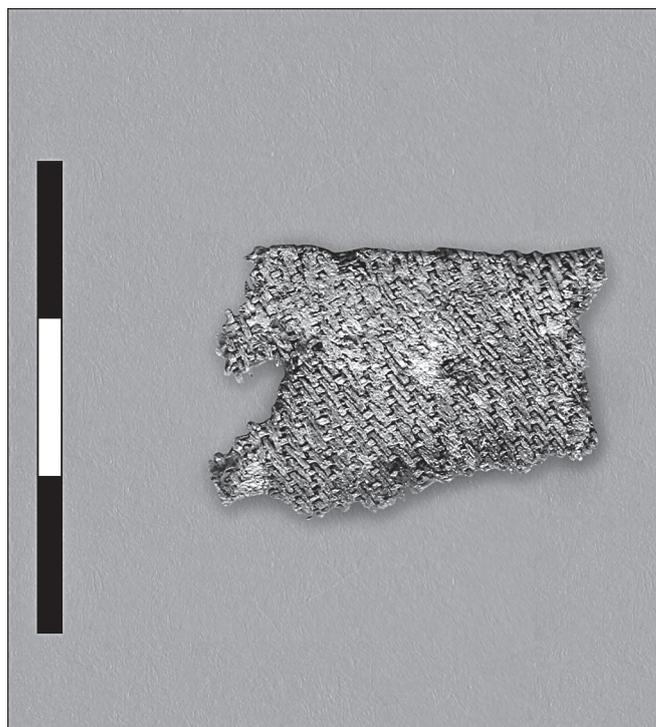
Proportion: no data

Material: silk, twistless

Count per cm: 88–94 wefts

Weave structure:

weft twill 1/2 S diagonal rib



*Back side*

Fig. 5. Silk remnant from the Grave 197a at Ibrány–Esbóhalom

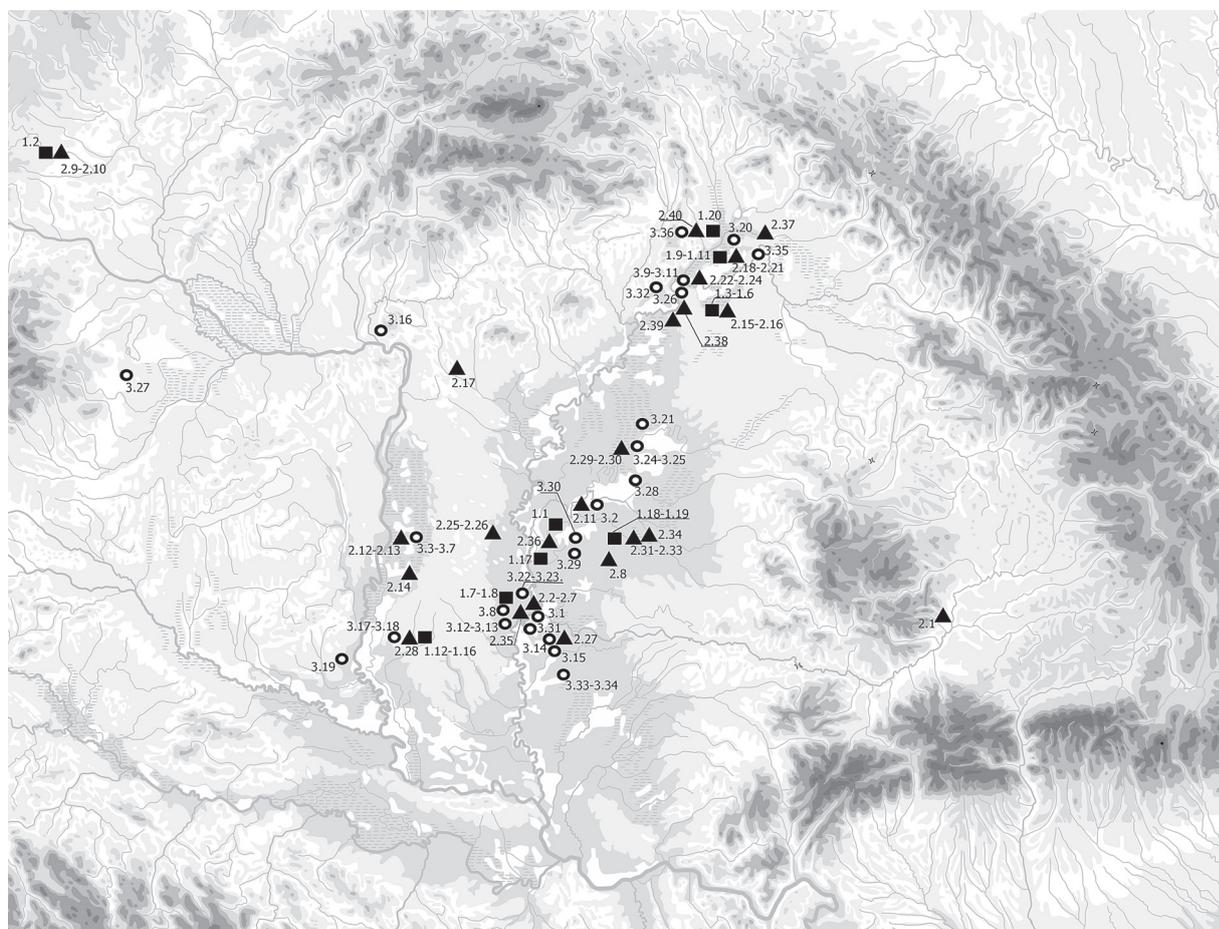


Fig. 6. Textile remnants in the archaeological heritage of the Carpathian Basin from the 10<sup>th</sup>–11<sup>th</sup> centuries: ■ silk; ▲ tabby; ○ unidentifiable (impression, lost)

The easiest approach is to compare the number of graves with identifiable fragments. As it can be seen from our tables, until now a total of 19 Conquest Period graves contained certainly silk remnants. 14 graves contained identifiable silk fragments (Cat. 1.), 3 further graves discernible impressions of silk (Cat. 3.2.; 3.8.; 3.28.), while 2 further graves contained questionable remnants (Cat. 3.12–3.13.; 3.19.). 39 graves contained some kind of woven linen remnants (33 graves with linen fragments (Cat. 2.) and 6 graves with discernible impressions of linen cloth (3.1.; 3.2.; 3.11.; 3.14–15.; 3.22.)). In 6 graves both silk and linen remnants were found: Gnadendorf (Cat. 1.2.; Cat. 2.9–10.), Gyoma-Kádártanya, Grave 1, (Cat. 3.2.; Cat. 2.11.), Ibrány-Esbóhalom, Grave 197a (Cat. 1.5.; Cat. 2.15.), Madaras, Grave 6 (Cat. 1.12–1.16.; Cat. 2.28.), Szabadkigyós-Pálligeti tábla, Grave 12, (Cat. 1.18–19.; Cat. 2.33.) and Zemplén (Zemplín) (Cat. 1.20.; Cat. 2.40.). Following this way of thinking, one could reckon that graves with silk fragments made up approximately 35% of the graves of the period containing textile remnants.

Of course, we can be sure that the quantity of linen remnants (first and foremost the quantity of this kind of impressions) could be augmented considerably with further research into museum collections. But we also have to take into consideration that in this way one would be able to find principally data that are not connected to items of clothing, but other parts of the costume (the so-called “*Tracht*”). (It seems obvious that linen remnants on knives or on flints could represent rather sabretache fragments or something alike than parts of a coat, a jacket, a shirt or a *caftan*.) Consequently, when assessing the percentage of the various textile stuffs under study, the most

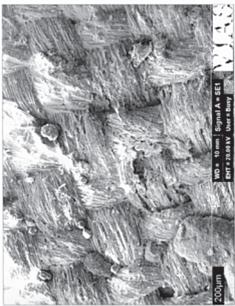
Nr.	1.1.	1.2.	1.3.	1.4.
Site	Eperjes-Takács-tábla Grave 5	Gnadendorf (Katalognummer 3)	Ibrány-Esbóhalom, Grave 172 (Nr. 2)	Ibrány-Esbóhalom, Grave 172 (Nr. 3)
Twist	warps: Z-twill, wefts: twistless	warps: Z-twill	warps: Z-twill, wefts: twistless	warps: Z-twill, wefts: twistless
Construction	samit or weft-faced compound twill	silk, count per cm <sup>2</sup> : 32×27 warps	samit or weft-faced compound twill	samit or weft-faced compound twill
Photo	no data		 Front side	 Front side
Macrophoto	no data		 Back side	 Back side
Literature	BÁLINT 1991, 71–72	MÜLLAUER 2006, 94–95	T. KNOTIK 2003, 418–422	T. KNOTIK 2003, 418–422

Fig. 7. Silk remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 1.1–1.4.

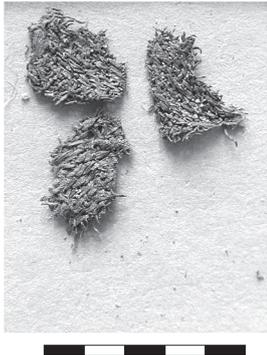
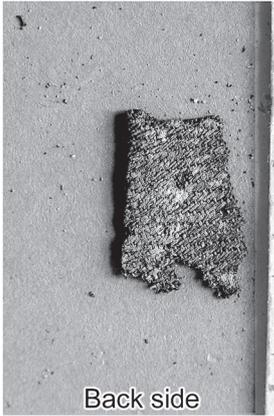
Nr.	1.5.	1.6.	1.7.	1.8.
Site	Ibrány-Esbóhalom, Grave 197a	Ibrány-Esbóhalom, Grave 197b	Jánosszállás-Katonapart, Grave 1	Jánosszállás-Katonapart, Grave 2
Twist	warps: Z-twill, wefts: twistless	warps: Z-twill, wefts: twistless	warps: Z-twill, wefts: twistless	warps: Z-twill, wefts: twistless
Construction	samit or weft-faced compound twill	samit or weft-faced compound twill	samit or weft-faced compound twill	samit or weft-faced compound twill
Photo	 Front side			
Macrophoto	 Back side		no data	
Literature	T. KNOTIK 2003, 418–422	T. KNOTIK 2003, 418–422	BÁLINT 1991, 21–23, Taf. III.2	BÁLINT 1991, 21

Fig. 8. Silk remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 1.5–1.8.

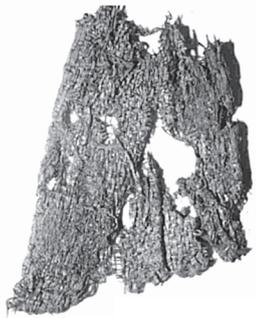
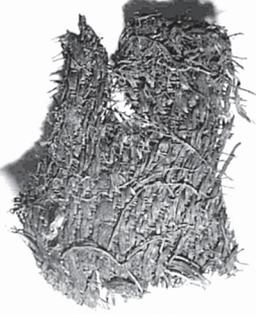
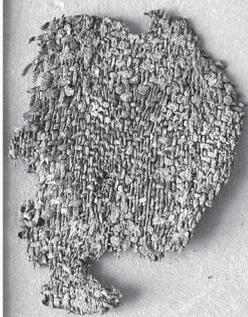
Nr.	1.9.	1.10.	1.11.	1.12.
Site	Karos-Eperjesszög II, Grave 6	Karos-Eperjesszög II, Grave 11	Karos-Eperjesszög II, Grave 41	Madaras, Grave 6
Twist	warps: Z-twill, wefts: twistless	warps: Z-twill, wefts: twistless	warps: Z-twill, wefts: twistless	warps: Z-twill, wefts: twistless
Construction	samit or weft-faced compound twill	samit or weft-faced compound twill	samit or weft-faced compound twill	samit or weft-faced compound twill
Photo	 Front side	 Front side	 Front side	 Front side
Macrophoto	 Back side	 Back side	 Back side	 Back side
Literature	unpublished (For the grave see: RÉVÉSZ 1996, 14)	unpublished (For the grave see: RÉVÉSZ 1996, 17–18)	unpublished (For the grave see: RÉVÉSZ 1996, 23)	KÓHEGYI- T. KNOTIK 1982

Fig. 9. Silk remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 1.9–1.12.

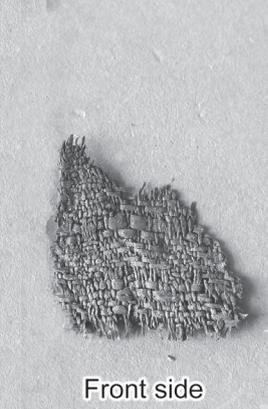
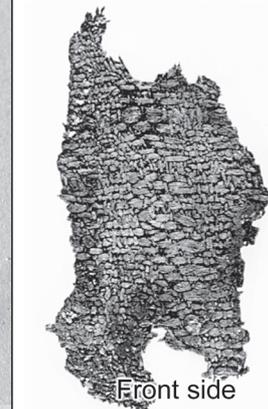
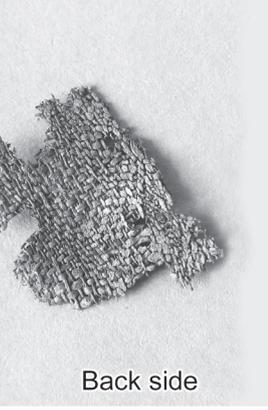
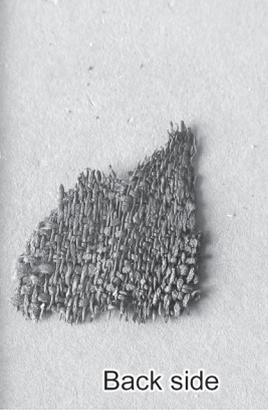
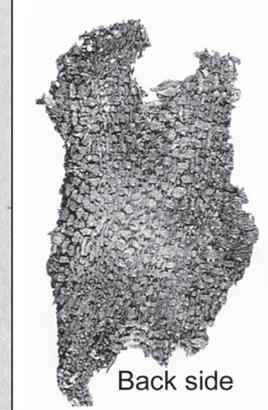
Nr.	1.13.	1.14.	1.15.	1.16.
Site	Madaras, Grave 6 (2)	Madaras, Grave 6 (3)	Madaras, Grave 6 (4)	Madaras, Grave 6
Twist	warps: Z-twill, wefts: twistless	no data	warps: Z-twill, wefts: twistless	warps: Z-twill, wefts: twistless
Construction	samit or weft-faced compound twill	samit or weft-faced compound twill	samit or weft-faced compound twill	samit or weft-faced compound twill
Photo		 Front side	 Front side	 Front side
Macrophoto		 Back side	 Back side	 Back side
Literature	KÓHEGYI- T. KNOTIK 1982	KÓHEGYI- T. KNOTIK 1982, Taf. CIX. 7-8	KÓHEGYI- T. KNOTIK 1982	KÓHEGYI- T. KNOTIK 1982, Taf. CXII. 1-2

Fig. 10. Silk remnants from the Carpathian Basin (10<sup>th</sup>-11<sup>th</sup> centuries) Nr. 1.13-1.16.

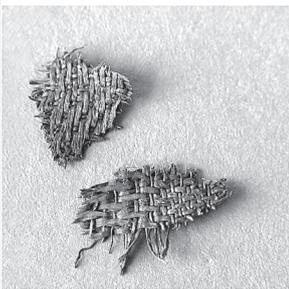
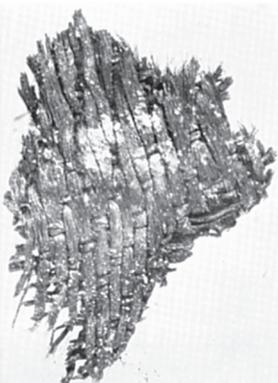
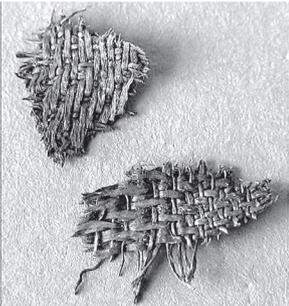
Nr.	1.17.	1.18.	1.19.	1.20.
Site	Mindszent, Koszorús-dűlő, Grave 2	Szabadkígyós- Pálligeti tábla, Grave 12 (TM 11)	Szabadkígyós- Pálligeti tábla, Grave 12 (TM 12)	Zemplín (Zemplén)
Twist	warps: Z-twill, wefts: twistless	warps: Z-twill, wefts: twistless	warps: Z-twill, wefts: twistless	no data
Construction	samit or weft-faced compound twill	samit or weft-faced compound twill	samit or weft-faced compound twill	natural silk (after PLESNÍK 1973)
Photo				no data
Macrophoto		no data	no data	no data
Literature	T. KNOTIK 1971, 14, Figs 9–10	T. KNOTIK 1971, Fig. 9.	T. KNOTIK 1971, Fig. 8.	BUDINSKÝ- KRIČKA 1973, 41–44

Fig. 11. Silk remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 1.17–1.20.

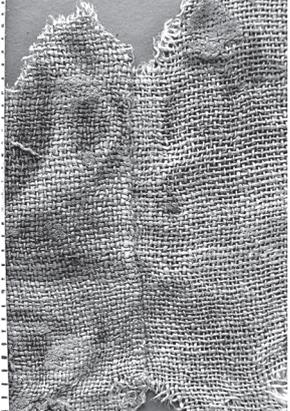
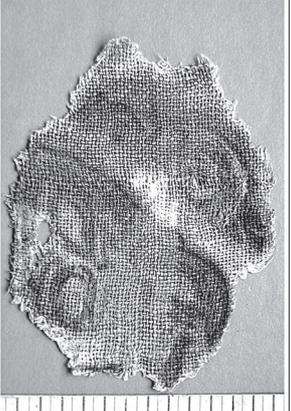
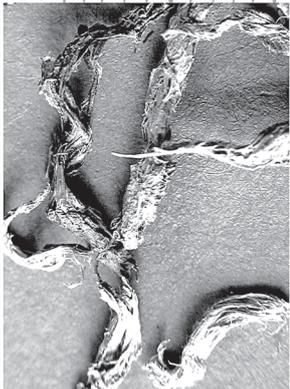
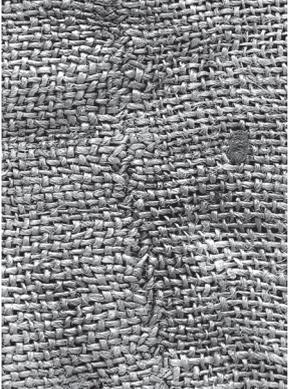
Nr.	2.1.	2.2.	2.3.	2.4.
Site	Alba Iulia- (Gyulafehérvár) Brîndușei, Grave 128/2005	Algyő, Grave 42	Algyő, Grave 72 (shirt)	Algyő, Grave 72
Twist	warps: no data wefts: no data	no data	warps: Z-twill wefts: Z-twill	warps: Z-twill wefts: Z-twill
Construction	tabby? count per cm <sup>2</sup> : no data	linen yarns	tabby count per cm <sup>2</sup> : 16 warps, 16 wefts	tabby count per cm <sup>2</sup> : 26 warps, 22 wefts
Photo				
Macrophoto	no data			
Literature	DRAGOTA <i>et al.</i> 2006, 51	unpublished	unpublished	unpublished

Fig. 12. Tabby remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 2.1–2.4.

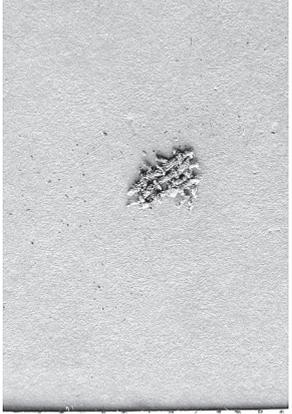
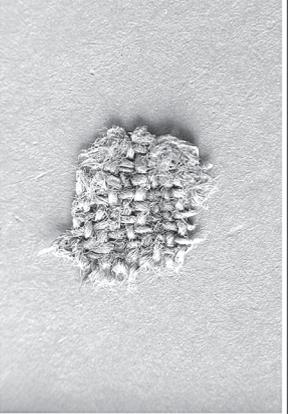
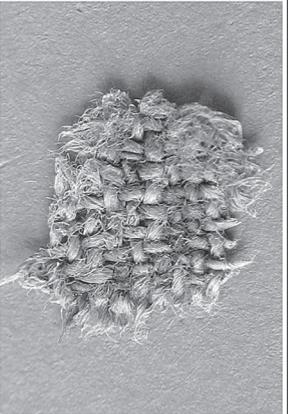
Nr.	2.5.	2.6.	2.7.	2.8.
Site	Algyő, Grave 72	Algyő, Grave 74	Algyő, Grave 93	Bánkút-Rózsamajor, Grave 1
Twist	warps: Z-twill wefts: Z-twill	warps: Z-twill wefts: Z-twill	warps: Z-twill wefts: Z-twill	warps: Z-twill wefts: Z-twill
Construction	tabby count per cm <sup>2</sup> : 26 warps, 22 wefts	tabby count per cm <sup>2</sup> : 14 warps, 14 wefts	tabby count per cm <sup>2</sup> : 26 warps, 22 wefts	tabby count per cm <sup>2</sup> : 8 warps, 8 wefts
Photo				
Macrophoto				
Literature	unpublished	unpublished	unpublished	unpublished (For the grave see: BÁLINT 1932, 259–262)

Fig. 13. Tabby remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 2.5–2.8.

Nr.	2.9.	2.10.	2.11.	2.12.
Site	Gnadendorf, (Kat. Nr. 8)	Gnadendorf, (Kat. Nr. 10)	Gyoma-Kádártanya, Grave 1	Harta-Freifelt, Grave 4
Twist	warps: Z-twill wefts: twistless	warps: Z-twill wefts: Z-twill	no data	warps: Z-twill wefts: Z-twill
Construction	tabby count per cm <sup>2</sup> : 24×18	tabby count per cm <sup>2</sup> : 30×25	no data	tabby count per cm <sup>2</sup> : no data
Photo		no data	no data	
Macrophoto		no data	no data	
Literature	MÜLLAUER 2006, 96, Abb. 4–5	MÜLLAUER 2006, 95–96	unpublished	unpublished (For the grave see: KUSTÁR-LANGO 2003, 27–29)

Fig. 14. Tabby remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 2.9–2.12.

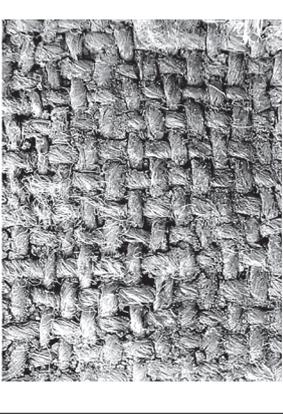
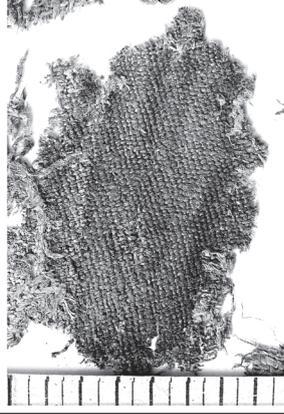
Nr.	2.13.	2.14.	2.15.	2.16.
Site	Harta-Freifelt, Grave 9	Homokmégy-Halom, Grave 3	Ibrány-Esbóhalom, Grave 197a	Ibrány-Esbóhalom, Grave 206
Twist	warps: Z-twill wefts: Z-twill	warps: Z-twill wefts: twistless	warps: Z-twill wefts: Z-twill	warps: Z-twill wefts: Z-twill
Construction	tabby count per cm <sup>2</sup> : 13 warps, 13 wefts	tabby count per cm <sup>2</sup> : 18 warps, 14 wefts	tabby count per cm <sup>2</sup> : 15 warps, 15 wefts	tabby count per cm <sup>2</sup> : no data
Photo			no data	no data
Macrophoto			no data	no data
Literature	unpublished (For the grave see: KUSTÁR-LANGO 2003, 27–29)	HORVÁTH 1996, 126, Pl. 1.18	T. KNOTIK 2003, 419–420	T. KNOTIK 2003, 422

Fig. 15. Tabby remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 2.13–2.16.

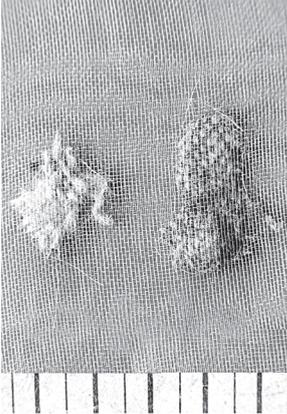
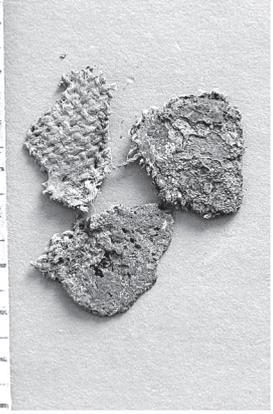
Nr.	2.17.	2.18.	2.19.	2.20.
Site	Jászfényszaru-Körös	Karos-Eperjesszög II, Grave 36	Karos-Eperjesszög II, Grave 52	Karos-Eperjesszög II, Grave 72
Twist	warps: Z-twill wefts: Z-twill	warps: Z-twill wefts: Z-twill	warps: no data wefts: no data	warps: Z-twill wefts: Z-twill
Construction	tabby count per cm <sup>2</sup> : 10 warps, 10 wefts	tabby count per cm <sup>2</sup> : 10 warps, 10 wefts	tabby count per cm <sup>2</sup> : no data	tabby count per cm <sup>2</sup> : no data
Photo		 Front side		
Macrophoto	no data	 Back side		
Literature	unpublished	unpublished (For the grave see: RÉVÉSZ 1996, 22)	unpublished (For the grave see: RÉVÉSZ 1996, 26–28)	unpublished (For the grave see: RÉVÉSZ 1996, 32)

Fig. 16. Tabby remnants from the Carpathian Basin (10th–11th centuries) Nr. 2.17–2.20.

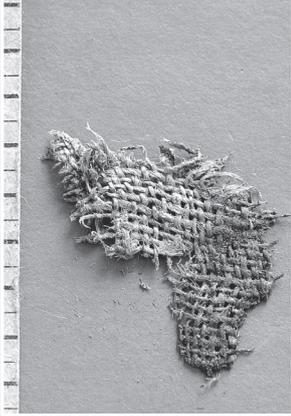
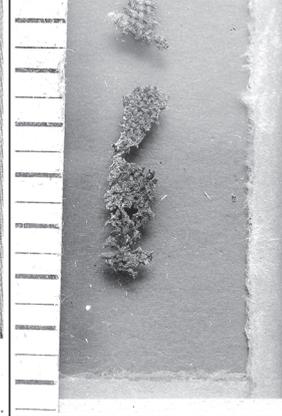
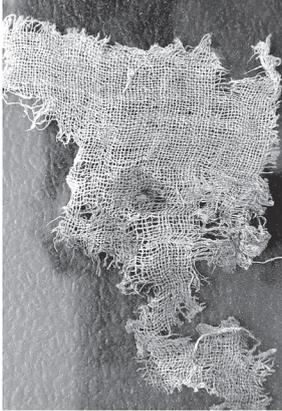
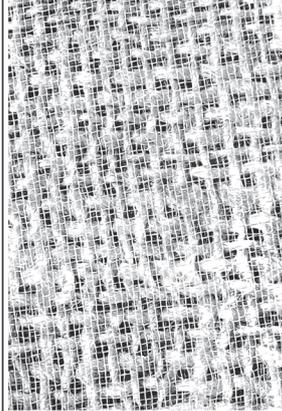
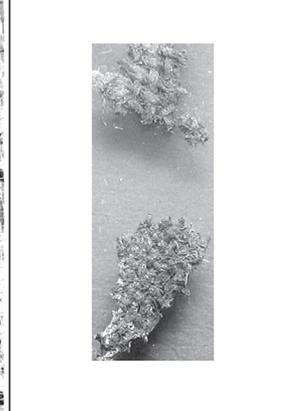
Nr.	2.21.	2.22.	2.23.	2.24.
Site	Karos-Eperjesszög II, Grave 72	Kenézlő-Fazekaszug, Grave 28 (Inv. Nr. MNM 55.3.5.A.)	Kenézlő-Fazekaszug, Grave 28 (Inv. Nr. MNM 55.3.4.A.)	Kenézlő-Fazekaszug, Grave 50 (Inv. Nr. MNM 55.20.4.A.)
Twist	no data	warps: Z-twill wefts: Z-twill	warps: Z-twill wefts: Z-twill	warps: Z-twill wefts: Z-twill
Construction	tabby count per cm <sup>2</sup> : no data	tabby count per cm <sup>2</sup> : 14 warps, 14 wefts	tabby count per cm <sup>2</sup> : 12 warps, 10 wefts	tabby count per cm <sup>2</sup> : no data
Photo				
Macrophoto				
Literature	unpublished (For the grave see: RÉVÉSZ 1996, 32)	FETTICH 1931, 84, Abb. 54	FETTICH 1931, 84, Abb. 54	FETTICH 1931, 100, Abb. 88.20

Fig. 17. Tabby remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 2.21–2.24.

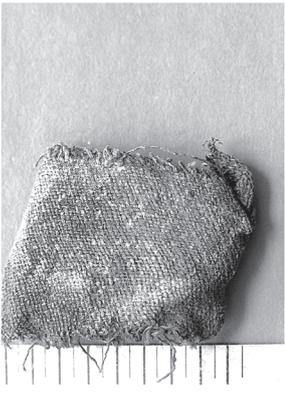
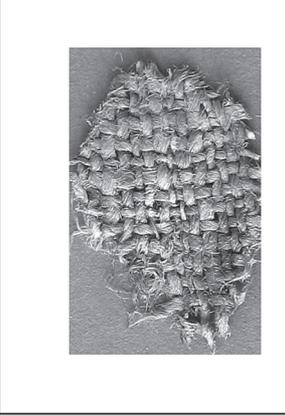
Nr.	2.25.	2.26.	2.27.	2.28.
Site	Kiskunfélegyháza- Radnóti u.	Kiskunfélegyháza- Radnóti u.	Kiszombor-B, Grave 127	Madaras, Grave 6
Twist	no data	warps: Z-twill wefts: Z-twill	no data	warps: Z-twill wefts: Z-twill
Construction	tabby count per cm <sup>2</sup> : 17 warps, 15 wefts	tabby count per cm <sup>2</sup> : 17 warps, 15 wefts	tabby count per cm <sup>2</sup> : no data	tabby count per cm <sup>2</sup> : 13 warps, 9 wefts
Photo				
Macrophoto			no data	
Literature	H. TÓTH 1974, 121–122, Abb. 12.1	H. TÓTH 1974, 121–122, Abb. 12.1	BÁLINT 1991, 143, Taf. XLVIII	KŐHEGYI- T. KNOTIK 1982, 198, Taf. CVIII

Fig. 18. Tabby remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 2.25–2.28.

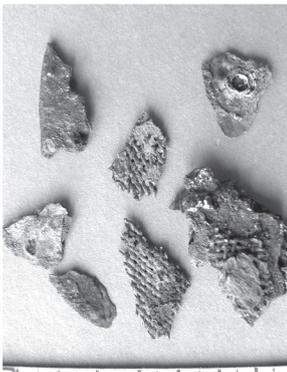
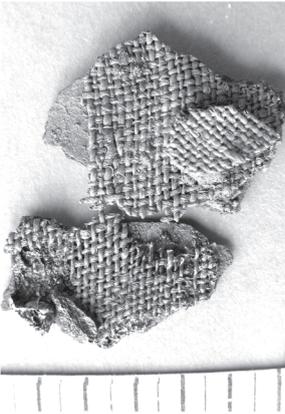
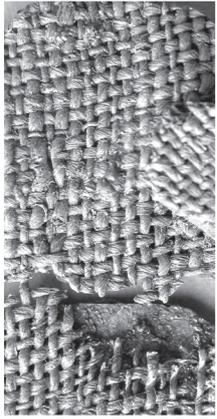
Nr.	2.29.	2.30.	2.31.	2.32.
Site	Sárrétudvari-Hízóföld, Grave 118 (braid ornament)	Sárrétudvari-Hízóföld, Grave 118 (braid ornament)	Szabadkígyós– Pálligeti tábla, Grave 7	Szabadkígyós– Pálligeti tábla, Grave 8
Twist	warps: Z-twill wefts: Z-twill	warps: Z-twill wefts: Z-twill	no data	no data
Construction	tabby count per cm <sup>2</sup> : no data	tabby count per cm <sup>2</sup> : 16 warps, 14 wefts	tabby count per cm <sup>2</sup> : 14 warps, 16 wefts	tabby count per cm <sup>2</sup> : no data
Photo				no data
Macrophoto			no data	no data
Literature	NEPPER 2002/I, 318–319; NEPPER 2002/II, Pl. 273	NEPPER 2002/I, 318–319; NEPPER 2002/II, Pl. 273	T. KNÖTIK 1971, 106, Pl. 5	T. KNÖTIK 1971, 106

Fig. 19. Tabby remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 2.29–2.32.

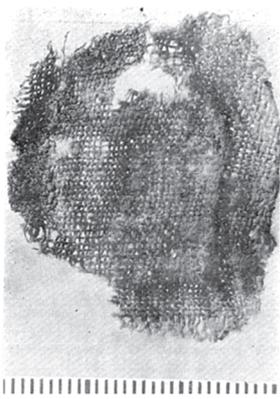
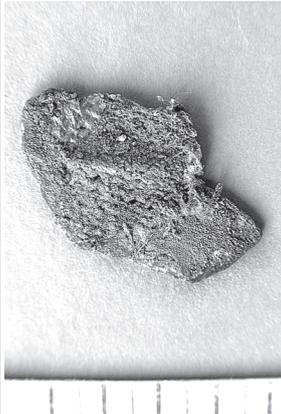
Nr.	2.33.	2.34.	2.35.	2.36.
Site	Szabadkígyós-Pálligeti tábla, Grave 12	Szabadkígyós-Tangazdaság, Grave 26	Szeged-Csongrádi út, Grave 12	Szentes-Borbásföld, Grave 9
Twist	warps: Z-twill wefts: Z-twill	warps: no data wefts: no data	warps: Z-twill wefts: Z-twill	warps: Z-twill wefts: Z-twill
Construction	tabby count per cm <sup>2</sup> : 18 warps, 16 wefts	tabby count per cm <sup>2</sup> : 14 warps, 16 wefts	tabby count per cm <sup>2</sup> : 14 warps, 12 wefts	tabby count per cm <sup>2</sup> : no data
Photo		no data		
Macrophoto	no data	no data		
Literature	T. KNOTIK 1971, 107, Pl. 6	T. KNOTIK 1971, 106	unpublished	unpublished (For the grave see: RÉVÉSZ 1996a, 301)

Fig. 20. Tabby remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 2.33–2.36.

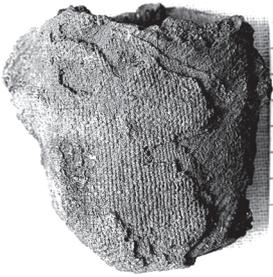
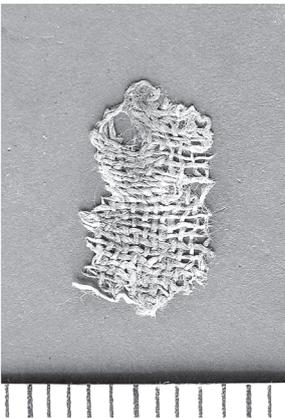
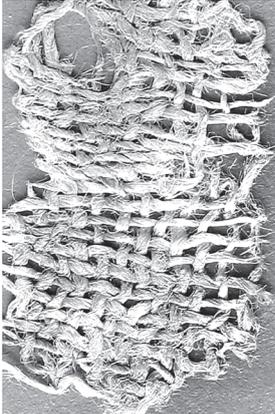
Nr.	2.37.	2.38.	2.39.	2.40.
Site	Szólyva (Inv. Nr. MNM 148/1870.10.)	Tímár-Béke Tsz. major I. Grave 8	Tiszaeszlár-Újtelep, Grave 12 (Inv. Nr. MNM 6/1938.1.)	Zemplín (Zemplén)
Twist	warps: no data wefts: no data	warps: no data wefts: no data	warps: no data wefts: no data	warps: no data wefts: no data
Construction	tabby count per cm <sup>2</sup> : no data	tabby count per cm <sup>2</sup> : 16 warps, 16 wefts	tabby count per cm <sup>2</sup> : no data	tabby (after PLESNÍK 1973)
Photo				no data
Macrophoto				no data
Literature	LEHÓCZKY 1870, 204	unpublished	unpublished	BUDINSKÝ- KRIČKA 1973, 41–44

Fig. 21. Tabby remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 2.37–2.40.

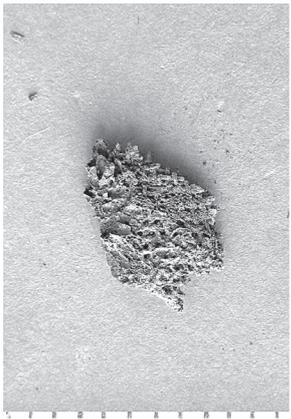
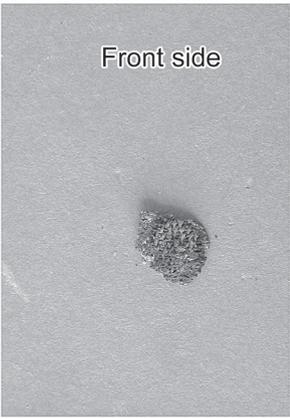
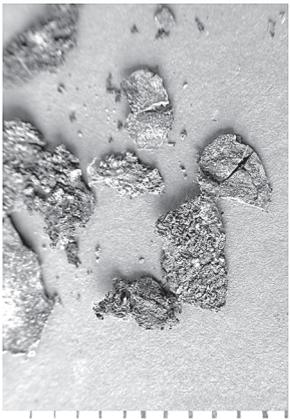
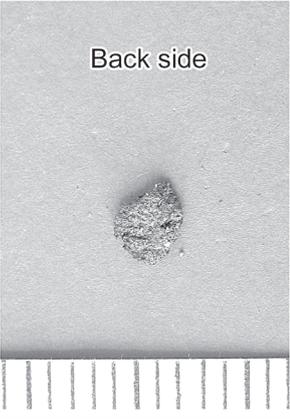
Nr.	3.1.	3.2.	3.3.	3.4.
Site	Algyó, Grave 32	Gyoma–Kádártanya, Grave 1	Harta–Freifelt, Grave 3	Harta–Freifelt, Grave 3
Twist	no data	no data	no data	flax
Construction	impression of tabby	impression of tabby	no data	no data
Photo		Front side 		
Macrophoto	no data	Back side 	no data	no data
Literature	unpublished	KOVÁCS 1988, 126	unpublished (For the grave see: KUSTÁR–LANGÓ 2003, 21–27)	unpublished (For the grave see: KUSTÁR–LANGÓ 2003, 21–27)

Fig. 22. Unidentifiable textile remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 3.1–3.4.

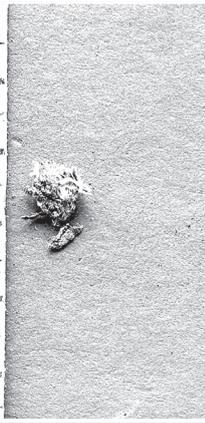
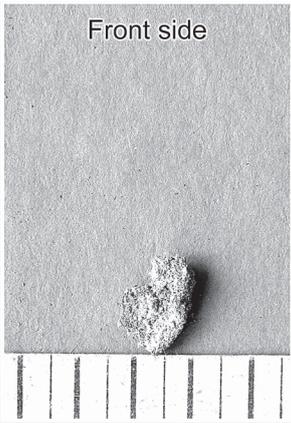
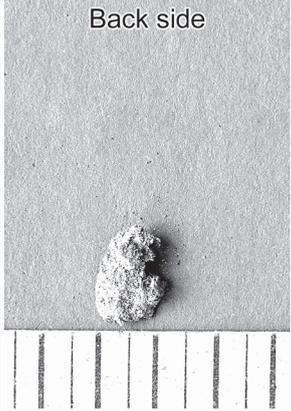
Nr.	3.5.	3.6.	3.7.	3.8.
Site	Harta–Freifelt, Grave 3	Harta–Freifelt, Grave 3	Harta–Freifelt, Grave 22	Jánosszállás– Katonapart, Grave 1
Twist	no data	no data	no data	warps: Z-twill wefts: twistless
Construction	no data	no data	no data	impression of samit or weft-faced compound twill
Photo			Front side 	
Macrophoto	no data	no data	Back side 	
Literature	unpublished (For the grave see: KUSTÁR–LANGÓ 2003, 21–27)	unpublished (For the grave see: KUSTÁR–LANGÓ 2003, 21–27)	unpublished (For the grave see: KUSTÁR–LANGÓ 2003, 31–34)	BÁLINT 1991, 20–22

Fig. 23. Unidentifiable textile remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 3.5–3.8.

Nr.	3.9.	3.10.	3.11.	3.12.
Site	Kenézlő–Fazekaszug, Grave 10	Kenézlő–Fazekaszug, Grave 14	Kenézlő–Fazekaszug, Grave 45	Kiskundorozsma- Hosszúhát-halom, Grave 100
Twist	no data	no data	no data	no data
Construction	no data	no data	tabby ?	silk ?
Photo	no data	no data		Front side 
Macrophoto	no data	no data	no data	Back side 
Literature	JÓSA 1914, 313	JÓSA 1914, 319	FETTICH 1931, 94–96	unpublished (For the grave see: BENDE <i>et al.</i> 2002)

Fig. 24. Unidentifiable textile remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 3.9–3.12.

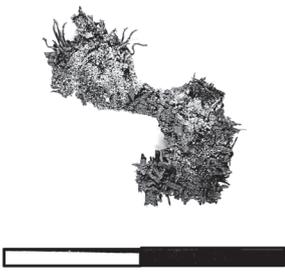
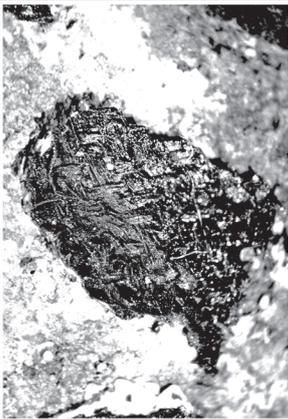
Nr.	3.13.	3.14.	3.15.	3.16.
Site	Kiskundorozsma-Hosszúhát-halom Grave 100	Kiszombor-B Grave 416	Kiszombor-C Grave 37	Letkés-Téglaégető II, Grave 70
Twist	no data	no data	warps: Z-twill wefts: twistless	no data
Construction		tabby?	impression of tabby	no data
Photo		no data		no data
Macrophoto		no data		no data
Literature	unpublished (For the grave see: BENDE <i>et al.</i> 2002)	unpublished	unpublished (For the grave see: LANGÓ-TÜRK 2004, 206)	BAKAY 1978 113–114

Fig. 25. Unidentifiable textile remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 3.13–3.16.

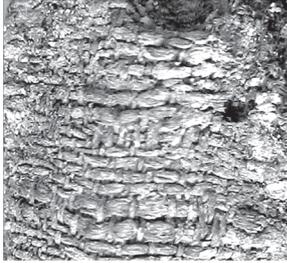
Nr.	3.17.	3.18.	3.19.	3.20.
Site	Madaras, Grave 6	Madaras, Grave 6	Mohács-Téglagyár Grave 5 (Inv Nr. MNM 2/1951.29)	Nagyrosvány- Futóhomok
Twist	no data	no data	no data	no data
Construction	no data	no data	silk ?	no data
Photo			no data	no data
Macrophoto				no data
Literature	KŐHEGYI- T. KNOTIK 1982, 197–200	KŐHEGYI- T. KNOTIK 1982, 197–200	unpublished (For the grave see: KISS 1983, 241)	RÉVÉSZ 1999, 9

Fig. 26. Unidentifiable textile remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 3.17–3.20.

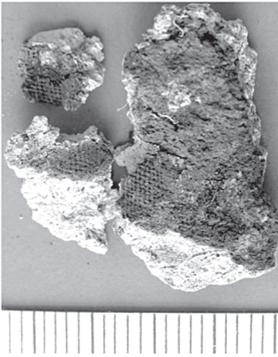
Nr.	3.21.	3.22.	3.23.	3.24.
Site	Püspökladány- Eperjesvölgy, Grave 146	Sándorfalva- Eperjes, Grave 14	Sándorfalva- Eperjes, Grave 15	Sárrétudvari- Hízófold, Grave 118
Twist	no data	no data	no data	no data
Construction	no data	impression of tabby	no data	no data
Photo	no data			no data
Macrophoto	no data			no data
Literature	NEPPER 2002, 152	unpublished	FODOR 1985, Abb. 8.7	NEPPER 2002, 317–319

Fig. 27. Unidentifiable textile remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 3.21–3.24.

Nr.	3.25.	3.26.	3.27.	3.28.
Site	Sárrétudvari-Hízóföld, Grave 167	Szabolcs – Petőfi u.	Szakony–Kavicsbánya	Szeghalom–Korhány
Twist	no data	no data	no data	no data
Construction	no data	no data	no data	no data
Photo		no data	no data	no data
Macrophoto	no data	no data	no data	no data
Literature	NEPPER 2002/I, Abb. 198	unpublished	DIENES 1978, 114	SZÉNÁNSZKY 1978, 77

Fig. 28. Unidentifiable textile remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 3.25–3.28.

Nr.	3.29.	3.30.	3.31.	3.32
Site	Szentes– Derekegyházi oldal, D-3 tábla, Grave 5	Szentes– Szentlászló, Grave 8	Szóreg– Homokbánya, Grave A	Tarcal– Rimai-dűlő, Grave 4
Twist	no data	no data	no data	no data
Construction	no data	no data	no data	no data
Photo		no data	no data	
Macrophoto		no data	no data	no data
Literature	LANGÓ-TÜRK 2003	SZÉLL 1941, 234, Pl. IX. 13	BÁLINT 1991, 76–79	HAMPEL 1900, 717

Fig. 29. Unidentifiable textile remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 3.29–3.32.

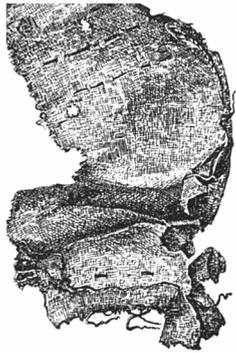
Nr.	3.33.	3.34.	3.35.	3.36.
Site	Teremia Mare, (Nagyteremia)	Teremia Mare, (Nagyteremia)	Tiszabездéd, Grave 16	Zemplín (Zemplén)
Twist	no data	no data	no data	no data
Construction	no data	no data	no data	no data
Photo		no data	no data	no data
Macrophoto	no data	no data	no data	no data
Literature	HAMPEL 1900, 668–669	HAMPEL 1900, 668–669	JÓSA 1896, 408–409	BUDINSKÝ- KRIČKA 1973, 41–44

Fig. 30. Unidentifiable textile remnants from the Carpathian Basin (10<sup>th</sup>–11<sup>th</sup> centuries) Nr. 3.36–3.36.



Fig. 31. 1–3: Caftan from Moščevaja Balka (reconstruction, after KAJITANI 2001, Fig. 1–3); 4: Sogdian attire, beginning of the 7<sup>th</sup> century (after KNAUER 2001, Fig. 17)

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Fig. 32. 1: Frogged caftan from Moščevaja Balka (after IERUSALIMSKAJA 1996, Taf. XXII, Abb. 50); 2: Woman tunic from Moščevaja Balka (after IERUSALIMSKAJA 1996, Taf. XXII, Abb. 38); 3. II. Menealogion of Basileios; 4: Dress-patterns of the male caftans in Moščevaja Balka (after IERUSALIMSKAJA 1992, 39, schema 1)

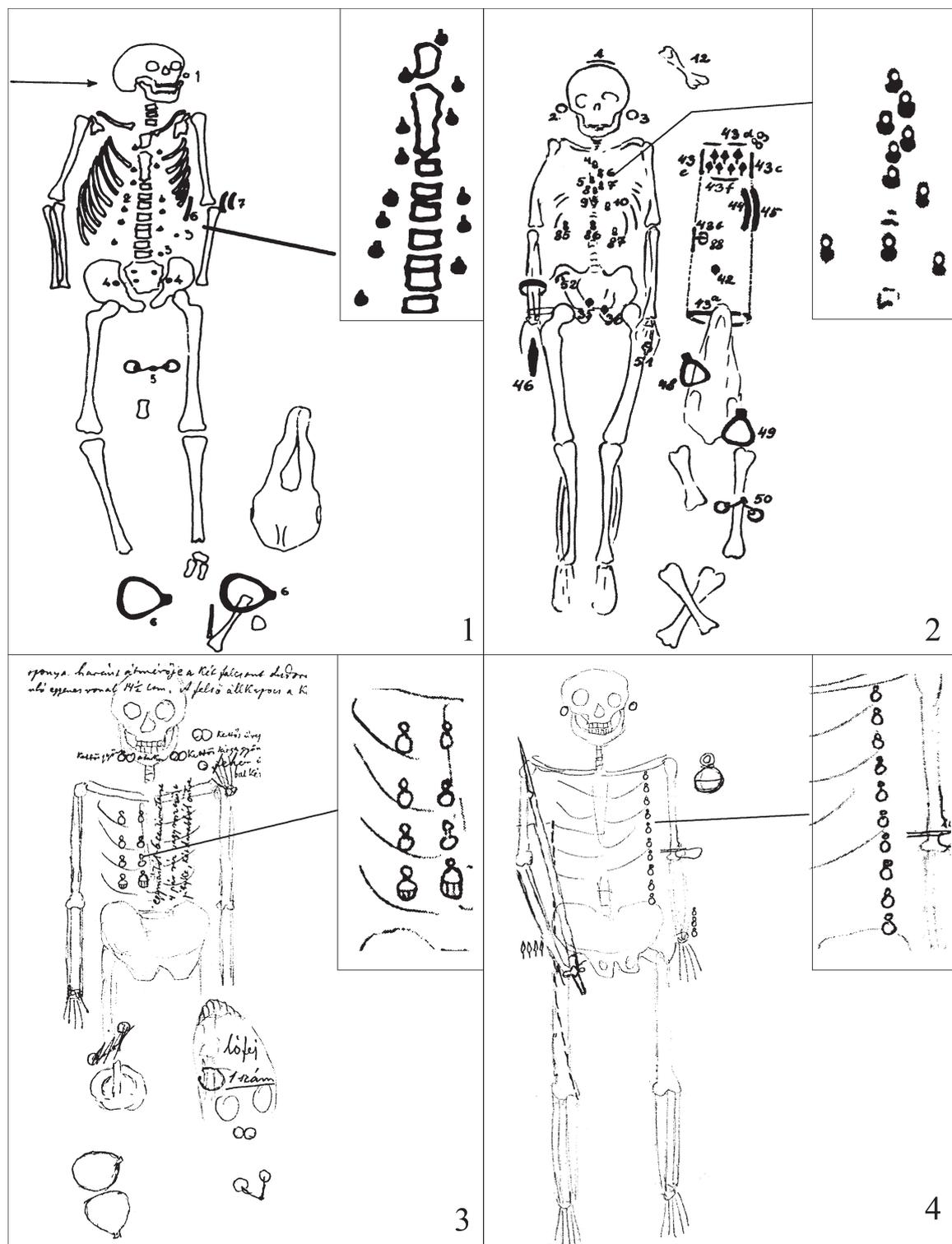


Fig. 33. Graves containing remains of frogged-caftan with one or two button-row in the 10<sup>th</sup> century archaeological heritage of the Carpathian Basin. 1: Sered (Szered) I, Grave 6 (after TOČÍK 1968, Abb. 16.2); 2: Rétközberencs-Paromdomb, Grave 2 (after ISTVÁNOVITS 2003, Pl. 164); 3: Tiszabездéd-Harangláb-dűlő, Grave 15 (after PROHÁSZKA-RÉVÉSZ 2004, Abb. 15); 4: Tiszabездéd-Harangláb-dűlő, Grave 10 (after PROHÁSZKA-RÉVÉSZ 2004, Abb. 10)



Fig. 34. 1: Adoration of the Magi (detail), New Church, Tokali Kilise (middle of the 10<sup>th</sup> century, after RESTLE 1967/II, Taf. 114); 2: Jesus's Entry to Jerusalem on Palm Sunday, Karanlık Kilise, Göreme Chapel 23. (12<sup>th</sup>–13<sup>th</sup> centuries, after RESTLE 1967, Taf. 234); 3: Detail of Fig. 33.2; 4: Nikephoros III Botaneiates and His Courtiers, Paris Coislin 79, fol.2r. (ca. 1071–1081, after PARANI 2007, Fig. 5) King Saul, Agth'amar (915–921, after DER NERSESSIAN 1965, Fig. 26; 6); Prince Hamazasp, Agth'amar (915–921, after DER NERSESSIAN 1965, Fig. 25)



Fig. 35. 1: Statue of a Caliph, Khirbat al-Mafjar, middle third of the 8<sup>th</sup> century (after HAMILTON 1959, Pl. LV.1); 2: Painted stucco wall panel, Iran 9<sup>th</sup>–10<sup>th</sup> centuries (after GRABAR–ETTINGHAUSEN 1987, Fig. 267); 3: Wall painting from Lashkari Bazar (10<sup>th</sup>–11<sup>th</sup> centuries, after SCHLUMBERGER 1952, Pl. XXXI/3); 4: Ingmar Jansson's drawing from Fig. 34.3 (after JANSSON 1988, Abb. 18)

Tab. 3. Non-ferrous metal objects and horse burials in graves with linen remnants from the 10<sup>th</sup>–11<sup>th</sup> centuries in the Carpathian Basin

<i>Grave</i>	<i>Gold object</i>	<i>Silver (or silver gilt) object</i>	<i>Bronze (or bronze gilt) object</i>	<i>Horse burial</i>	<i>Literature</i>
Alba Iulia- (Gyulafehérvár) Brîndușei, Grave 128/2005 Nr.2.1.	no data	no data	no data	no data	DRAGOTA <i>et al.</i> 2006, 51
Algyő, Grave 32, Nr.3.1.	–	1 open silver lockring	–	×	unpublished
Algyő, Grave 42, Nr.2.2.	–	2 silver lockrings 2 rings of silver sheet 2 silver mounts (on the neck) 12 silver dress ornaments (on the neck) 11 silver pendant dress ornaments (on the neck)	1 twisted bronze wire bracelet 3 bronze buttons	–	unpublished
Algyő, Grave 72, Nr.2.3–2.5.	–	2 silver earrings with a bead-row pendant 3 silver gilt pendant ornaments of a <i>caftan</i> 8 silver pendant dress ornaments (on the neck) 80 silver boot mounts	4 bronze buttons	–	unpublished, for the grave see: KÜRTI 2001, 19, 36–37 <sup>208</sup>
Algyő, Grave 74, Nr.2.6.	–	1 silver dress ornament (on the neck)	1 little bronze tube	–	unpublished
Algyő, Grave 93, Nr.2.7.	–	2 great silver buttons 17 lozenge-shaped silver ornaments 10 fragments of funerary eye pieces 13 boot mounts	–	–	unpublished
Bánkút-Rózsa- major, Grave 1, Nr.2.8.	–	17 silver pendant dress ornaments 15 silver dress ornaments 2 bracelets of silver sheet	3 bronze buttons	–	BÁLINT 1932, 260, Pl. LI
Gnadendorf Nr.2.9–2.10.	–	2 open silver lockrings 7 silver gilt belt mounts 11 silver coins 1 sabre with silver gilt fittings	–	×	TOBIAS 2006
Gyoma-Kádártanya, Grave 1, Nr.2.11.	–	9 round silver gilt mounts of a headgear 1 silver gilt round mount (supposedly belonged to the headgear or the garment) 1 open bracelet of silver sheet	–	–	KOVÁCS 1973, 9; T. KNÖTIK in print
Harta-Freifelt, Grave 4, Nr.2.12.	–	11 round silver ornaments 2 bracelets of silver sheet 1 silver earring with a bead-row pendant	1 half bronze button 1 bronze button	×	unpublished
Harta-Freifelt, Grave 9, Nr.2.13.	–	4 silver gilt pendant ornaments of a <i>caftan</i> 12 silver gilt pendant ornaments 5 silver gilt round ornaments	1 bronze button	–	unpublished
Homokmégy- Halom, Grave 3, Nr.2.14.	–	10 silver gilt belt mounts 1 silver strap end 6 silver round ornaments 1 silver pendant	–	×	HORVÁTH 1996, 127, Abb. 1.18

<sup>208</sup> The grave is not fully published, the grave goods are listed here according to the available data.

Tab. 3. (Cont.)

<i>Grave</i>	<i>Gold object</i>	<i>Silver (or silver gilt) object</i>	<i>Bronze (or bronze gilt) object</i>	<i>Horse burial</i>	<i>Literature</i>
Ibrány-Esbóhalom, Grave 197a, Nr.2.15.	–	1 silver open lockring 2 silver gilt braid ornaments 1 lower part of a silver gilt dress pendant ornament 4 drop-shaped silver gilt pendants 1 open bracelet of sheet silver	1 bronze rattle 6 bronze buttons 1 twisted bronze neckring 3 bronze wire bracelets 2 bronze wire anklets 1 cross (lead)	–	ISTVÁNOVITS 2003, 97–99, Pl. 93–96
Ibrány-Esbóhalom, Grave 206, Nr. 2.16.	–	1 open silver lockring 1 lower part of a silver gilt pendant ornament	2 bronze braid ornaments 1 bronze gilt plate fragment (unknown function) 1 open bracelet of bronze sheet 1 open bronze wire bracelet	–	ISTVÁNOVITS 2003, 103, Pl. 101–102
Jászfényszaru-Kórés Nr.2.17.	–	1 silver earring with a bead-row pendant 9 silver boot mounts	2 bronze gilt gombik 6 bronze ornaments of the horse harness 1 bronze strap end	no data	unpublished
Karos-Eperjesszög II, Grave 36, Nr.2.18.	–	1 silver open lockring 1 silver sheet (supposedly belonged to the horse harness)	5 bronze buttons 1 lyre-shaped bronze buckle	×	RÉVÉSZ 1996, 22, Pl. 50–52
Karos-Eperjesszög II, Grave 52, Nr.2.19.	1 bezelled finger-ring with glass inlay 1 open lockring	14 silver coins 2 wave-shaped bracelets of silver wire 33 silver gilt belt mounts 1 large silver gilt strap end 1 small silver gilt strap end 1 silver gilt belt buckle 1 silver sabretache plate framed with a gilt border 2 silver gilt mounts and a silver gilt strap end of the hanging strap of the plate 20 silver mounts of the horse harness 28 silver gilt mounts of the horse harness 11 leaf-shaped silver ornaments of the breast collar 1 sabre with silver gilt fittings and the silver gilt mounts of the hanging strap silver gilt mounts and a round silver plate of a bow case 7 silver gilt mounts and 8 silver rivets of the quiver mouth 1 silver buckle of the hanging strap of the quiver silver plates with silver rivet of the saddle 1 triangular silver plate 2 wing-shaped silver gilt mounts 1 small silver gilt strap end 12 silver rivets	1 bronze plate from the grip of a knife 4 bronze mounts of the horse harness 2 S-shaped and 4 square-shaped bronze saddle mounts mounts of the hanging strap of the quiver: 6 bronze gilt rosettes, 7 heart-shaped mounts, a buckle and a small strap end 3 bronze strap distributors	×	RÉVÉSZ 1996, 26–28, Pl. 78–90
Karos-Eperjesszög II, Grave 72, Nr.2.20–2.21.	–	2 silver gilt braid ornaments 1 fragment of a silver gilt earring with bead pendant 1 open silver wire bracelet	5 bronze buttons	–	RÉVÉSZ 1996, 32, Pl. 109
Kenézlő-Fazekaszög II, Grave 28, Nr.2.22–2.23.	–	silver sabretache plate open silver lockring	4 bronze buttons 1 bronze buckle and bronze rivets of the hanging strap of the sabretache plate	×	FETTICH 1931, 80–84, Pl. 54

Tab. 3. (Cont.)

<i>Grave</i>	<i>Gold object</i>	<i>Silver (or silver gilt) object</i>	<i>Bronze (or bronze gilt) object</i>	<i>Horse burial</i>	<i>Literature</i>
Kenézlő-Fazekaszug II, Grave 45, Nr.3.12.	–	12 silver gilt belt mounts 1 silver gilt belt buckle 1 silver coin (dirhem)	1 bronze keeper of the belt	×	FETTICH 1931, 94–96, Pl. 77–80
Kenézlő-Fazekaszug II, Grave 50, Nr.2.24.	–	1 bracelet of sheet silver 1 silver lockring 1 silver gilt belt buckle 1 silver gilt strap end 21 silver gilt belt mounts	–	×	FETTICH 1931, 100–102, Pl. 87–88
Kiskunfélegyháza-Radnóti u. Nr.2.25–2.26.	–	1 silver gilt sabretache plate 1 silver buckle of the hanging strap of the sabretache plate 39 silver coins 1 silver mount of a horse harness	1 bronze button 1 small bronze conduit	–	H. TÓTH 1974, 113–123
Kiszombor-B, Grave 127, Nr.2.27.	–	2 silver braid ornaments 1 silver ring	1 bronze shift ornament 1 bronze bracelet 1 bronze pin	–	unpublished
Kiszombor-B, Grave 416, Nr.3.15.	–	–	–	–	unpublished
Kiszombor-C, Obj 37, Nr.3.16.	–	1 open silver lockring ½ silver gilt pommel of a sabre ½ silver coin (Italian)	½ bronze pommel of a sabre	–	LANGÓ-TÜRK 2004, 206
Madaras, Grave 6, Nr.2.28.	–	2 silver open lockrings fragments of a silver gilt braid ornament (?) 21 silver gilt lozenge-shaped dress ornaments 34 silver boot mounts 2 bracelets of sheet silver 1 fragment of a silver sheet unknown function	–	–	KÓHEGYI 1980, 222, 226
Sárrétudvari-Hízóföld, Grave 118, Nr.2.29–2.30.	–	2 open silver lockrings 2 silver gilt braid ornaments 19 silver gilt lozenge-shaped dress ornaments	3 bronze buttons 1 b twisted bronze bracelet 1 open bronze wire bracelet	–	M. NEPPER 2002/I, 317–319 M. NEPPER 2002/II, Pl. 271–274
Sárrétudvari-Hízóföld, Grave 167, Nr.3.25.	–	2 silver open lockrings 1 bracelet of sheet silver 1 lower part of a silver gilt dress pendant ornament 1 round silver dress ornament 1 silver bead	1 open bronze lockring 1 open bronze wire bracelet 3 bronze buttons 1 bronze rattle	–	M. NEPPER 2002/I, 317–319 M. NEPPER 2002/II, Pl. 271–274
Szabadkígyós-Pálligeti tábla, Grave 7, Nr.2.31.	–	1 silver wire	2 bronze gilt lockrings with twisted end 1 round bronze ornament	–	BÁLINT 1971, 59–64
Szabadkígyós-Pálligeti tábla, Grave 8, Nr.2.32.	–	–	2 round bronze ornaments 1 bronze buckle	–	BÁLINT 1971, 64–67
Szabadkígyós-Pálligeti tábla, Grave 12, Nr.2.33.	–	24 round silver dress ornaments of a <i>caftan</i> and an undergarment	–	–	BÁLINT 1971, 67–73
Szabadkígyós-Tangazdaság, Grave 26, Nr.2.34.	–	–	fragments of a finger-ring of sheet silver 1 silver gilt mount	–	PÁLÓCZI-HORVÁTH 1971, 40, Pl. 28

Tab. 3. (Cont.)

<i>Grave</i>	<i>Gold object</i>	<i>Silver (or silver gilt) object</i>	<i>Bronze (or bronze gilt) object</i>	<i>Horse burial</i>	<i>Literature</i>
Szeged-Csongrádi út, Grave 12, Nr.2.35.	–	–	1 bronze lockring 1 bronze buckle 2 bronze rings	–	unpublished
Szentes-Borbásföld, Grave 9, Nr.2.36.	–	8 silver plates (supposedly belonged to the horse harness)	2 bronze wire bracelets 1 bronze wire anklet	–	RÉVÉSZ 1996a, 301, Pl. 8. 5–14, Pl. 9
Szolyva Nr.2.37.	–	1 silver gilt sabretache plate 1 thin silver gilt plate 1 silver button 1 silver bracer	–	×	LEHÓCZKY 1870; FODOR 1996a
Tímár-Béke Tsz Major I, Grave 8, Nr.2.38.	–	17 silver gilt round ornaments 14 silver gilt dress pendant ornaments	1 bronze button 1 tinned bronze button	–	KOVÁCS 1988, 126
Tiszaeszlár-Újtelep Grave 2, Nr.2.39.	–	2 silver lockrings 9 silver gilt belt mounts 1 silver mount 1 knife with a handle covered with silver foil 4 silver coins	1 hollow bronze button 2 solid bronze buttons	×	FODOR 1996, 193–196
Zemplín (Zemplén) Nr.2.40.	1 gold neckring 2 gold open lockrings 4 gold bracelets and gold sheets of sabre 5 gold sheet-fragments	2 silver gilt braid ornaments 1 silver cup 153 silver gilt mounts 3 silver belt mounts 2 silver strap ends (small) 1 silver gilt strap end (large) 124 silver gilt mounts Mounts from the horse harness: 4 leaf-shaped silver mounts 66 silver gilt scaled mounts 33 silver gilt mounts 6 silver gilt phaleras, 6 silver (pseudo)buckles 5 silver gilt small strap ends	1 bronze lyre-shaped buckle 3 bronze buttons	–	BUDINSKÝ-KRIČKA 1991, 71–72

successful approach would be the comparison of data of the same kind. This is, however, only partly possible in this study, since in most cases we do not have enough evidence on the exact position of the textiles in the graves that had been passed from various excavations to the special archaeological textile collection of the Móra Ferenc Museum in Szeged. Accordingly, we can make here only some preliminary remarks concerning the above mentioned questions. First and foremost, we would need to know which kind of clothing the discovered textile remnants belonged to. In lack of appropriate written sources and representations, however, this question can be answered only with the help of archaeological remnants – thus we find ourselves in a vicious circle. Thus, we have no other choice than to try to draw a few, hopefully relevant, conclusions with the help provided by contemporary analogies.

The results achieved by the technical investigations may give a hint both for the possible origin of the raw material used and for the cultural contacts, which should be considered during the research on the costumes of the Carpathian Basin in the 10<sup>th</sup>–11<sup>th</sup> centuries. The textile finds from the Northern Caucasus are of paramount importance in this context. They can be regarded as close parallels both chronologically and from a technical point of view as well, and due to their excellent state of preservation they offer an invaluable source of information, e.g. regarding the pattern design for our textiles. (It was a great advantage, that A. A. Jerusalimskaja published a detailed technical analysis of the Northern Caucasian finds as well.)<sup>209</sup>

<sup>209</sup> JERUSALIMSKAĀ 1963; JERUSALIMSKAĀ 1967; JERUSALIMSKAĀ 1972a; JERUSALIMSKAĀ 1972b; JERUSALIMSKAĀ 1975; JERUSALIMSKAĀ 1978; JERUSALIMSKAĀ 1992.

The linen remnants clearly outnumber the silk ones in the archaeological record of the Carpathian Basin during the 10<sup>th</sup>–11<sup>th</sup> centuries (46 and 26 pieces respectively). They occur, however, quite often in one and the same graves, e.g. Gnadendorf, Gyoma, Grave 197a at Ibrány-Esbóhalom, Grave 6 at Madaras, Grave 12 at Szabadkígyós-Pálligeti tábla, Zemplén.

In almost every case, the textiles are found as single layers. There is only one exception: the chape of Szolyva (Cat. 2.37.).<sup>210</sup> On the chape of Szolyva there are remnants of 3 layers of thick linen fragments situated on each other, thoroughly permeated by the corroded iron.

Unfortunately, it was not possible to observe any physical connection between the textile fragments (either of the same or of a different material) coming from the same grave. Consequently, it can not be determined whether the whole garment was made of silk or there were only stripes of silk sewn on the linen cloths.<sup>211</sup>

The bulk of the evidence on the different types of garments of the Middle Ages comes from written sources. There are, however, regularly insurmountable difficulties arising, since most of the designations cannot be linked with a certain type of garment. Therefore, if we would like to give a brief overview of the costume elements used by the peoples viz. cultures we are concerned with, we have to turn our attention to the images and to the archaeological finds. As we have repeatedly stressed, with Eastern Europe of the 8<sup>th</sup>–10<sup>th</sup>-century we are in the lucky position to possess some unique finds, which offer a firm basis for evaluating the possibilities. In the region of the Northern Ciscaucasus the cemetery of Moščevaja Balka is the most important site. Due to the advantageous climate here and at other sites in Northern Ciscaucasus, there are several complete *tunics* and *caftans*<sup>212</sup> preserved in these graves, which costume elements are only known from representations elsewhere.<sup>213</sup> These images have a wide distribution.

The exact definition of the *caftan* is highly controversial, and almost every scholar uses the term in a different sense. Therefore we do not want to enter this controversial issue here. (E.g. for the distinction between the *khalat*, and the over- and under*caftan*<sup>214</sup>). We present the tentative definitions to be found in a couple of reference works, which are cited throughout this study, but we use the term in its broadest sense, i.e. we simply regard as a *caftan* all kinds of an overgarment reaching down below the knees, which are open in the front and have long sleeves. We think this practice is appropriate because decisive evidence in the archaeological record of the Hungarian Conquest Period is still lacking, and this fact practically excludes any precise distinction. J. Ball was faced with similar problems in studying the relevant pictorial sources from 8<sup>th</sup>–12<sup>th</sup> centuries Byzantium and suggested the following: “While it is impossible to tell if the garment is simply closed in the centre by clasp of some kind or if it is solid in the centre of the body, the term *caftan* will be used to refer to any sleeved garment with a partial- or full-length opening.”<sup>215</sup> The appearance of the Oriental costume,<sup>216</sup> first and foremost of the various *caftans*, in Byzantium was first suggested by N. P. Kondakov in the 1920’s. He surmised, that the *skaramangion*, referred to many times in the *De Ceremoniis* was a special riding garment borrowed by Byzantines from the Sassanian Empire.<sup>217</sup> His opinion became quickly popular also in Western Europe. Recently T. Dawson re-examined the available evidence regarding the *skaramangion*, but he was not able to follow entirely the views expressed by Kondakov. Although he accepted the oriental origin of the *skaramangion*, he also demonstrated many uncertainties regarding the interpretation of Kondakov. He also attempted to propose a new reconstruction.<sup>218</sup> But one has to emphasize that *skaramangion* cannot be regarded as a *caftan par excellence*. On the other

<sup>210</sup> The publication refers to another similar case, Grave 16 at Tiszabezdéd, but this cannot be verified any more. JÓSA 1896, 408.

<sup>211</sup> Even in the case of the finds from Madaras, we only have the evidence that the stripe of silk decorating the collar of the garment was sewn together from different pieces of silk(s). KÓHEGYI–T. KNÓTIK 1982, 200.

<sup>212</sup> This terminology is unanimously accepted among the Hungarian colleagues, but does not accord well with the international practice. For the development of this garment in the Western literature, see most recently KNAUER 2001.

<sup>213</sup> For an overview of the site and the costumes see IERUSALIMSKAJA 1996. (The reviews are also helpful in several fundamental aspects:

ROTH 1999; VON WILCKENS 1997.) A few years ago a new *caftan* was published, most probably from the site of Moščevaja Balka, see HARPER 2001; KAJITANI 2001.

<sup>214</sup> Cf. MIKHAILOV 2005, 59.; KUBAREV 2005, 32–33. G. V. Kubarev suggested an exact definition to separate the *kaftan* and *khalat*.

<sup>215</sup> BALL 2005, 63.

<sup>216</sup> For the Northern and Eastern European “eastern *caftans*” see MIKHAILOV 2005.

<sup>217</sup> KONDAKOV 1929.

<sup>218</sup> DAWSON 2006. For some other readings on *skaramangion* see PILTZ 2004, 45; BALL 2005, 44.

hand, some Constantinopolitan authors expressly state that the *caftan* was regarded in the capital as part of a ‘foreign’ attire in the 9<sup>th</sup>–10<sup>th</sup> centuries. The Kletorologion, for example, states that around the end of the 9<sup>th</sup> century “[...] all foreigners, Pharganes, Khazars, Agaranes, French [...] enter and leave wearing clothes of Barbarians called *kabbadin* (i.e. *caftan*).”<sup>219</sup> At the same time, however, in the eastern regions of the Empire, members of the Byzantine elite also wore *caftans* as regular part of their attire.

The *caftans* which became known in the Russian terminology as Sogdian type, were held together only by a few buttons on the left side, the uppermost of them being on the inner side of the cloth. They are often depicted on the frescoes of the ruined cities in Central Asia (7<sup>th</sup>–8<sup>th</sup> centuries; *Fig. 31.4*) and different derivatives of this type often appear in the 9<sup>th</sup>–10<sup>th</sup> centuries in the sculptural decoration of Caucasian churches (first and foremost in Armenia and Georgia; *Fig. 34.5–6*) and on the frescoes of Byzantine cave monasteries in Cappadocia.<sup>220</sup> (This type of *caftan* was also used in Afghanistan, even around the 10<sup>th</sup>–11<sup>th</sup> centuries, according to the painted panels found on the walls of the Ceremony Hall in Lashkari Bazar.<sup>221</sup> *Fig. 35.3–4*) A. A. Jerusalemckaja considered in her treatment of the well-preserved North Caucasian finds several features of them as characteristic Caucasian idiosyncrasies,<sup>222</sup> but the wider distribution of the varieties is attested both by depictions and by actual remnants. To this last group belong the cloth finds, we have already referred to,<sup>223</sup> from the Saltovo-Majackaja culture<sup>224</sup> on the bank of the river Don. It should not be neglected either, that on the basis of analogies we can achieve nothing more than a description of the main characteristics of the costume elements. The small number and schematic nature of the depictions at our disposal<sup>225</sup> do not allow any more.

In our present inquiry the different *caftan* varieties may be the most instructive regarding the use of silk. Silk may typically be used to cover the whole surface. There are examples for this kind of usage on the frescoes of the ruin cities of Central Asia,<sup>226</sup> and of Cappadocia (*Fig. 34.2–3*),<sup>227</sup> and even on the wall paintings of Nishapur (*Fig. 35.2*) and Lashkari Bazar (*Fig. 35.3*) or on the proper items from Moščevaja Balka.<sup>228</sup> For obvious reasons it is more easy to document the other variety, which entails silk stripes sewn to the bordures of the *caftan*.<sup>229</sup> This type is shown on images from Central Asia<sup>230</sup> through the Muslim Near East (*Fig. 35.1*) to the Byzantine world, and is preserved (*Fig. 31.1–3*)<sup>231</sup> as well.

The other *caftan* type, which requires a detailed examination is the so-called frogged *caftan* decorated with silk stripes. They are known from several burials on the territory of the Old Rus<sup>232</sup> and from the North European Viking culture.<sup>233</sup> This type is shorter than the other one, mentioned above, it does not reach below the knees, on the front it is open only to the taille and it is held together in the middle by a double row of buttons, bordered by stripes of silk. (*Fig. 32.3*) The stripes often contain in these cases some metal threads or are embroidered with

<sup>219</sup> Quoted by BALL 2005, 60.

<sup>220</sup> Cf. DER NERCESSIAN 1965; BALL 2005.

<sup>221</sup> SCHLUMBERGER 1952, Pl. XXXI.2.

<sup>222</sup> IERUSALIMSKAJA 1996, 51.

<sup>223</sup> This was stressed most recently with regard to the costumes of the Saltovo-Majackaja culture by O. N. Gol’b, while he was studying the finds of the cemetery at Krasnaja Gorka. He also called attention to the fact, that in the archaeological record of Saltovo there are far more buttons (GOL’B 2001, 36). E. P. Kazakov studied the finds from Kušnarenkovo-Karajakupovo (in the Volga and Southern Ural regions) and remarked regarding the costume of the 9<sup>th</sup>–10<sup>th</sup> centuries that the small number of buttons reveals closer affinity with the 10<sup>th</sup>-century costume of the Carpathian Basin, than with the early Bulgars on the Volga. According to his opinion the garment was held together with ribbons, instead of buttons. KAZAKOV 2001, 66–67.

<sup>224</sup> The North-Caucasian origin of the Saltovo-Majackaja culture is no more disputable. Cf. AFANAS’EV 2001.

<sup>225</sup> The phenomenon is studied in the case of Byzantine depictions by BALL 2005, 98–100.

<sup>226</sup> AL’BAUM 1975.

<sup>227</sup> Karabas Kilise Cf. BALL 2005, Pl. 6. B–C.

<sup>228</sup> IERUSALIMSKAJA 1996, Taf. LXXV, Abb. 196.

<sup>229</sup> It is noteworthy that there were also *caftans* made entirely of silk, which had some other pieces of silk attached on their bordures, made of different fabric and decorated with different pattern. BELENIZKI 1980, Taf. 38–40. No such piece is known among the *caftans* published from Moščevaja Balka, but the upper garments and headgears do show this feature (IERUSALIMSKAJA 1996, Taf. LXXIV, Abb. 198). There were, however, some 700 pieces of silk at Moščevaja Balka, and only a small part of this material has adequately been published so far. The practice of adding different kinds of silk to a silk *caftan* cannot, therefore, be completely excluded at Moščevaja Balka.

<sup>230</sup> Cf. BELENIZKI 1980, Taf. 5, 45–46.

<sup>231</sup> KAJITANI 2001, Fig. 1–3.

<sup>232</sup> K. A. Mikhailov mentions 12 inhumations and 16 incinerations with this type of *caftan*. To this group belong e.g. the four wealthiest graves at Šestovica, nos 36, 42, 61.4 and 98. (MIKHAILOV 2005, 56–59).

<sup>233</sup> It occurs several times in the cemetery at Birka (e.g. graves 752 and 985), in the most recent part of it, which can be dated to 880–970. Swedish scholars unanimously call it “eastern *caftan*” (e.g. JANSSON 1988, 594).

metal.<sup>234</sup> K. A. Mikhailov, however, consider them Byzantine<sup>235</sup> or Bulgarian in their origin, which reached the Old Rus and North Europe,<sup>236</sup> so he designates them as “Bulgar” *caftan*.<sup>237</sup> We do not know for what reason the Hungarians did not use it regularly in the 10<sup>th</sup> century, but it certainly occurs with horse burials. Silk fragments with metal threads or embroidery are not known in the archaeological record of the Carpathian Basin, and the long, double row of buttons is actually not typical either. The complete absence of textiles with metal threads is striking since they could have been preserved better as normal textiles, due to their metal content. Such clothings or textiles were directly available at markets near Preslav, which the Hungarians regularly visited in Bulgaria.

The *tunic* is the other *vêtement*, belonging similarly to the upper garment, in the case of which we have both archaeological remnants as well as depictions. Often adorned by *clavi* or *orbiculi* it occurs quite frequently in late antique Egypt and it was popular in the Early Middle Ages too. Its usage continued in Egypt after the Arab conquest,<sup>238</sup> where the tradition of the so-called “Coptic textiles” was still alive. As it is clear from the depictions (*Fig. 34.1*)<sup>239</sup> and from the archaeological record,<sup>240</sup> it retained its popularity in Byzantium as well. The presence of this garment in the Northern Caucasus is most probably due to an East Mediterranean influence. The preserved examples from Moščevaja Balka clearly show in addition the diversity, which was also characteristic of these *tunics*: here were different kinds of appliques (often of silk), which decorated the collar, the sleeves, the front part covering the breast or the bordure (*Fig. 32.2*).<sup>241</sup> It is also interesting to note, that at Moščevaja Balka was an orbiculus<sup>242</sup> found, which had spread to this region under strong Mediterranean impact.<sup>243</sup>

*Tunic* and *caftan* are of course, do not exclude each other. According to Ibn Fadlān’s description, both Muslim travellers and the residents of the steppes wore *tunic* (*qurtaq*) and *caftan* (*khiftan*) together as winter attire: “Each of us put on a jacket [*qurtaq*, i.e. *tunic*], over that a coat [*khiftan*, i.e. a *caftan*], over that a *pustin* [sheepskin], over that a felt mantel and a helmet of felt, out of which only the two eyes could look, a simple pair of under-drawers and a lined pair, trousers over them, and slippers of leather and over these another pair of boots.”<sup>244</sup> This was also true for the regions to the south: the combination of *caftan* and *tunic* is found in the graves at Moščevaja Balka,<sup>245</sup> similar to some depictions, which show the garments below the *caftan*.<sup>246</sup>

It is apparent even from this quick overview of the upper garments, that the so-called frogged *caftan* with two rows of buttons running to the belt<sup>247</sup> is indeed present in three cases (*Fig. 33. 1–3*) among the finds

<sup>234</sup> The frogged *caftan* is well-known not only from the archaeological record, but from Byzantine depictions as well, which are, however, of later date. It is supposed, that the *caftan*, which is closed by buttons, is not comfortable for riders (MIKHAILOV 2005, 63).

<sup>235</sup> According to K. A. Mikhailov, this type of *caftan* can be detected in illuminated Byzantine manuscripts of the 11<sup>th</sup>–12<sup>th</sup> centuries and in the Madrid manuscript of Ioannes Skylitzes (at the turn of the 11<sup>th</sup> and 12<sup>th</sup> centuries). All this evidence points in his opinion to the Byzantine origin of the *caftans* worn in the Old Rus (MIKHAILOV 2005, 61, ris. 6a, b). Although this possibility cannot be ruled out, we would like to emphasize that the referred work was illuminated in the West (Sicily) and as the historical research has already shown that it contains several pieces of false information, e.g. regarding the contemporary Byzantine armour and even costume (depictions of *loros*). Cf. BALL 2005, 138, n. 2.

<sup>236</sup> K. A. Mikhailov, who was the last to study this problem, reached the conclusion that this attire spread out from Byzantium through Bulgaria or through the Byzantine territory in the Crimea, but it can not be excluded that it originates in the Caliphate and spread through Khazaria to Eastern and Northern Europe. According to his opinion beside the Byzantine origin of the textiles, the mushroom-like bronze buttons also favour Byzantium, since these objects can

be found on traditional Byzantine territory as well (MIKHAILOV 2005, 63).

<sup>237</sup> This type of *caftan* is designated in the Anglo-Saxon literature as frogged *caftan* see KNAUER 2001, Fig. 22., 23).

<sup>238</sup> For some pieces with different applications from the 11<sup>th</sup>–12<sup>th</sup> centuries see *Schätze 1999*, Nr. 219–220.

<sup>239</sup> For the analysis of the illustrations see BALL 2005, 40–43, 68–70, 84, 89, 99.

<sup>240</sup> For a *tunic*, supposedly from the Middle Byzantine Period see DAWSON 2003. The well-founded criticism of J. Ball (BALL 2005, 154, n. 7) pointed out that the Middle Byzantine date of the *tunic* can only be verified or refuted by the examination of the other grave goods.

<sup>241</sup> IERUSALIMSKAJA 1996, Taf. XVII, Abb. 38, Taf. XX, Abb. 45.

<sup>242</sup> IERUSALIMSKAJA 1996, Taf. XX, Abb. 44.

<sup>243</sup> These can be seen in some Byzantine images of the 9<sup>th</sup>–10<sup>th</sup> centuries, e.g. Paris. Gr. 510. Fol. 435v, 440r. Cf. BRUKABER 1999, fig 43, fig 45; Tokali Kilise, New Church, cf. RESTLE 1967/II, Taf. 113–114.

<sup>244</sup> FREY 2005, 32.

<sup>245</sup> IERUSALIMSKAJA 1996, Taf. XVII, Abb. 38, Taf. XX, Abb. 41.

<sup>246</sup> Cf. BALL 2005, 63, 68, 70.

<sup>247</sup> ISTVÁNOVITS 2003, 299.

of the Carpathian Basin,<sup>248</sup> but it cannot be regarded as typical.<sup>249</sup> There is not much evidence for the *caftans*, which were held together with only a few buttons, either on the flank or on the front.<sup>250</sup> Regarding the female costumes, there are garments decorated with the so-called *caftan* mounts or great revetment discs, which do not allow reconstructing the design pattern, but show at least the fastening points of the clothes. This type of garment does not have any good parallels from other regions, neither in the archaeological record, nor in any depiction. It is important to remark, that it is not quite clear from the archaeological context how these vêtements were held together in the front, where they must have been actually open. The majority of the 10<sup>th</sup> century *caftans* found in the Carpathian Basin were provided with mushroom-shaped buttons with incised decoration on their bottom and these buttons have excellent parallels among the early Russian finds, but their position is different from those ones.<sup>251</sup> They are not aligned in the middle, but on one flank of the *caftan* or they run in an oblique line and fasten the garment on one (or both) shoulders.<sup>252</sup> The total number of the buttons is also considerably lower. These differences also suggest in addition to the hypothetical pattern designs that the 10<sup>th</sup> century *caftans* worn in the Carpathian Basin were more similar to those ones known from Moščevaja Balka.<sup>253</sup>

Considering all that has been said so far, the problems concerning the archaeological heritage of the Carpathian Basin become much more apparent. We have to take into account, that according to the pictorial and archaeological evidence in a lot of cases the pieces of silks were sewn to the bordures of the *caftans* and of the upper *tunics*. In this way an explanation could emerge, which would otherwise seem quite unreasonable at first glance: the metal mounts were applied to the garments exactly on those areas where the pieces of silk were (which were, consequently, partly obscured by them). On the other hand, the comparative analysis has also shown that we are not allowed to exclude the possible presence of these type of garments in the Carpathian Basin because of the afore-mentioned cases, where there are both linen and silk remnants in one and the same grave. For the practice of combining these materials is common among the garments found at Moščevaja Balka.<sup>254</sup> Now we try, in the light of our present knowledge, to interpret those few instances where the exact location of the silk fragment in the grave is known. The most explicit conclusions can be drawn in the case of Grave 12 at Szabadkígyós. We think that the interpretation offered by Cs. Bálint is still valid. He proposed an attire composed of two pieces: an under- and an overgarment, which were partly or entirely made of silk.<sup>255</sup> The silk fragments below the *caftan* mounts in Graves 1 and 2 at Jánosszállás-Katonapart (Cat. 1.7–1.8.) were found in a very similar position, but it cannot be determined on the basis of the available data, whether they belonged to the underwear or to the overwear.<sup>256</sup> It is not clear either, if there were only small stripes of silk attached to the bordure or a sizeable sheet of silk, but the position of the mounts in Grave 1 strongly suggests that the piece of silk was of considerable dimensions.

The situation is also quite clear in the case of the graves at Gyoma (Cat. 3.2) and Grave 197b at Ibrány (Cat. 1.6.). In both cases the linen and silk fragments were preserved by the mounts of the headgear, i.e. the head-

<sup>248</sup> Grave 6 at Szered I. (Točík 1968, 44, Abb. 16.2); Grave 2 at Rétközberencs–Parom-domb (ISTVÁNOVITS 2003, Pl. 164, 2); Grave 15 at Tiszabездéd–Harangláb-dűlő (PROHÁSZKA–RÉVÉSZ 2004, Abb. 15). The same type can be assumed in the case of Grave 207 at Püspökladány–Eperjesvölgy (NEPPER 2002/II, 163, Abb. 129).

<sup>249</sup> The number of buttons in the cemetery at Birka is usually 4–18 pieces in each grave, and they are arranged at a distance from 10–15 (Grave 985) to 35–40 cm (Grave 752). In the case of the finds from the Old Rus the distance is usually 4–5 cm, but 1,5 cm has also reported (MIKHAILOV 2005, 57, 59). In the Carpathian Basin the number and the arrangement of the buttons is quite similar.

<sup>250</sup> The row of buttons in Grave 197a at Ibrány–Esbóhalom suggests an upper garment held together by buttons. (ISTVÁNOVITS 2003, 99, Pl. 95). A regular alignment of buttons is, however, not typical, not even in the graves, in which there are many buttons (5–13 pieces). They rather flock together on the middle part of the chest or of the spinal column, e.g. Grave 8 at Karos–Eperjesszög III. (RÉVÉSZ 1996, Taf. 117); Grave 10 at Hajdúböszörmény–Bodaszőlő, Búdöskút

(NEPPER 2002, 50, Abb. 31), or without any discernible order as in Grave 53 at Sárrétudvari–Hízóföld (NEPPER 2002/I, 305).

<sup>251</sup> 10<sup>th</sup>-century parallels coming from the Carpathian Basin are known not only for the cast bronze buttons but also for the ones made of glass, even if they are rare see e.g. Püspökladány–Eperjesvölgy, Grave 206 (NEPPER 2002/I, 162–163).

<sup>252</sup> Cf. RÉVÉSZ 1996, 97–98; NEPPER 2002/I, 356; ISTVÁNOVITS 2003, 299.

<sup>253</sup> In case of the bronze buttons similarities can be observed even in their usage. They are employed not only for holding the garment together, but are also sewn in small clusters to the collar or to the sleeves around the wrist. (MIKHAILOV 2005, 59) For a similar case in the Carpathian Basin see e.g. Sárrétudvari–Hízóföld, Grave 128 (NEPPER 2002/I, 321).

<sup>254</sup> JERUSALIMSKÁÁ 1992, 12–13.

<sup>255</sup> BÁLINT 1971, 72.

<sup>256</sup> BÁLINT 1991, 20–23, and Taf. I. 1–2.

gear was partly or entirely covered with silk.<sup>257</sup> Similar pieces of silk were also found at Moščevaja Balka, where pieces of Chinese type silk were applied to different kinds of Chinese type and Zandanījī silks. Appliques made of Zandanījī silk are equally known on Chinese, Zandanījī and Byzantine silk types.<sup>258</sup>

The other two graves at Ibrány are slightly more difficult to interpret. In Grave 197a the stripes of silk found between the metal and leather parts of the braid ornament do not pose a problem: they were interwoven with the braids and served to fasten the braid ornaments.<sup>259</sup> It is more difficult to interpret the function of the silk fragments found “next to the right and left armbands.” Regarding the linen fragments found with the left and right armbands, M. Knotik supposed quite reasonably that “they belonged to the loose sleeves of the linen shirt of the woman.”<sup>260</sup> In this case we can suppose either complete silk sleeves or silk stripes sewn to the bordure.<sup>261</sup> The silk fragment adhering to the ball button, which was also found in this grave, can equally be interpreted as the remnanting part of an attached silk stripe or as a fragment belonging originally to an overwear. In Grave 172 (Cat. 1.3–1.4.) the silk fragments were preserved by the mounts of the collar. The same applies to the silk fragments of Grave 6 at Madaras. In this last case one can even conclude by observing the sewings on the longer sides of the plaques that these mounts were attached to a silk stripe made up of different pieces of silk, and sewn to the garment itself.<sup>262</sup>

All this clearly indicates the difficulties archaeologists are confronted with. Even the comparison with the available data regarding the linen fragments can only partially further our understanding. The braid plates from Sárretudvari (Cat. 2.29–2.30.) and Kiszombor-B (Cat. 2.27.), which are comparable to those from Ibrány, show that the linen sheets were bigger than the silk ones, used for the same purpose, i.e. less attention was paid to the quantity of the textile, which was anyway partly obscured by the plates. Grave 28 at Kenézlő, where the linen fragment belonged to the sabretache plate (Cat. 2.22–2.23.) can be supposed to constitute a similar case.

There are also examples for linen fragments preserved below the mounts of the collars: at Bánkút (Cat. 2.8.) with pendant ornaments, and in Grave 9 at Harta with *caftan* mounts (Cat. 2.13.). In Grave 50 at Kenézlő there were some linen fragments found with an armband and belonging most probably to one of the sleeves, just like at Ibrány. In two graves (Cat. 2.31–2.32.) at Szabadkígyós there were linen fragments found with ball buttons, a similar situation as in the case of Ibrány again.

To sum up: linen and silk were apparently used in the same way, and therefore theoretically it is possible to compare the other gravegoods, but due to the small dimensions of the textile fragments the results are bound to become rather vague. Apart from the graves at Jánosszállás and Szabadkígyós where one can suppose the use of silk in greater quantity, silk is always used as small attachments, and this alone cannot indicate the wealth of the buried person, even if we take into account the relatively high price of the material. The finds from Moščevaja Balka show again the high number of possibilities to be considered. The abundance of silk finds in the stone cist graves of the Northern Caucasus region allows, along with the other grave goods, to reconstruct the relative values of the different types of silks. It seems that the most valuable silks in the Adyg-Alanic culture of the 8<sup>th</sup>–10<sup>th</sup> centuries were the Byzantine ones. These were followed, according to the present state of research, by the Zandanījī silks, which were more valuable than the Chinese types. Among the Chinese ones the damast was more valuable than the taft with impressed decoration, and among all sorts of silks, the polychrome varieties were more appreciated than the monochrome ones.<sup>263</sup> It is customary, especially with Byzantine silks, that they were not used as entire garments, but only as stripes sewn to the bordures of linen garments or on headgears.

The finds from Moščevaja Balka are instructive in still another respect. There are some recurrent features of costume tradition observable on the basis of the garments found in the graves. The design patterns regularly

<sup>257</sup> KOVÁCS 1973, 9. thought that the mounts belonged to the garment, but according to patches on the skull, they rather belonged to the headgear. The authors wish to thank to L. Kovács for the opportunity to investigate personally the grave finds.

<sup>258</sup> ORFINSKÁÁ 2001, Tab. 1–2.

<sup>259</sup> T. KNOTIK 2003, 420, Pl. 212.

<sup>260</sup> T. KNOTIK 2003, 420. The loose sleeve is equally known among the finds from Moščevaja Balka. Cf. ORFINSKÁÁ 2001, 107.

<sup>261</sup> Above the silk there was, according to some observations, another very thin sheet of cloth. M. Knotik considered an interpretation, which entailed that these remnants belonged to embroidery. T. KNOTIK 2003, 421.

<sup>262</sup> KŐHEGYI–T. KNOTIK 1982, 200.

<sup>263</sup> ORFINSKÁÁ 2001, 110.

differ between male, female and children clothing,<sup>264</sup> and the buried persons are also differentiated by their attire according to their age and social status.<sup>265</sup> Among the garments of some social groups, one can discern the worn-out garments of everyday use and those ones preserved for special events. They differ not only in their material (the latter ones usually made of silk or with silk ornaments) but also in their design pattern (the festival garment of women had, e.g. looser sleeves). In many graves we do not find any silk, in other ones, however, there are silk elements not only on the dress, but on the footwear and on the headgear as well. The complete sets of clothing, often appearing in the graves, suggest a complex system where the garments with added stripes of silk were the festival costume for some, but for others, who wore *caftans* made entirely of silk on these occasions, they constituted the normal clothing.<sup>266</sup> The costume and the materials used offer the possibility for a far-reaching analysis, if considered in connection with the other grave goods.

In the archaeological record of the Vikings the evidence is not as detailed, as in the previous case, but one was able to observe that the textiles coming from the settlements were usually coarser than those ones from the cemeteries.<sup>267</sup> On the basis of afore-mentioned data one cannot, of course, conclude with absolute certainty that there were some garments made especially for the dead, but one should consider the possibility that sometimes this could have been the case. The fact that we cannot exclude the possibility of the attires made specifically for burial makes our investigations even more speculative. For example, Ibn Fadlān noted down in his often quoted *Risāla* about the Rus, who he had seen in the Volga region in the 920s, that “They laid him [i.e. their chief] in a grave, and covered it with roof for ten days until they were through with cutting out and sewing together of his garments.” After ten days, as he sets forth, “they removed the earth from the timbers and raised the timbers, drew him forth in the same garment in which he had died.” After that “they dressed him in stockings, trousers, boots, [and] a *tunic* cape of brocade with gold buttons.”<sup>268</sup> Unfortunately we have no similar written evidences, wherewith we could sketch the funeral rites of the Conquering Hungarians (or at least some of them), but it seems possible to us that from the archaeological evidences one could make some analogous conclusions.<sup>269</sup>

In spite of the limitations in our conclusions, one should immediately note that the situation observed by Cs. Bálint several decades ago in Grave 12 at Szabadkígyós, is not a unique case at all. There are many graves indeed, which contain silk fragments, but are relatively poor as regards mounts. The above mentioned graves – Graves 172 and 197b at Ibrány-Esbóhalom, Graves 1 and 2 at Jánosszállás, Grave II/41 at Karos (with the exception of the sabretache ornamented with bronze mounts, which supposed to be a particularly significant object type), Grave 2 at Mindszent – in which also silk fragments have been discovered were not very rich in applications made from non-ferrous metals. The significance of this can only be guessed. Now we assume that there seems to appear some kind of congruity in the costume tradition of the period (e.g. in the case of frogged *caftans*) in Europe. On the other hand, the Hungarians of the Conquest Period seem to have used the textiles and clothes in much the same way, as they did with precious metals: they remodelled them according to their proper traditions, used them in their own way.

After having compiled an up-to-date catalogue incorporating many of the textile finds of the Carpathian Basin of the 10<sup>th</sup>–11<sup>th</sup> centuries, we can safely conclude that Cs. Bálint has called attention to a complex problem several decades ago, which is absolutely fundamental during the investigations concerned with the economic and social interpretation of the finds from the Conquest Period. A sizeable piece of silk may have been worth many times more than any other grave good made of durable material. The famous site of Moščevoja Balka may serve to illustrate this: if there were no textiles preserved here, one could regard the inhabitants as a rather poor community. We think it is also important to stress that the distribution of precious textiles in

<sup>264</sup> The design pattern of female garments is usually square, the male ones consists of two triangles, tapering due to the belt, towards the taille. Childrens cloths are open only on the top.

<sup>265</sup> All this is also complicated by seasonal variation.

<sup>266</sup> ORFINSKĀĀ 2001, 106–108.

<sup>267</sup> HĀGG 2002, 183.

<sup>268</sup> FREY 2005, 66–68. This seems to be confirmed by archaeological finds, because certain graves in the Old Rus contained evidence (remnants of metal threads on the rim of the gravepit)

indicating the deposition of clothes in addition to those ones worn by the deceased. Ibn Fadlān’s text does not exclude the possibility, that these garments were perhaps specially made for the ceremony as funerary costume of the deceased. E.g. Gnězdovo, Pol’, Grave 11; Šestovica, barrow 98, see MIKHAILOV 2005, 59).

<sup>269</sup> One of us attempted to argue that a very small part of mount ornamented belts of the period were used specifically for the funeral. BOLLÓK in print.

Moščevaja Balka seem to conform to a fairly strict rule. In several graves there is no silk at all, but where they occur, they were sewn to the bordure of linen *caftans* or *tunics*. On the other hand, there are some graves where the caftan and other accessories were equally made entirely of silk. The silk has seemingly retained its value in spite of its relative abundance around the Alans of the Northern Caucasus, who were close to and profited directly from the Silk Road, a tendency, we have tried to show also in the analysis of the archaeological material in Hungary. The most often cited textile finds from the Northern Caucasian cemeteries are of course the silk ones, but it is nonetheless quite significant that silk has not become the regularly employed material in the local costume production.<sup>270</sup>

It goes without saying that due to the climatic and geological characteristics of the Carpathian Basin, we cannot expect finds like those from Moščevaja Balka, but attentive digging and observation will definitely be able to multiply the material collected in the present study. If a few lucky findings also contribute to the increase of this kind of evidence, we can hope to learn much more about the burial habits, the social structure, the cultural connections and the different ways of visual communication of the Hungarians of the 10<sup>th</sup>–11<sup>th</sup> centuries. With the present study we would like offer a modest contribution to this work and at the same time we would like to honour Cs. Bálint, the scholar, whom we owe an inspiring intellectual climate and an attentive guidance in this field of research.

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