

# Archaeological Clothing Fragments from Medieval Turku

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Master's Thesis

Archaeology

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University of Turku

October 2023

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**Number of pages:** 78 pages, 1 appendix

**Abstract.**

The purpose of this study is to gain an understanding on medieval dress in Turku by examining archaeological textile remains. The textile fragments in question come from the 1998 excavation conducted on the locality occupied by the Åbo Akademi University, a medieval excavation that yielded a large amount of archaeological material dated to the 14<sup>th</sup> to 16<sup>th</sup> centuries. The textile fragments chosen to this study all bear some marks that suggest they once belonged to items of clothing; buttonholes, pleating, seamlines, hems, slits, other signs of sewing, and wear and tear that is due to everyday use as clothing. The aim is to identify the garments that the studied fragments belonged to. Comparative archaeological textile material and pictorial sources are the main sources in this attempt. Technical properties of the textiles are used in further aid of identification; yarn direction, density, and quality of weaving and sewing. The textile material has shown that dress in Turku was similar to that in neighbouring countries and followed the lines of European fashions. While the cut of garments was often complicated, even sophisticated, the quality of fabrics was rough and coarse. There were exceptions, however, with some high quality, foreign import fabrics being used for clothing. The fragments were shown to having been disposed in a way that allowed for the majority of the garment to be refashioned; seams, hems and cuffs were the usual parts to be cut off. Being clothed was economical, and the garments and fabrics were used as long as possible.

**Key words:** Middle Ages, Turku, archaeological textiles, medieval clothing, textile studies, life cycle, fashion, medieval garments, medieval dress, tailoring, dressmaking

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## **1. Introduction**

### **1.1 Preface**

The aim of this study is to shed light on medieval clothing in Turku by examining archaeological textile finds from the 1998 excavation on the site occupied by the Åbo Akademi University. What was clothing like in medieval Turku? What did garments look like and what sartorial techniques were used in tailoring them? How do the medieval textile material and clothing fragments compare to those in other European countries? How does the manner of dress itself compare to that elsewhere? What changes were there and why? Where did influences come from? Why were some embraced while others were not? The textiles in question are very fragmentary; there are no complete garments. My intention is to reconstruct an image of the garments that these fragments belonged to. These textiles are likely clothing fragments because they have properties that have functional value. There is a comparative character to this study; in my research, I profit from research on archaeological textiles elsewhere in Europe as well as from existent intact medieval costumes to assess the the textile material at hand. Written accounts and pictorial sources are likewise used to enhance our understanding of medieval clothing in Finland.

Chapter 1 will act as a lead-in to the subject; I will introduce the textile material in question, discuss the sources we have for medieval textile studies and clothing history, offer some arguments on why textile studies matter, outline the quintessential methods in textile archaeology and create a cultural setting for this particular textile material. In chapter 2 I will discuss some overall trends in medieval clothing, what the fabrics were like and how clothes were acquired. Towards the end of this chapter, I will consider what potential certain non-textile finds and textile finds that were excluded from this study may have for my research. The textile material itself will be assessed in detail in chapter 3. Concluding remarks are drawn up in chapter 4.

### **1.2 The material**

The archaeological material of this study comes from the 1998 excavation carried out on the plot owned by Åbo Akademi. The excavation was carried out by Turku Museum Centre (then

Turun maakuntamuseo) and was an exceptional excavation in Finland both due to its large scale and its abundant and well-preserved medieval finds material (Seppänen 2012: 8). Thanks to favourable conditions to the preservation of organic matter, a large number of textiles was unearthed. From amongst these over 700 textile fragments, I have picked out just over a hundred. These hundred all bear some signs of belonging to clothing. The choice was made by carefully going through the finds catalogue and with help from Heini Kirjavainen who herself has studied and catalogued each fragment.

The textile material from Åbo Akademi excavation is notable for its abundance; nowhere else in Finland have such quantities of medieval textiles been unearthed (Kirjavainen 2004: 1). The majority of the textile material dates to the earliest phases of the settlement, the late 14<sup>th</sup> and early 15<sup>th</sup> centuries. The youngest textiles are from late 15<sup>th</sup> and early 16<sup>th</sup> centuries and do not differ notably from the older textiles. The textile material may be considered typical to the Middle Ages (Kirjavainen 2004: 3). Almost all of the textiles are woollen; this may be partly explained by the fact that plant fibres do not preserve equally well in archaeological conditions. Only a few fragments made of plant fibres were found, while some fragments bear evidence of plant fibre yarn or plant fibre textiles having been used as lining. Besides woven textiles, bundles of unworked fibres were found; within wool fibres traces of flax, hemp and nettle were found. In one case the flax fibres bore signs of fibre processing (Kirjavainen 2004: 7). The material includes both professionally woven and home woven fabrics, as well as local ones and imported textiles (Kirjavainen 2004: 96).

The material in question has been previously studied in 2004 by Heini Kirjavainen in her master's thesis. Her approach is a general one, aiming to summarise the overall statistics of the entire material with selective sampling. Besides her other research, there is not much published scientific research on medieval textiles in Finland. A bachelor's thesis focusing on the sewing stitches on the Åbo Akademi textiles was written Jenni Hiekko in 2010. Textile finds from the medieval Mätäjärvi excavations are briefly discussed in a book about the excavations; 53 textile fragments in all, and not a single one that could be identified as a clothing fragment (Ikäheimo 1989: 156).

### **1.3 The sources**

The obvious way to study historical clothing would be to look into the actual garments that have survived to us. In the case of medieval clothing, however, the material is very scarce. Textiles require unusual conditions to be preserved in archaeological contexts. In short, this can happen by freezing, in extremely dry conditions, by being exposed to something acidic such as metal, or in oxygen-free conditions (Good 2001: 211; Coatsworth & Owen-Crocker 2018: 12). This means that textiles are a relatively rare find among other archaeological materials. Furthermore, textiles are usually found in small and indeterminate fragments. To put these scraps together with actual garments is difficult, even when textile fragments are preserved (Březinová and Kohout 2017: 124). Costume research is multidisciplinary; it involves researchers from different fields and gains information from numerous types of sources, and has come all the more interdisciplinary over the last decades (Owen-Crocker 2019: 2). Alongside archaeological material, art and written sources can be helpful. Art includes both painting and statuary. Written sources can be novels, poetry, account books, inventories and wills (Ribeiro & Cumming 1997: 37).

Although very rare, examples of complete medieval garments have sometimes survived to our days. Like all sources, they are not unproblematic. Most surviving garments belonged to saints or members of royalty and aristocracy, and as such do not reveal anything about the way the majority of people dressed (Piponnier & Mane 1997: 9; Owen-Crocker 2019: 3, 6–7; Coatsworth 2019: 66–71). They also may not have been preserved in their medieval form, as clothes were often refashioned over time. Museum collections are selective. What one collector may consider worth keeping may be considered unimportant by another, and valuable information may have been lost over time (Repo 2015: 3). This is not to say that all surviving garments are useless to research. Although the source material is scant, there are a few that are of invaluable potential to costume research. One is found in Turku itself; a woollen dress believed to have belonged to a reliquary statue, possibly one of Virgin Mary, was discovered in the Turku Cathedral in the 1920s (Kirjavainen 2012: 46; Kirjavainen 2015). An excavation of the Norse settlement in Herjolfsnæs, Greenland has exposed a large number of nearly intact garments. These included 15 dresses, 17 hoods, a few other headdresses, and a few hoses. The majority dates to the 14<sup>th</sup> century with a few from the 15<sup>th</sup> century (Østergård 2004). A complete outfit was found on a bog-body in the swamp of Bocksten in Sweden. The man was wearing a tunic-shaped dress, a hood, a cloak, hoses, belt, and shoes. Stylistically the costume dates to the mid-14<sup>th</sup> century, and scientific studies on the body itself support this dating (Nockert 1997: 205; Coatsworth & Owen-Crocker 2018: 36–39). Other bog-body finds are also known from

Sweden; a grown man, dated to 1050–1155, from Moselund, and a lone dress, probably belonging to a child, dated to the first half of the 13<sup>th</sup> century (Østergård 2004: 135–141). Another helpful comparative source to this study was the 14<sup>th</sup> century church burial at Uvdal, Norway (Vedeler 2005). Attempts to assign archaeological textile fragments to specific garment types have been rarely made, but that is not to say that there is no research in this field. Elizabeth Crowfoot, Frances Pritchard and Kay Staniland's (1992) study on archaeological textiles from a number of excavations in London is an invaluable source to anyone attempting the same. The fragments in this case are medieval and therefore a particularly helpful comparative material to this study. A master's thesis on archaeological textiles was written by Päivi Repo in 2015, and while the textiles in her study date to the 19<sup>th</sup> century, there are some techniques she uses that can be applied to older textiles as well.

The problem that often arises with both archaeological textiles as well as surviving garments in museums is the long life cycle of textiles. As Gale R. Owen-Crocker (2019: 2) notes, textiles were the product of much labour-intensive; they were precious. Textiles were reused, repaired, remade and recycled whenever possible. The wool dress from Turku Cathedral, for instance, has been reworked on at least three times, by three different seamsters over the period of two centuries (Kirjavainen 2012: 50). Modifying and refashioning clothing was very common as attested by archaeological finds and written sources. In the case of the Turku Cathedral wool dress, it has fortunately been possible to date these modification events by radiocarbon dating, but in other cases it may be impossible to discern when a garment was being reworked on in accordance with new fashions.

The most commonly used, and perhaps most abundant, method to study medieval clothing is art. The limitations of this approach are discussed next. Some regions have simply created more art than others (Piponnier & Mane 1997: 3). This is the most obvious set back in the case of Finland. There are very few pictorial sources and even these problematic. The only illustrated manuscript dealing with Finland was written in 1555 by Olaus Magnus. While there may be some hints to medieval dress, and in Finnish history the 16<sup>th</sup> century usually is agreed to still be Middle Ages, it still is some hundred years too young for the time setting of this study. By the 16<sup>th</sup> century Finland was already becoming more cosmopolitan and the dress was obviously in a phase of great assimilation to European styles. We still lack proper information on what it had been previously. Also noteworthy is that while Olaus Magnus was Swedish, his *Historia de Gentibus Septentrionalibus* was written, illustrated and published in Rome (Andersson &

Öberg 2019: 633). The other useful pictorial source is found in churches. Swedish church paintings have been studied in detail by Pia Melin, in her doctoral thesis (2007) and several studies thereafter. The focus in her studies is on the German-born painter Albertus Pictor whose paintings are also used as a pictorial source in my study. Albertus Pictor is known to have been born in Germany and worked in numerous Swedish churches in the latter half of the 15<sup>th</sup> century (Melin 2009: 11–12). In the case of the Finnish medieval churches, most date to the 16<sup>th</sup> century, the problems of which were already outlined. As in Sweden, the artists working on the painting of Finnish churches were mostly foreign, again especially German. Cultural influences go even beyond the artist's origins, as artists were working on familiar models that may imitate even more distant sources. Swedish and Finnish church paintings were painted by German artists or at least painted after German models, which in turn were worked after French models (Pirinen 1979: 23). How can we know if they depicted the dress of the Finnish people or that of their homeland or their original models?

Similar problems arise in costume history elsewhere too, when working on pictorial sources. The subjects are usually copied from earlier works, and the dress may not have been brought up to date. Alternatively, historical subjects may have been portrayed in contemporary dress (Piponnier & Mane 1997: 4–5). Painting and sculpture both have their limitations. Funerary sculpture may have been commissioned a long time after the deaths of those that they portray, and fashions may have changed in that time (Ribeiro & Cumming 1997: 37). Sculpture has the possibility of portraying their subjects three-dimensionally, but colours may have changed or faded completely as a result of exposure to weather and to restoration (Piponnier & Mane 1997: 5–6). In painting too the colours may have changed, and furthermore the availability of colours may have been limited already at the time of the painting process. Colours may also have had symbolical value which may have settled their selection. The choice of whom is being portrayed may also have been limited. Men are the subject more often than women. There are more portrayals of upper classes than lower classes. (Piponnier & Mane 1997: 5–6). The artist may have wished to beautify the result and the fit of garments may not be realistic. Patterned fabrics also often continue seamlessly over the garment, as if there were no seams at all (Scott 1980: 75). The construction of garments appears much simpler in artistic representations than archaeological finds reveal (Crowfoot, Pritchard & Staniland 1992: 177–180). Archaeological finds have shown that garments were made up of multiple pieces that allowed their form-hugging fit, a detail that is not usually made apparent in art. In short, it is not always possible to tell from artistic representations how the garments were made. Furthermore, art is often ruled

by conventions and there is uniformity in depictions that may not mirror reality (Vedeler 2004: 61). In the case of the Swedish church paintings, it has been shown that dress is used to imply and emphasize certain characteristics of the figures portrayed. Dress in painting may also be used to underline gender, age, profession and social standing (Melin 2007: 103). Costumes are not thus haphazardly selected, but rather chosen with care to make the characters more recognisable.

The most notable problem with written sources is language. The simultaneous use of Latin, official languages and vernacular complicate interpretations (Piponnier & Mane 1997: 12). A valuable example of literary sources to be mentioned are wills. These have been made, and studied by historians, all over Europe. Clothing was a typical item to be bequeathed and is sometimes discussed in minute detail giving us a glimpse of what clothes looked like and what materials they were made of. Unfortunately wills usually do not give an equal image of both sexes and people of different social standing. In England the majority of wills were made by merchants, craftsmen and labourers doing non-physical work. Men made more wills than women, and the vast majority of those made by women were those by widows. The wills made by members of the higher classes are richer in both content and the number of actual bequeathed items (Burkholder 2005: 134–138). The clothes of the upper class are also described in much more detail than those of the lower classes (Ashley 2004: 138). Similar notions were made among the wills in Sweden and Norway. The majority of wills were made by priests and nobility (Andersson 2013: 98). Therefore, we know less about the clothing of lower classes and women than that of the noble man by only looking at wills. Something that they can, however, tell us that other sources cannot, are what materials the clothes were made of and what the colours were like. It is often impossible to judge by a painting what the fabric is made of. Among archaeological textiles some types of fabric are more often preserved than others, vegetal fibres are usually absent, and the original colours have been lost. The contents of the wills, on the other hand, allow us to do comparison between materials and colours. In England the materials were rarely described in detail, unless the fabric was an especially valuable one, such as silk. The most popular colours were black, blue and red, while yellow was the least popular (Burkholder 2005: 141). Purple appears to have been especially appreciated since clothes of that colour were usually left to the closest in kin (Ashley 2004: 141). In Sweden and Norway, the most common material was wool. Both homemade wool fabrics and valuable Flemish imports were described. Wool was used both as the primary fabric and as lining. While linen

clothes rarely appeared, silk was mentioned in the colours of red, green and blue (Andersson 2013: 100–106).

Another problem with all written sources on costume is selectiveness in what clothing is worth describing and what is not. Many sources being religious in character, the writers have often chosen to write about clothes that are extravagant enough to be sinful (Owen-Crocker 2019: 18). The great majority of people probably wore everyday modest clothes which are usually left out of written accounts (Ribeiro & Cumming 1997: 37).

Obviously, the ideal way to study medieval clothing would be to combine all these means. In this study I will attempt to do so. The main source is archaeological textiles, but where other sources can be helpful, I will make use of them.

#### **1.4 The importance of textile studies**

Why do textile studies matter? What can we learn about the past by studying textiles? What does clothing say about the people who wore it? How can studying textiles shed light on other fields of archaeological research?

Textiles offer an incomparable way to approach past individuals. Textiles, as clothing, tell who we are. They indicate gender, age, position in family, social standing, profession, religion, and ethnicity (Andersson, Frei et al. 2010: 150; Martin & Weetch 2017: 7–8). Clothing is revealing of both personal tastes as well as of social and cultural standards and values. Fine, precious clothing and home-made garments are equally valuable to research. Clothes do not only reflect society, but in turn also construct, preserve, rule, and shape social relations. Clothes are either practical, decorative or markers of social standing, but their use and significance go far beyond these simple categorisations. Clothing not only helps us answer questions of wealth, social standing, gender, and personhood, but also recount us about cultural phenomena on a much larger scale (Burns 2004: 3–13; Martin & Weetch 2017: 2). By looking at textile finds we can learn about the wearer, but also about the weavers, spinners, dyers, and tailors who made the fabric (Březinová ja Kohout 2017: 119). The potential of textile studies goes beyond the fabrics themselves. Textiles can reveal aspects of tools, techniques, trade and use of local resources and industries.

Textile archaeologist Eva Andersson (2004: 195) brings attention to her notion that textiles are very often absent in archaeological publications. They are not only unconsciously ignored but also purposefully omitted. Furthermore, they are rarely discussed in their wider social context. It is often claimed that archaeological textile remains are too few in numbers to have an importance, but as Andersson notes, this is no reason to leave them unnoticed. She suggests that archaeologists may avoid having to deal with textiles as addressing them requires specialised knowledge and know-how. Riina Rammo (2015: 80) shares this view, stating that problems in textile archaeology arise not from the lack of material but from the shortage of trained specialists. Most textile studies are separated from other archaeological research, which unfortunately means that textiles are not studied in their rightful contexts (Andersson 2004; Martin & Weetch 2017: 2). Returning to the topic in a subsequent article, Andersson along with a group of textile specialists (Andersson, Frei et al. 2010: 150) ponder on the importance of textile studies and its unpopularity among archaeologists. According to them, textile studies are usually concerned with recognising fibres and technical descriptions, while qualitative, quantitative, and contextual studies come only in the second phase. Although recent years have seen great improvement in the collaboration between textile specialists and scholars of other fields, textiles are still much less studied in wider contexts compared to other materials.

In comparison to other types of sources, that is written records and artistic representations, archaeological textiles have advantages that others do not have. While the latter in most cases focus only on the nobility, archaeological textiles, with the exclusion of some rich burials, usually represent the kind of clothing and textiles that ordinary people wore in their lives (Crowfoot, Pritchard & Staniland 1992: 2). Some problems with artistic representations and their usefulness for the assessment of how clothing was made were already discussed; archaeological textiles are first hand evidence of actual garments worn by people. There is no scribe or artist between the wearer and us.

I consider my research as a study of that second phase. It is qualitative by nature. The preliminary study on the textiles has been done and a selection of them have gone through fibre and colour analyses. Although I am not addressing questions of fibres as such, I attempt to profit from preceding studies and use the information gained from technical studies to answer questions on a broader cultural context. This kind of research has not been done on the material at hand so far. As literary and pictorial sources on medieval clothing in Finland are practically

non-existent, it is not too farfetched to claim that archaeology really is our only way to learn something on the topic.

### **1.5 The basics of textile studies**

Historically textile studies have relied on typological methods of describing and dating (Rammo 2015: 85). Besides the physical textile itself, textiles have potential to answer questions about trade, technology and production, only to name a few. In recent years the focus of research has shifted more and more towards these wider aspects of textile history (Martin & Weetch 2017: 1–3; Rammo 2015: 85). Significant results can be obtained by applying scientific methods from different fields.

Most fundamental information on textiles can be obtained by simple visual observation, either by naked eye or with the aid of microscope. This consists of measurements, condition, colour, weave, density, twist, fibre, decoration, mistakes and irregularities, signs of use and mending and stiches. The size of fragment may be indicative of state of preservation and possibly of its intended use. Its condition dictates what information can be obtained and what methods may be assigned. Colour may indicate the availability of resources and techniques as well as aesthetic and functional preferences. The weave and density reveal what weaving technique was chosen and what technical choices were made to obtain to create a fabric for the desired purpose. The twist of the yarn talks about spinning techniques and what choices were needed to achieve a yarn with the desired properties. The chosen fibre indicates the availability of local raw materials or the action of trading. It also talks about the choice of raw material and how the properties of the fibre affect the outcome. Decorations may reveal the purpose of the fabric along with aesthetic and cultural tastes. Mistakes and irregularities in the weaving reveal the skill of the weavers, their number and what type of loom they used. Wear and tear, signs of use and mending tell the level of use of the fabric, how long it lasted, if it was reused and essentially what the fabric was worth. Stiches reveal that the textile belongs to a garment and may refer to the user's age, gender, and role within the society (Andersson, Frei et al. 2010: 159).

Beyond visual observation, laboratory-based methods may be applied. Colour analysis can reveal what dyes were used. Strontium isotope analysis may denote the provenience of the wool, and again answer questions about trade and local industries. Fibre analysis and the study of ancient DNA can enhance our understanding of the domestication and breeding of sheep.

Textiles can also be radiocarbon dated. Other fields of archaeology can add to our knowledge on textiles, too. Archaeobotanists, for instance, can tell what plants were being cultivated and possibly used in cloth-making. Archaeozoologists, by studying the bones of butchered animals, may be able to tell if sheep were kept for their meat or wool. The study of the tools used in cloth-making may uncover aspects of techniques, whether the fabrics were woven in place or transported, the steps in the process of making a fabric, the distribution of work, the diffusion of techniques and workers, and changes over time (Andersson, Frei et al. 2010: 155–162).

## **1.6 Identifying clothing fragments**

How can we tell pieces of clothing apart from other scraps of fabric? What can the properties of the fabric itself reveal about its intended use?

The majority of archaeological textiles are found in a very fragmentary state and actual garments are no longer recognisable. Their original colours have usually turned to some shade of brown. It was common that clothing was intentionally cut into pieces to be reused in some way, as rags, or as in our case, for hygienic purposes after using the lavatory or as sanitary covers. The reuse of textiles makes it all the more difficult to discern their original function (Kirjavainen 2004: 85; Owen-Crocker 2019: 2). Most archaeological textiles are not highly priced or fine textiles; valuable textiles were sold or passed on as heritage, or they were carefully remade into new garments. Therefore the abandoned textiles we find on excavations are usually those parts of clothing that were most subjected to wear and tear (Crowfoot, Pritchard & Staniland 1992: 3–4; Coatsworth 2019: 65). Simply that the textile has wear and tear and thus has been in use may be enough to reveal it as a clothing fragment.

Sometimes fragments have some marks that clearly point to their primary use as clothing. These include buttonholes, certain seams, pleats, and tucks. Selvage edges as a rule were utilised in long seams, as they do not fray. Therefore, a selvage, especially if bearing marks of sewing, can be considered to belong to a piece of clothing. The cut and yarn direction can reveal if a fragment belongs to clothing, and in some cases the specific garment can be recognised by studying these properties (Repo 2015: 6).

Certain characteristics of the fabric itself can point to its intended use. Thick and coarse wool fabrics are well suited to outer wear, being warm and resistant to rain and wind, while

lightweight, loosely hanging fabrics make better undergarments. Fabrics may be intentionally fulled for felted fabrics are pleasant next to the skin. Fabrics may also become felted by coming to contact with skin, due to sweat and body temperature (Kirjavainen 2004: 33).

Some types of fabric can be excluded from clothing fabrics without a doubt. Among the Åbo Akademi textile material were fragments made of goat's hair. This type of fabric is extremely heavy and obviously unsuitable to be used in clothing (Kirjavainen 2004: 69). The textiles material also includes clippings that are remains of the dressmaking process itself. These have neat, sharply cut edges and no sign of use. I consider these not to be clothing fragments, as they in fact are the by-products of tailor's work.

Some generalisations can be done if a particular type of fabric is repeatedly found in fragments obviously belonging to clothing. In a study done on medieval fabrics in Poland, Helena Březinová and David Kohout (2017: 117) accounted the identification of clothing textiles is most reliable if the fragment includes edges of a peculiar shape, hems, buttonholes, or slits. The majority of these kind of fragments were made of a wool fabric with tabby weave and were of a fine or semi-fine density. Due to the high frequency of this type of fabric among the garment fragments, they consider this to be a typical clothing fabric in medieval Poland. Studies in Lödöse in Sweden and Tønsberg in Norway show that a fine, slightly shiny fabric with a stiff surface was especially common among fragments that included pleating (Hammarlund et al. 2009: 82).

In this study I will assess only fragments that bear obvious marks of being clothing. As already stated, these consist of buttonholes, slits, seams, pleats, and tucks. If applicable, other signs that point to a textile being clothing fabric, will be utilised to support the argument. Studies such as those discussed above offer points of comparison. Is there a type of fabric particularly often occurring among the clothing textiles of Turku? Is one type of fabric more popular with a certain detail, say for example, pleating, than with other, like buttonholes?

## **1.7 Cultural setting**

“Medieval” is a broad term. In this study I will apply it to the centuries generally accepted as the Middle Ages in Finland, spanning from the 13<sup>th</sup> to the early 16<sup>th</sup> century. Also the material

in question dates to these centuries. Medieval written sources in Finland are very scarce, and archaeology is an invaluable way to study the Finnish Middle Ages (Pirinen 1979: 11).

The site in question in the Middle Ages belonged to the Mätäjärvi part of town. The name derives from the foul-smelling lake that once was located in the area (Seppänen 2012: 9). Turku is a relatively young town; it is believed to have been founded in 1280. The settlement began to spread from the cathedral outwards, with Mätäjärvi being one of the first areas to be inhabited (Hiekkänen 2003: 46–47). The formal settlement of the Mätäjärvi area began after 1318. In the 14<sup>th</sup> century there were only a few houses in the area, but in the 15<sup>th</sup> and 16<sup>th</sup> centuries the settlement grew quickly. Based on archaeological research, Mätäjärvi has been inhabited mostly by well-to-do craftsmen. It appears to have been a centre to many fields of crafts and craftsmen, including tanners, cobblers, dyers, weavers, and other workers involved in textile production (Seppänen 2012: 836; 921). These craftsmen are not mentioned in the few written sources that exist and only the later archaeological investigations have revealed their number.

Turku had a notable commercial port. Besides Stockholm, it was one of the few towns in the Kingdom of Sweden to be allowed to participate in foreign trade. A German presence was especially notable in the town's cultural and commercial life from very early on. With Hanseatic trade, German culture spread around the Baltic Sea. Besides cultural aspects, many of the burghers were German themselves. Indeed, by the end of the 14<sup>th</sup> century German-born burghers were in a leading position in the commercial and cultural life of Turku (Immonen 2007: 271–272; Immonen 2009: 18–19). Turku was deeply connected to the Baltic commercial sphere with Lübeck, Tallinn and Danzig being the most important trading partners (Kuujo 1981: 79; 90–91). In the Middle Ages Turku was the second largest town in the Kingdom of Sweden and an important centre of culture and commerce (Seppänen 2012: 19). As such, Turku had a notably international character.

## 2. Medieval clothing and textiles

### 2.1 Medieval fashions

What was clothing like in the Middle Ages? How did it change over those centuries? Medieval fashions were direct descendants of earlier modes to dress with much regional variation. Therefore, there was no uniform fashion throughout Europe. Over the course of the period, however, we can see more and more uniformity in dress between peoples of different regions (Köhler 1963: 131). It is hard, however, to discern where individual fashions came from, if they were the result of direct contacts or if foreign influences muted down through a number of intermediaries. Germany, which in the Middle Ages was split into small states, is a fine example of how fashion in part retained local peculiarities and again was open to some foreign novelties. There was no single coherent German fashion. Regions borrowed features from their immediate neighbours and those they had contacts with (Scott 2014: 207–208). The dresses from Herjolfsnæs have been interpreted to attempt to imitate concurrent fashions in mainland Europe; even if the copies are not very successful, they evidence the willingness to respond to the latest fashions even in a place as remote as Greenland (Coatsworth & Owen-Crocker 2018: 168). It seems that women were more conservative with their dress and more regional variation can be seen in women's dress. This is perhaps due to the fact women travelled less and acquired fewer international contacts (Piponnier & Mane 1997: 155; Ribeiro & Cumming 1997: 20). Margaret Scott (1980: 224) has noticed that in German art, in this example that of Cologne, the men are dressed in more international fashion. They seem to be aware of the concurrent Netherlandish fashions while their wives and daughters are dressed according to more German tastes. Age, too, seems to be factor in how fashionable one's dress is. Medieval pictorial sources often show people of different generations dressed in different manner. The young usually seem to be more up to date with their outfits while the elder wear fashions of previous decades (Scott 1980: 195). What of Turku then? Did its people dress like their ancestors had or had they come to be in touch with contemporary European fashions? As already noted, Turku was an important town within the Kingdom of Sweden and remarkably international by medieval standards.

The dress of higher classes should be set apart from that of the lower. While the privileged classes may have followed the new fashions that disseminated all over the courts of Europe, the common man wore the same dress of earlier times, and it saw little change over the Middle Ages (Nockert 1997: 205). Fashion seems to have spread to the lower levels of society quite

slowly. The commoner may have taken on courtly fashions decades after they had become old-fashioned among the nobility. Lower classes were known to want to imitate the upper classes, and in many countries even sumptuary laws were created to prevent the commoners from dressing too finely (Stabel 2022: 312). Rules and laws did not stop lower classes from wanting to dress according to fashion. Even if they could not afford the fine fabrics of the nobility, similar cuts and shapes could be adapted to cheaper materials. Furthermore, the common folk may have come to touch with fashionable clothing by actually acquiring some, for second-hand clothes trade was very well-spread in the Middle Ages (Scott 1980: 94). To some extent clothing may have passed down on the social spectrum through charity; clothing was sometimes included in the poor relief distributed to the poorest in town although it does not seem to have been very widely practiced (Stabel 2022: 298–299).

While the majority of sources focus on the dress of the upper classes, sources on the everyday wear of the common people are scarce. That being said, they are nevertheless not completely non-existent. Common folk occasionally does appear in pictorial representations. Although rare, wills and inventories made by working class people are found around Europe (Piponnier & Mane 1997: 39–40). Lower class clothing was simple and practical, but essentially the garments were basically the same as worn by upper classes. Common people followed fashions, too, if however trends were slow to reach the lower classes. Yet even land workers are seen wearing doublets by the mid-15<sup>th</sup> century (Piponnier & Mane 1997: 87–88). What set working class clothing apart from upper class clothing was that the fabrics were of lower quality; wadmal, a locally woven coarse wool fabric, undyed wool and hemp (Piponnier & Mane 1997: 41–44). A study on the inventories of middle class townsmen in Bruges has shown that the clothing worn by poorer folk was not notably different from that worn by upper class people; the difference was in the number of garments, quality of fabric and colours, furs and refined details (Stabel 2022: 311–312). Those who could not afford to purchase new clothes, bought them from second hand clothing dealers. There appears to have been a large market for second hand clothing in the Middle Ages. Purchasing second hand clothing could also be a chance to acquire clothing that had belonged to a member of the upper classes (fig. 1). This was thus clothing that would have once been very fashionable but now rather outmoded. Nevertheless, garments like these may have been of great quality and made of fine fabrics. Guilds guarded jealously their own business, and second-hand clothing dealers were not allowed to sell newly made clothing (Scott 1980: 74–75). Second hand clothing trade and the spread of upper-class fashions lower in the spectrum of social classes is well attested in pictorial sources (Piponnier

& Mane 1997: 88). The relevance of this notion to my study is to the question of who owned the clothes. The fragments from the Åbo Akademi site are likely to also have had many owners. Had they too passed on from wealthy owners to poor beggars before being made into substitute toilet paper?



*Figure 1. Catherine of Cleves giving alms to the poor. The child beggar is pictured wearing a doublet, which seems to have been patched and modified a number of times again and again. The Hours of Catherine of Cleves, The Netherlands, Utrecht, ca. 1440. MS M.917/945, pp. 64–65. Online source: The Morgan Library, <https://www.themorgan.org/collection/hoursof-catherine-of-cleves/142> (accessed 8.8.2023)*

The names of the garments create another problem. Although many garments may look rather alike in different parts of Europe, they were known by different names. As France was the source of many fashions, the majority of research on costume history, also that concerning medieval Finland, seems to employ the French names given to garments. These names, however, may never have been used in medieval Finland (Lempiäinen 2014: 27). There is adequate information on the names used to create some kind of perspective on how people themselves referred to their clothes in Finland, too. Wills again are our main source. Finnish wills were written in Swedish or in Latin (Lempiäinen 2014: 27). The contents of these wills are very similar as elsewhere in the Kingdom of Sweden, and there are no regional peculiarities to be seen (Lempiäinen 2014: 36). It may therefore be safe to assume that whatever information we have on single items of clothing in Sweden, may also be applicable to Finland. Unfortunately, we still have no knowledge on what the Finnish-speaking population called their clothes.

Although it is impossible to decide on a coherent European fashion and challenging to see where the people of Turku got their influences, some general trends over these centuries can be picked out. In the early years of the Middle Ages, shirts and dresses were usually meant to be pulled over the head without any closures or fastenings (Pylkkänen 1956: 203). The general trend was that the garments of both men and women became all the more tight-fitting over time. This required new ways of fastening such as lacing and buttoning. In the beginning the garments were long and usually made as one piece and the cut was as simple as possible. Over time the top and the bottom garments began to be treated as individual entities. This was seen in men's dress already by the 13<sup>th</sup> century when a man's outfit was to comprehend a jacket and hose (fig. 3). In women's dress, it was in the late 14<sup>th</sup> century when dresses were cut with separate skirt and bodice piece. They were still always sewn together at the waistline, forming a continuous long dress. Nevertheless, this cut enabled the new shapes of necklines and bodices found from thereon. It also changed the hang of the dress; with a dress cut as a single piece, the weight of the dress is always on the shoulders, while by cutting it in two pieces the weight is on the hips, allowing more delicate and lightweight bodice designs (Pylkkänen 1956: 180). In short, for both sexes, the garments became all the more complicated and detailed over our time period. The trend was not, however, always towards the shorter and more tight-fitting, but changed from one extreme to another over time (Piponnier & Mane 1997: 67–68). The new fastening method of buttoning was applied besides the sleeves and front openings of short jackets to numerous different garments including hoods (Crowfoot, Pritchard & Staniland 1992: 191) and old-fashioned, long and loose-fitting gowns (fig. 2).

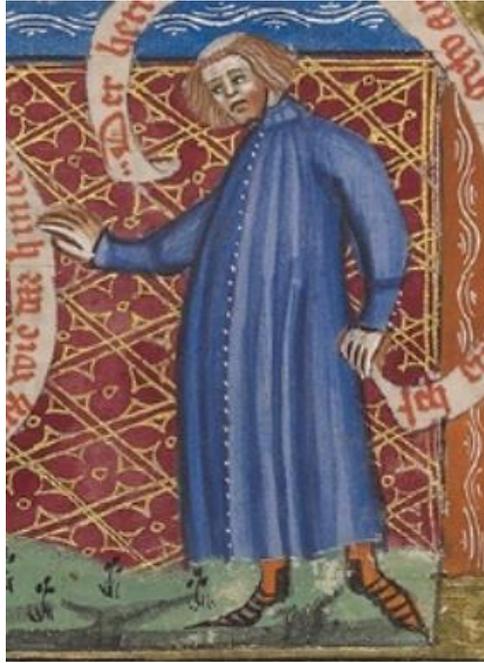


Figure 2. Man in a long, buttoned robe in a German manuscript from circa 1380. *Der wälsche Gast*, Trier, Germany, ca. 1380. MS G.54, fol. 12v. Online source: The Morgan Library, <https://www.themorgan.org/collection/italian-guest/76996/30> (accessed 8.8.2023)

Both sexes wore some kind of under-garment and over-garment. Especially in women's dress, but sometimes also in men's, the over-garment was sleeveless and more loose-fitting than the under-garment, which was allowed to show from beneath (Andersson 2006: 526). The two garments were usually of different colour and were meant to be visible at the same time. The over-garments may therefore be slightly shorter, rolled-up or garnished with decorative slits, which showed the under-garment. The under-garment was called *kjortel* both in Sweden (Andersson 2006: 526) as well as in Finland (Lempiäinen 2014: 33–34). The over-garment was at least in Sweden known by the French word *surkot* (Andersson 2006: 327). Also *kopa* may have referred to this kind of over-garment, but the meaning of the word probably changed over times, since the word is also applied to describe different types of garments (Lempiäinen 2014: 34). In 14<sup>th</sup> century European fashions the armholes of women's over-garments sometimes reached staggering widths, and the fashion seems not have been unknown in the north, since there are depictions of Scandinavian women in such dresses (Andersson 2006: 327). The 15<sup>th</sup> century fashion for loose and long garments seems to have also reached the north. The garment is usually belted at waist, although there are a few depictions of women in the so-called Burgundian style with the dress belted just under the bosom (fig. 6). A cloak, known as *cappa*, *mantellum*, *kappa* or *mottul*, was the only garment meant to be worn outdoors (Andersson 2006:

327–328). Alternatively multiple layers of clothing could be worn instead of precise outdoor clothing (Pylkkänen 1956: 177) A linen dress was usually worn next to the skin. Actual underclothing thus was simply called linen clothing, *linkkläder* (Andersson 2006: 52). Working class people in the midst of physical work are usually depicted only in their linens.

In the 14th century a new type of men's garment came to fashion, a kind of short jacket. This garment made buttons necessary, for the commonest type of this garment was buttoned from neck to hem (fig. 3). Alternatively, sometimes it was laced (Piponnier & Mane 1997: 67). The short jacket, which barely covered the buttocks, was worn with hoses or trousers, which were laced on the lower edge of the garment (Scott 1980: 180; fig. 5). This type of garment is best called a doublet. By definition a doublet is lined and quilted, but the same kind of short jacket appears in lower class dress as well, and probably is not always tailored as it was in upper-class circles. As it still resembles the upper class quilted garment in its basic form, it should be considered a garment of the same type.



Figure 3. The doublet said to have belonged to Charles de Blois. Online source: Joconde, Portail des collections des musées de France [http://www2.culture.gouv.fr/public/mistral/joconde\\_fr?ACTION=CHERCHER&FIELD\\_98=TECH&VALUE\\_98=baudruche%20&DOM=All&REL\\_SPECIFIC=3](http://www2.culture.gouv.fr/public/mistral/joconde_fr?ACTION=CHERCHER&FIELD_98=TECH&VALUE_98=baudruche%20&DOM=All&REL_SPECIFIC=3) (accessed 8.8.2023)



Figure 4. Men in short jackets with sophisticated, deeply set sleeves at Harkeberga church. Online source: Uplandsmuseet, <https://digitalmuseum.se/011013966422/kalkmalning-i-harkeberga-kyrkauppland-2009> (accessed 8.8.2023)

The fashion for doublet seems to have originated in France but reached also Scandinavia at least by the mid-14<sup>th</sup> century (Nockert 1997: 205). The French word *cotehardie* is sometimes found

in Swedish and Norwegian wills. The garment was thus called in France for its daring form-hugging and shortness. It appears that when the word was first employed in Norwegian wills, garment was still quite loose and its shortness was what was daring (Andersson 2006: 327). The word *tröja* is also applied to signify this short men's jacket (Andersson 2006: 526), and the word is also found in Finnish wills (Lempiäinen 2014: 33).

Even though men's short jackets evidently had become popular also in Northern Europe, one particularly northern style seems to be long robes and notably their extended popularity. By the beginning of the 16<sup>th</sup> century men's long robes were undeniably old-fashioned in Continental Europe, but still very much in use on the northern fringes of Europe (Pylkkänen 1956: 107).

The cutting of sleeves became more sophisticated throughout the Middle Ages. Since the Early Middle Ages the sleeve was cut as one piece. While the sleeve usually still continued to be cut in this way, by the late 15<sup>th</sup> century alongside it appeared a sleeve cut in two pieces, with two seams making the sleeve fit better (Pylkkänen 1956: 146). Another change occurred in the shape of the armhole. Towards the end of the 14<sup>th</sup> century the armhole edge of the sleeve as well as the armhole itself began to be cut curved, instead of the earlier straight-cut lines. This made the sleeve more fitting. The armhole was usually cut very deep on the back, allowing better movement (Scott 1980: 77–78; fig. 4). A continental example is found on the doublet said to have belonged to Charles de Blois (fig. 3). The large armholes seem to have arrived to Northern Europe about a hundred years belated. These are found on the dress said to have belonged to Queen Margaret and on the Herjolfsnæs dress D10590 (Østergård 2004: 97).

Both sexes wore hoses under their dress. The hose begun as two separate hoses, one for each leg, which were tied around the waist by a belt or simply tucked in around a cloth serving as underpants. While women wore long dresses that hid the hoses, men often, especially with the arrival of the shorter jackets, let their hoses show. Sometimes a hose of different colour was worn on each leg (Köhler 1963: 181; fig. 9). As men's jackets got shorter the hose began to be tied to the lower hem of the jacket by lacing (Piponnier & Mane 1997: 67; fig. 5). In written sources, hose is known as *hosor* (Lempiäinen 2014: 33).



Figure 3. In this French manuscript from the latter half of the 15<sup>th</sup> century we see how the hose was laced on the lower hem of the doublet. Also visible is the zic-zac lacing of the jacket front. *Le Champion des dames*, Northern France, ca. 1467–1482. Grenoble, Bibliothèque municipale, ms. 352, f. 437 (Antoine et al. 200: 112.)



Figure 2. Ladies in Burgundian dress at Husby Sjutolfts church. Online source: Uplandsmuseet, <https://digitalmuseum.se/011013966466/kalkmalning-i-husby-sjutolfts-kyrka-uppland-2009> (accessed 8.8.2023)

Both sexes usually wore a belt on the waist. Tools and other necessary personal items could be carried on the belt. Alternatively, a small pouch, resembling a detached pocket, could be carried in the place of the yet-to-be invented pockets (Piponnier & Mane 1997: 68; fig. 35). Actual pockets make an appearance in the mid-16<sup>th</sup> century (Pylkkänen 1956: 157).

Almost everyone wore some kind of headdress. These varied from different shapes of hats to hoods. Married women usually wore a linen headdress. Women's headdress was known as *skaut*, *glissing*, *huvudlin* and *strik* (Andersson 2006: 327–328). Both sexes wore hoods (Østergård 2004: 132). The hood was often accompanied by a liripipe, a fashionably long and pointed tail that extended from the back of the crown of the hood (fig. 7). It seems that the long and pointed hood was used by commoners throughout the Middle Ages (Scott 1980: 175–176). Men's hats came in innumerable shapes (fig. 8, see also figs. 14; 17, 21; 60; 61; 63). At Herjolfsnæs, apart from hoods, men's headwear included a so-called pillbox hat and a tall hat without a brim, similar to the sugarloaf hats of the Burgundian fashion (Østergård 2004: 132–134). Headwear was often worn layered; hood worn over a cap and so forth (Coatsworth & Owen-Crocker 2018: 29).



Figure 5. Hoods with liripipe in a German manuscript. *Der wälsche Gast*, Trier, Germany, ca. 1380. MS G.54, fol. 6v. Online source: The Morgan Library, <https://www.themorgan.org/collection/italian-guest/76996/18> (accessed 8.8.2023)



Figure 4. Various shapes of men's hats at Taby church. Online source: Uplandsmuseet, <https://digitaltmuseum.se/011013966663/kalkmalning-i-taby-kyrka-uppland-2009> (accessed 8.8.2023)

Finland was indeed in the periphery of Europe in the Middle Ages. Turku may be an exception here, for its international character, as already discussed. In support of the possible continental styles and fashionability of the people of Turku speaks the fact that most tailors in the Nordic countries were foreigners (Østergård 2004: 97). Elsewhere in the Kingdom of Sweden, European fashions were not unheard of, as attested by written and pictorial sources. As already noted, the French words for certain garments were in use in Sweden (Andersson 2006: 327). Late 15<sup>th</sup> century sources also mention *bröstduk*; this may signify the kind of cover piece used with the ladies' deeply plunging necklines (Pylkkänen 1956: 143; fig. 6).

Church art around Sweden shows people dressed in European fashions. With the precautions taken with foreign artists, we can still conclude that Swedish people were at least familiar with

European fashions, even if we cannot say how popular such trends were among the common folk. As noted, Sweden and Finland had especially tight connections with Germanic nations, which can certainly be seen in dress by the 16<sup>th</sup> century (Pylkkänen 1956:25–26).

The garments discussed above saw little change over the 14<sup>th</sup> to 16<sup>th</sup> centuries. The garments became more form-fitting, and the largeness of armholes and wideness of sleeves varied, but the garments essentially remained unchanged.

## **2.2 Tailoring**

Where did the clothes come from? Were ready-made clothes imported or only the fabrics? Who made the clothes? What evidence do we have of clothes production? The information on how medieval people acquired their clothing is patchy. Like in most cases, rather a lot is known on how and by whom upper class clothing was made while virtually nothing is known on that of the lower classes. Throughout Europe archaeological finds such as scissors, thimbles and needles are evidence of tailoring, in some cases specifically home-tailoring. Written accounts sometimes include notes on sewing equipment (Piponnier & Mane 1997: 27).

Something that is known on professional tailors is that their work was highly specialised. The fields of tailoring included dressmakers, sock-makers, hat-makers and embroiderers (Scott 1980: 72; Jolivet 2003: 167). The low number of mentioned lingerie-makers suggests that underclothing was usually sewn at home (Piponnier & Mane 1997: 28–29). When quilted jackets came to fashion in the 14<sup>th</sup> century, a specialised doublet-maker was needed (Piponnier & Mane 1997: 31). While most craftsmen sold their own products, hats could also be sold by haberdashers (Piponnier & Mane 1997: 32).

Professional tailoring was supervised by town officials and maintained by numerous rules and regulations. This was to ensure the quality of the work and competence of the tailor. Only professionals of that specific field of tailoring were allowed to practice. A tailor master cut the fabric while his assistants, sitting cross-legged on the table, sew the garments. The tools used were scissors, needles, and thimbles (Piponnier & Mane 1997: 29–30).

All clothing was made-to-order. The customer provided the fabric, from which the tailor made a garment according to the customer's wishes. While common people approached the tailor

themselves, members of the upper classes could summon the tailor to their homes. Royal families had their personal tailors, who were not allowed to work for anyone else. The tailor also mended, patched, and refashioned garments (Piponnier & Mane 1997: 29–31; Jolivet 2003: 371). Accounts from English royal family give a glimpse to a tailor's work day; a hose could be sewn in half a day, a hood from half a day to one whole day, and a cloak or over dress from three to six days (Crowfoot, Pritchard & Staniland 1992: 151). The clothing being made to order, it could be tried on several times to ensure the perfect fit (Jolivet 2003: 170). Professional tailoring was limited to towns. There were no tailors in the countryside, where women sew clothes at home. Everyday wear was often made at home also in towns (Piponnier & Mane 1997: 33).

Clothing patterns appear to have been made from cheaper fabrics (Scott 1980: 64; Jolivet 2003: 368). The first printed pattern book is a Spanish one from 1580; this is the first known example of the spreading of tailor's patterns. There is evidence for the use and distribution of patterns much earlier, however. Account books from 16<sup>th</sup> century Sweden detail that a particular low-cost fabric was acquired for making patterns. Patterns were portable and an easy way to share information about the newest cuts and fashions; this may explain the surprising uniformity of medieval European dress (Pylkkänen 1956: 23–25).

The fabric could be cut in a variety of ways, but the stiches and hems were usually the simplest possible (Piponnier & Mane 1997: 31). To allow some stretch, pieces could be cut on bias. This technique seems to have been used especially for socks and narrow sleeves, both items that must fit very tightly (Scott 1980: 72–73). Cutting on bias also makes garments hang more smoothly and scholars working on pictorial sources have sometimes suggested that even complete dresses must have been cut on bias to make them hang so beautifully. However, archaeological evidence does not support this view. It seems that bias cutting was very rare (Crowfoot, Pritchard & Staniland 1992: 185). The technique of bias cutting is very wasteful on the fabric, and it is understandable that the majority of people could not have afforded this kind of extravagance. The only garments that as a rule are cut on bias are socks and hose, while only occasionally other garments, such as a hood at Herjolfsnæs, were cut on bias. All of the fabric would be utilised as far as possible (Østergård 2004: 94). Smaller waste pieces from cutting could be employed as decorative features. Some of the offcuts from Åbo Akademi had traces of stitches, showing that even they were put to use in some way (Kirjavainen 2004: 47).

The quality of tailoring as seen on archaeological textiles may reveal whether clothes were sewn by professional tailors or home-made. The clothes on the Swedish bog-bodies and those at Herjolfsnæs were very skilfully made while the clothes from the excavations from Oslo's old town were of sloppy quality, poorly cut and coarsely sewn (Østergård 2004: 95). Crowfoot, Pritchard & Staniland (1992: 170) have noted that some of the London textile material's buttonholes were of poor quality, which may again be evidence of home tailoring. The quality of sewing and fabric may also speak about the garment's intended purpose: Østergård has classified one especially robust, coarsely sewn dress from Herjolfsnæs as a "working dress" (Østergård 2004: 128).

### 2.3 Fabrics

What were the fabrics like? Who made the fabrics? What were the colours like? Medieval fabrics were most often made of wool or vegetal fibres, hemp or linen. Vegetal fibres are highly perishable and much more rarely found in archaeological conditions than woollen textiles. It should be, however, noted that they were widely used, and that clothing made of vegetal fibres simply has not survived to us. As said, the majority of archaeological textiles are woollen. From the excavation of the Åbo Akademi site, not a single fragment of textile made of fully vegetal fibres was found, while some fabrics seem to have contained a mix of wool and linen.

In medieval Finland fabrics were both woven locally and imported. Clothing a family was traditionally a woman's task, and therefore also the home-based weaving was carried out by women. With the urbanisation of the Middle Ages textiles became a highly important merchandise and fabrics came to be produced professionally, usually by men. While the textiles destined to trading were woven by men, women still continued to weave fabrics as household needs (Mazo Karras 2004: 89–104). Besides clothing fabric, textiles were needed for curtains, coverlets, cushions, wall rugs and blankets (Pylkkänen 1956: 63).

The imported fabrics are best described in present-day terms as wool broadcloth. The first manufactory destined to broadcloth production launched in the 1540s in the Turku Castle. Until then, broadcloth was imported. Cloth manufacturers' lead cloth seals have been found in Turku and joined with literary sources, offer valuable insights to medieval cloth trade. Flemish fabrics were the most popular from the late 13<sup>th</sup> century to early 14<sup>th</sup> century, after which Dutch and

English fabrics dominated the trade. Written accounts reveal that Tallinn, Danzig and Lübeck were the principal trading partners (Taavitsainen 1982: 23–24).

By the 14<sup>th</sup> century broadcloth was the principal imported merchandise in Sweden (Nockert 1997: 203). In Swedish sources the fabric is referred to as *kläde*. The term may have been applied to all foreign fabrics, while initially *kläde* meant precious, red-dyed fabric. Parallels are to be found in English and German where *scarlet* or *scharlachen* referred, not to the red colour, but to a fabric with the nap shorn (Kirjavainen 2004: 49–50). Wool broadcloth was made of short, fine wool. After the weaving, the nap was shorn at least once, often by shorning and combing alternately. The result was a lightweight, soft and gracefully draping fabric (Kirjavainen 2004: 51).

Wadmal, known in Swedish sources as *vadmal*, was a coarse and dense kind of wool fabric. It was usually locally produced, either professionally or home-made for household needs. After weaving, the nap was raised, but not shorn, resulting in an uneven texture. It was often left undyed. Home-made, grey, it was usually the fabric worn by the poorest. Wadmal may, however, also be woven professionally and dyed, to be sold to the burgher class. The thick and coarse wadmal was especially suitable for the northern climate, since it was warm, waterproof and durable. Wadmal was also used as a form of currency by the peasants (Kirjavainen 2004: 59–60).

Alongside broadcloth and wadmal, plain-woven or twill wool fabrics were widely used. By choosing different weaves and coarseness of yarn, a variety of textures could be obtained. Silk was always imported. It was a luxury fabric, costly, and only rarely imported to Sweden, even more rarely to Finland (Pylkkänen 1956: 72). Silk was nevertheless evidently around in Finland, as a silk *tröja* is mentioned in a mid-15<sup>th</sup> century will (Lempiäinen 2014: 32). Valuable clothing was sometimes bequeathed to churches where they were remodelled into ecclesiastical wear. This may have been a custom already in the Middle Ages. A chasuble made of patterned Turkish silk is now the museum collections of Turku Cathedral. The chasuble dates to the late 16<sup>th</sup> century, the fabric may be older (Pylkkänen 1956: 75). Similar cases are known from chasubles elsewhere. Silk fragments are very rare among archaeological textiles in Finland, although sometimes found in early modern and later contexts. Among the earlier ones is a 16<sup>th</sup> century fragment of half-silk, mixed with a vegetal fibre, that was found in an archaeological context in Liminka (Salmi et al. 2012: 28–29). In Estonia, silk fragments have been found on cesspits

of the commoners' quarters, that is not in an aristocratic or ecclesiastic contexts (Rammo 2016: 168). There are no silk fragments from the Åbo Akademi excavation.



*Figure 6. Man in two-coloured garment at Lohja church. Online source: Lohjan seurakunta, [https://www.lohjanseurakunta.fi/documents/34364826/47112908/DSCF0128\\_edited1\\_M.jpg/8640c670-87da-6c1d-d517-892136c35161](https://www.lohjanseurakunta.fi/documents/34364826/47112908/DSCF0128_edited1_M.jpg/8640c670-87da-6c1d-d517-892136c35161) (accessed 8.8.2023)*

Written sources recount that medieval fabrics were very colourful. Most popular colours appear to have been red and blue. The two may also be mixed resulting in different shades of purple. Despite the taste for colourful clothing, fabrics may also have been left undyed, usually white or grey (Kirjavainen 2004: 58). Blue was traditionally a working-class colour, while reds, greens and purples were reserved to the more well-to-do (Piponnier & Mane 1997: 44). Mixing different colours and fabrics in one outfit was fashionable, as is well attested by pictorial sources (figs. 6; 7; see also fig. 35).

#### **2.4 Traces of textile production and tailoring activity**

Signs of the various phases of textile production were evident on the Åbo Akademi site. The raw material wool finds were concentrated in areas that also unearthed evidence for fibre processing, spinning and weaving (Kirjavainen 2004: 10). In total 33 spindle whirles were found, which points to professional spinning activity (Kirjavainen 2004: 17). Various wooden parts of

looms were found, including evidence for the oldest known treadle or horizontal looms in Finland. Horizontal looms are usually connected with professional weaving activity as they require more space and more physical effort from the weaver, but also are much faster to operate than vertical looms (Kirjavainen 2003: 276–277). Also sewing equipment, needles and thimbles, were found at Åbo Akademi site (Hiekkö 2010: 12).

A preliminary draft of this research also included clippings and surplus produced by tailor's work. Within the limits of this study, however, the material was too large. There certainly is evidence for tailoring activity on the Åbo Akademi site. Clippings with neat and defined edges number highly among the textile material. Although these are not included in the material of this study, some of the shapes of the fragments suggest they could be surplus from dress making. Long, triangular pieces may be the waste of a slit cut widely open, often seen on jackets and other over-garments or of the dagging of sleeves and hems. Some of the fragments that have obviously been clothing in use also have one or more neatly cut edge. These would be the result of a garment being modified. The garment may have been too long for a new wearer, or some detail may have become unfashionable, or some part of the garment would have been too worn to be repaired. That part would then have been cut off while the rest of the garment would have continued to be in use in perhaps a resized or more fashionable fit. Fabrics were reused whenever possible. There are many seams cut off among the textile material from the Åbo Akademi site. It seems that when a garment was put out of use, the seams were simply cut off and the fabric itself used to make something else. The modifications like these may well have been done by a home-tailor, but the large number of the fragments cut on all edges, thus results of the cutting phase of dressmaking, show that in all likelihood there was also professional tailoring activity on the Åbo Akademi site.

## **2.5 Shoes and other leather items**

On the topic of medieval clothing, shoes should be included as they are an integral part of the costume. Due to the abundance of both textile and leather material, this was not possible within the limits of this study. Furthermore, the leather items from the Åbo Akademi excavation have already been discussed by Janne Harjula in a number of studies and touched upon by Liisa Seppänen in her doctoral thesis. Therefore, I will only briefly review the footwear at the Åbo Akademi site and their relevance to my study.

While shoes were the main leather product leather was the material used also for other accessories. A possible flap of a leather bag (TMM21816:NE04936) was found at the Åbo Akademi site. The words *got woldes*, in German are written on the flap. The find dates to the turn of the 14<sup>th</sup> and 15<sup>th</sup> centuries (Harjula & Jokela 2003: 261). Alongside bags and pouches, utilitarian garments were made of leather. For example, a workers glove was archaeologically found in London (Antoine 2003: 148).

Footwear, like other items of clothing, are subject to the changes in fashion. Leather shoes are more likely to be found in an intact condition in archaeological contexts than textile garments. Shoes can be a valuable dating method as they tend to change shape with the passing of fashions (Seppänen 2012: 108). The footwear from Åbo Akademi excavations has been studied in detail by Janne Harjula (2008) alongside shoes from other medieval archaeological sites in Turku. In short, the footwear types link Turku to the overall European world and especially to the Baltic cultural sphere (Harjula 2008: 96). Strongest resemblances in material were from Sweden, but almost invariably the same shoe types were found also in Denmark, Norway, Northern Germany, Poland, and the Baltic countries (Harjula 2008: 86, 88–89, 91). Some fashionable phenomena were noted; long and pointed shoes were present (Harjula 2008: 41, 103–105) as well as a side-laced type of shoe with the leather turned outwards, making it impractical but highly fashionable and luxurious (Harjula 2008: 47, 90, 105; Harjula & Jokela 2003: 259–260). At the other end of spectrum were shoes made from one piece of leather; this is an almost archaic type of shoe already known in the Bronze Age (Harjula 2008: 113). This type was believed to have been worn only in the countryside by the Middle Ages but finds from Turku show otherwise (Seppänen 2012: 103). Harjula (2008: 113) notes that valuable and fashionable finds in general, also in the case of shoes, are rarely found in archaeological contexts; they were not simply thrown away but used until completely worn out.

The footwear from the Åbo Akademi excavation shows a curious mix of highly fashionable new styles and types that would have been very old-fashioned by the early 15<sup>th</sup> century. This prepares me to expect perhaps almost anything when it comes to clothing. The man that wore the modish long-toed shoes is likely to have worn an altogether up-to-date fashionable outfit. What about the wearers of those slippers that were, prior to this excavation, thought to have been worn only in the countryside by the Middle Ages? Similarly to the footwear, the textile

material is likely to include fragments of both modish, continental-style garments as well as plain, everyday clothes of people that did not, or could not, bother with new fashions.

## **2.6 Buttons, pins, and other fastenings and accessories**

Different types of fastenings for clothing reveal how clothes were put on and how they stayed on place. In her master's thesis, Elina Rontti (2014) studies the fastenings from three archaeological sites in Turku. The majority of the medieval material in her study come from the already discussed Åbo Akademi site, while some have also come from the site known as Rettiginrinne and the excavation that took place on the site of the Turku municipal library.

Buckles, which may be belt buckles or shoe buckles, and brooches are rather abundant among the medieval material on all three sites. Among the brooches from the Åbo Akademi site are a four-leaf clover shaped one, that apparently is of Estonian type, and one with AVE MARIA G written on the upper surface of it. The latter is of a type wide-spread in medieval Europe (Rontti 2014: 90–91). In at least two cases many of the buckles and brooches, alongside other types of closures, were found concentrated in a few contexts beneath the floors of houses (Rontti 2014: 88–89). Did these belong to the merchandise of a haberdasher or some inhabitant's personal selection of accessories?

Pins and needles are found on all sites. The pins from the Åbo Akademi site are long and thin, very suitable for putting a linen headdress in place. The fashion for women's linen headdress is known from almost everywhere in Europe, while regional variation occurs in the width, height and placement of folds of the headdress. This type of headdress seems to have been especially reserved to married women (Scott 1980: 82). The headdress appears to always have been secured with pins, which were often left visible (Scott 1980: 114). On the 1980's excavation of the Mätäjärvi site Ikäheimo (1989: 160) notes the appearance of pins in the 15<sup>th</sup> century layers and suggests that this is concurrent with the adoption of the European style women's linen headdress in medieval Turku. In support of this theory, also structures made of metal wire were found, which may have been the frames used inside these often very elaborate headdresses. Other possible uses for these pins are the attaching of false sleeves (Scott 1980: 190). On the Åbo Akademi site a pin of this type was found under a structure that has been interpreted as a large, stone-based house with tiled floor and a tiled stove (Rontti 2014: 88). It is interpreted as the house of relatively well-to-do people, and it is tempting to assume that the user of this pin

was a person of wealth and perhaps higher social standing. Some of the needles from the Åbo Akademi site do not seem suitable for sewing, but rather to be used as an aid in lacing (Rontti 2014: 75).

Other fastenings from the Åbo Akademi site include small objects twisted from metal wire, a small metal loop and small metal objects resembling hooks (Rontti 2014: 75). The small metal loop especially caught my attention, as it may be a reinforcement of an eyelet in a piece of a garment with lacing on it. A close examination of the lacing in pictorial sources reveals that the holes were indeed reinforced, and it would appear that the metal loops were sewn to each hole (Scott 1980: 150). The lacing itself is left visible and this type of lacing is well-testified in medieval pictorial sources. We can also see needles such as the one discussed above, which is used to ease the lacing-up of a garment. In the medieval dress the lacing does not go criss-cross as in later garments, but rather zic-zac with only one cord (Scott 1980: 150; fig. 5). Alternatively, the loops may be sewn on the seam, so that the other half of the loop was inside the seam while only a half-circle was left seen. When laced-up, both the lacing and the loops would be invisible, and the opening would resemble only another seamline (Scott 1980: 150–151). Also found at the Åbo Akademi site was one bell (Rontti 2014: 75), and while one bell is not much, I am tempted to note that in European fashions bells of all shapes were particularly popular towards the end of the 14<sup>th</sup> century (Scott 1980: 83).

Among the medieval material from the excavation at the municipal library not a single button was found. From the Rettiginrinne site only one medieval button was found while from the Åbo Akademi site there were two (Rontti 2014: 71). However, as we shall see further on in this study, textile fragments with buttonholes are fairly common. Where are the buttons? One possible explanation for the absence of buttons themselves are that buttons could be made from other materials, which may not be correctly identified as buttons. They could, for example, be leather knots (Rontti 2014: 22). Taking a look on the London finds, the majority of buttons were simple round pieces of cloth padded to make them round (Crowfoot, Pritchard & Staniland 1992: 171–172). This was in the earliest phase of buttoned clothing, only later did metal, wooden and bone buttons appear. At Herjolfsnæs buttons were made of fabric or bone (Østergård 2004: 102). Metal buttons could, and often were, be melted and re-made to something else, but I find that this alone cannot explain why only buttons, and not buckles, brooches and pins, are absent. Apparently in the case of the three excavations discussed here, the majority of small finds such as these fastenings come from non-dated contexts. Indeed, also

the non-dated contexts of the Åbo Akademi excavation include a number of buttons (Rontti 2014: 78–80). We can probably assume that there is at least the chance that some of these buttons are medieval. Rontti (2014: 22–23) mentions on more than one occasion that buttons could be purely decorative and were not always meant to fasten a garment, but I believe that in the case of the Åbo Akademi material the existence of reinforced buttonholes shows that functional buttons were in use. The likeliest explanation would seem to be that the buttons were made of such materials that has prevented their identification as buttons.

### 3. The textile material

#### 3.1 Preview of the material

I was faced with two options on how to approach the textile material on hand. Firstly, I could treat them as if complete pieces of garments, calling them sleeves, hems, collars etc. Alternatively, I could assess them in the light of those properties that make them likely clothing fragments, describing them as buttonholes, seams, pleats and so forth. Although there are some obvious cuffs and necklines, in most cases it is impossible to assign a particular feature to a specific part of the garment. Buttonholes and pleats can belong to either the sleeves or the bodice. Therefore, I chose the latter approach, and fragments sharing similar features in this sense have been allocated to the same group. Having said that, headwear will be discussed as a group of its own as I could not find a better way to include these few examples of most likely hats. Knitted items, due to a different technique of producing textile, are discussed under their own heading. Some fragments have traits that make their allocation to more than one group possible. They will be discussed as per these specific features.

All datings come from Liisa Seppänen's doctoral thesis. She has dated the contexts by stratigraphy and related datable finds. Also, dendrochronology has been utilised where applicable to help the dating of entire contexts (Seppänen 2012: 75–113; 125–133). Seppänen (2012: 90) points out the dating of contexts may not necessarily match the dating of the finds; this refers to the life cycle of artefacts that is affected by a number of factors, such as the value and rarity of the object in question. As already noted, this is true also in the case of textile finds where different types of textiles may have very diverse life cycles. Some of the fragments have been analysed in detail by Heini Kirjavainen. This additional information on fibres and colours is included on each fragment with reference to her master's dissertation. All fragments share the same head number, TMK21816, and I will therefore refer to them by their cataloguing number only. All fragments are made of wool unless stated otherwise.

Within the entire textile material from Åbo Akademi, 2/2-twill was the commonest weave. This sets Turku apart from other European towns where 2/1-twill was becoming the most used weave by the Middle Ages (Kirjavainen 2003: 6). 2/2-twill is often associated with prehistoric weaving tradition while the increasing use of 2/1-twill is believed to be connected to the new type of loom and the subsequent professionalisation of weaving in that took place in later Middle Ages

(Kirjavainen 2004: 23). However, within the recognisable clothing fabrics 2/1-twill is the most used, as we will see. The average thread count on these fragments identified as clothing fabrics is 10 threads per square centimetre. 1–10 threads is considered a rough quality, 11–17 midweight and over 18 a fine quality (Kirjavainen 2003: 7). In our case it is thus quite low, which means that the clothing fabrics are mostly of a somewhat coarse quality.

### 3.2 Buttonholes

Buttonholes make an appearance in clothing in the 13<sup>th</sup> century (Crowfoot, Pritchard & Staniland 1992: 168). They are typically found on sleeves, neck opening and bodices, sometimes also on hoods (Østergård 2004: 102; Crowfoot, Pritchard & Staniland 1992: 191). Usually in medieval garments the buttonholes and buttons themselves are set very closely to one another (Crowfoot, Pritchard & Staniland 1992: 169). A typical example is again the already introduced doublet of Charles de Blois (fig. 2).

Buttonholes form a notably uniform group among the material. TE50442, TE1382 and TE1322 are lined or at least faced fragments with multiple buttonholes. The buttonholes are strengthened by buttonhole stitching. They all also date to the early 15<sup>th</sup> century. TE50323 is a similar fragment, but unlined or there is no trace of facing preserved. TE2044, dating to the late 14<sup>th</sup> century and therefore slightly older, neither is lined or faced. The buttonholes on this fragment are positioned vertically, not horizontally as on all other fragments. TE5164 is a younger fragment, dating to the 16<sup>th</sup> century. It is lined and has horizontal buttonholes, but its presumed use and later date differentiate it from the others.

In a number of cases there is no trace of buttonhole strengthening left. A nonreinforced buttonhole would not be durable, and it is safe to assume that all buttonholes were once strengthened. A single thread of yarn could be sufficient to show that the buttonhole was reinforced, but as sewing yarns usually were made of plant fibres (Crowfoot, Pritchard & Staniland 1992: 151), in many cases the yarn has deteriorated while only the woollen fabric has been preserved. This is a common occurrence among archaeological textiles throughout Europe; the majority of buttonholes at Prague, for example, were now simple holes while only a few had strengthening yarns and lining left (Březinová and Kohout 2017: 119) and at Herjolfsnæs there were no buttonhole stitches found at all (Østergård 2004: 102–103). A few of the fragments in the Åbo Akademi material do have visibly reinforced buttonholes, showing

that the buttonholes were strengthened in a similar fashion to archaeological buttonholes elsewhere in Europe, where they have survived. The medieval buttonhole stitch is alike to modern handsewn buttonhole-sewing techniques. A slit is first punctured to the fabric. The edges of the slit are stitched on a stitch resembling the overcast stitch (fig. 10). Unlike on more modern hand-sewn buttonholes the stitches around the buttonhole are set quite far apart (Crowfoot, Pritchard and Staniland 1992: 170–171).

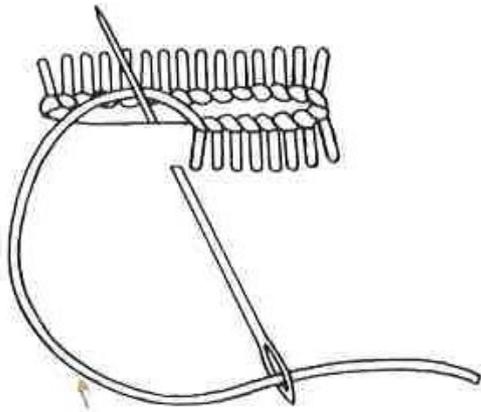


Figure 7. Strengthening buttonholes with buttonhole stitching. (Crowfoot, Pritchard and Staniland 1992: 170).



Figure 8. TMK21816:TE50442. Photo: Henna Hörkkö.

TE50442 (fig. 11) is the only fragment that can be surely identified as a cuff. The fragment is folded with a seam joining the two long edges, forming a funnel shape. Remains of a different wool fabric with tabby weave are attached to the outer surface. Either the buttonhole piece was faced with a strengthening material, a feature seen on all buttonholed fragments from the London excavations (Crowfoot, Pritchard & Staniland 1992: 161) or the whole garment was lined. The outer fabric, also a tabby weave, is dyed red and is somewhat thick and coarse, while the lining fabric is notably thin and dense. The opening of the cuff is finished with a trimming of red broadcloth. Same kind of trimming is found on the sleeves of the doublet of Charles de Blois, while the cuff edges of the London sleeves were simply hemmed (Crowfoot, Pritchard & Staniland 1992). The trimming is sewn on with the grain vertically as is the fabric itself too, not on bias as might be expected in modern times. The medieval facings were in fact never cut on bias (Crowfoot, Pritchard & Staniland 1992: 158). The piece slightly narrows towards the

mouth. The buttonholes are positioned horizontally to the edge, in the direction the garment would experience most stress.



*Figure 9. TMK21816:TE1382.  
Photo: Henna Hörkkö.*

TE1382 (fig. 12) is a rectangular fragment that has a typically medieval set of buttonholes with eight buttonholes on a length of 13,5 cm. Each buttonhole is 13 mm long. The length of each stitch is 4 mm, notably shorter than the average on textiles excavated in London (Crowfoot, Pritchard & Staniland 1992: 171). The fabric is red wadmal. Although full of a 2/2 twill weave is noticeable. The buttonholes are horizontal to the edge and very close to one another. One of the long edges is turned, but it is impossible to tell if this due to how the fragment has been preserved or if the edge was intended to fold here. It is likewise impossible to say if the fragment belongs to a sleeve or the bodice of a garment. The length of the buttonholes suggests, however, that it may be a bodice piece. Crowfoot, Pritchard & Staniland (1992: 171) noted with the London textiles that a typical buttonhole of a sleeve was about 10 mm, while bodice buttonholes were 12–14 mm in length. The buttonholes here fall exactly within these measurements. Another possibility is the buttoning of a hood where a typical buttonhole was 11–14 mm long. The now outer side of the fabric has strands of a linen fabric attached to it. The piece may have therefore been lined with linen or the buttonhole piece was strengthened with a facing as in the latter case.

TE1322 is a rather long, rectangular piece folded width wise. It has two fabrics sewn together, a seam visible at the fold, and three buttonholes near the edge. Two of the buttonholes have some yarn preserved. The length of each buttonhole stitch is 5,5 mm, spaced 2 mm apart, while the buttonholes themselves are 15 mm in length, making them larger than in comparative material. The buttonholes seem to be positioned horizontally to the edge. The fabric itself is a somewhat coarse 2/2 twill. Again, this could either belong to a sleeve or a bodice.

TE50323 resembles the fragments above in that the buttonholes are positioned horizontally and its dating to the early 15<sup>th</sup> century. It is not faced nor lined, however. The fragment is a piece of indeterminate shape and dimensions, and has slits resembling buttonholes, four in this case, that have no yarn. The slits are not all torn all the way to the edge, which makes it seem that they intentionally made and probably intended as buttonholes. The length of each buttonhole is 17 mm. The fabric itself is an undyed 2/1-twill. The fabric is slightly more worn around the buttonholes, suggesting that this part of the fragment was in active use. A sleeve, bodice or hood are again likely interpretations, while the diagonal curve on the torn edge may point to the armhole of a bodice or the wedge edge of a hood.

Judging from the traces of other fabrics it seems that these buttonholed garments were lined or at least the buttonholes were faced with another fabric. The lining fabric was often linen; linen does not preserve as well as wool and thus often only the woollen fabric is left, which was also noted in London (Crowfoot, Pritchard & Staniland 1992: 161). Also, the textiles here have traces of complementary fabrics; we may presume that some kind of lining or facing was used. The evolution of buttoned garments was discussed in the previous chapters. Firstly, there were the men's short jackets, doublets, which were often buttoned at bodice as well as the sleeves. Women's dresses usually did not have button fastening on the bodice, but the sleeves may have been buttoned. Other garments that may have had button fastening were cloaks that were fastened with buttons around the neck or at the breast, and hoods that had button fastening from underneath the chin to the breast. At least the first three of the buttonholed fragments to belong to the bodice of a garment similar in style to the doublet or a fashionably tight-fitting sleeve of any kind of garment. As already noted, these fashions spread to all social classes over time, although they began as upper-class styles. The wools seen here are not precious; they are rather coarse and thick, TE1382 even being made of the local fabric wadmal. They could still imitate the upper-class styles and try to appear more precious than they perhaps are, the two first being

dyed red which itself shows that the wearer was by no means poor. The broadcloth trimming in TE50442 is also made of an imported fabric.

The remaining buttonholes of the material probably belonged to different types of garments. TE2044 is a rectangular piece of 2/1-twill, dating to the late 14<sup>th</sup> century. The fragment has two 15 mm long vertical slits on one edge, most likely buttonholes. There are no marks left by yarns or sewing. It differs from all the other buttonholed fragments, and buttonholes on archaeological textiles in general, in that the buttonholes are positioned vertically. The weaving itself is of notably neat and consistent quality.

TE5164 (fig. 13) is a somewhat long and narrow rectangular fragment. It dates to the 16<sup>th</sup> century and is therefore one of the youngest fragments within the whole material. One of the short edges there are three 17 mm long horizontal buttonholes. No yarn has been preserved on the buttonholes. The fabric is tabby woven. A strip of another tabby woven fabric is attached to the fabric, suggesting that the piece was faced or lined. Given its later date, this could be a button-up collar, a style seen in medieval art also in Finland (fig. 14).



Figure 11. TMK21816:TE5164.  
Photo: Henna Hörkkö.



Figure 10. Man wearing a buttoned turn up collar in Parainen church. (István 1959: 45).

The majority of the fragments with buttonholes date to the early 15<sup>th</sup> century. Only one fragment, TE50442, was obviously a piece of a sleeve. Three, TE1382, TE1322 and TE50323, belong to either the sleeve or the bodice. TE5164 is a button-up collar. TE2044 remains somewhat of a mystery; no other examples of medieval garments with vertical buttonholes were

found in the process of writing this study. Most of the fragments with buttonholes are lined with another wool fabric or linen.

TE5131 (fig. 16) is not a buttonhole to be precise, but the same type of finishing connects it with this group. The fragment dates to the turn of the 14<sup>th</sup> and 15<sup>th</sup> centuries. The fabric is a coarse tabby weave, partially fulled in use. There are five small evenly spaced holes 7 mm apart on one edge with some remains of yarn. The edges are irregular. Stitches about 1 mm long can be seen on the right surface of the fragment. On the turn side, exactly in line with the stitches, is a slightly more fulled spot. The holes are purposefully made without a doubt. A likely explanation would be eyelets for lacing, although no yarn has been preserved around the holes themselves. Eyelets were finished in the same way as were buttonholes; with densely spaced short stitches around the hole (Crowfoot, Pritchard & Staniland 1992: 164; fig. 15). Crowfoot, Pritchard & Staniland (1992: 164–167) has noted that among the London finds there were very few pieces with eyelets although lacing was a very common way of fastening, being utilised in bodice openings, seams, and sleeves. She explains this to be due to that linen yarn has not been preserved. Many possible eyelet pieces thus may go unrecognised. Alternatively, eyelets could be strengthened with small metal loops (Scott 1980: 150), which, as previously noted, may be the case with the small metal rings found at Åbo Akademi. The loss of yarn or the loops would seem to be the case here too with TE5131. A tempting comparative piece would be the neck opening of dress D10581 from Herjolfsnæs; on both sides of a slit made at the opening are two eyelets for lacing (Østergård 2004: 103). The running stitches may belong to a decorative pattern, a kind of simple embroidery, as suggested by Crowfoot, Pritchard & Staniland (1992: 173–174) with similar London-found textiles. TE0822 may likewise be an example of a piece with eyelets. It is a rectangular fragment folded on three edges. It dates to the early 15th century. The fabric is an undyed white broadcloth (Kirjavainen 2004: 57). The three folded edges all have needle marks. One of the long edges also has three evenly spaced small holes.

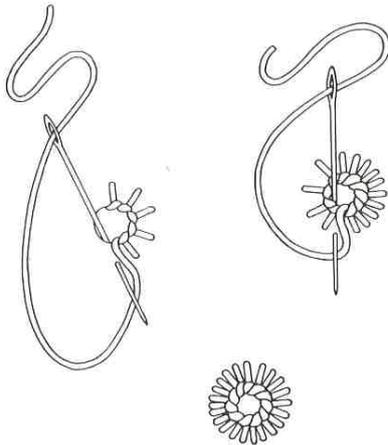


Figure 12. The method of sewing eyelets. (Crowfoot, Pritchard and Staniland 1992: 164).

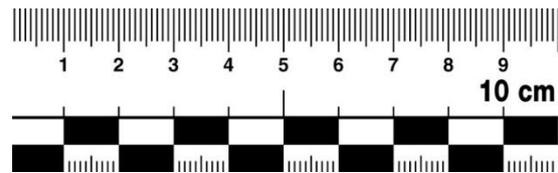


Figure 13. TMK21816: TE5131. Photo: Henna Hörkkö.

### 3.3 Slits

This group involves fragments that are cut of one piece and slashed from one edge towards the centre. The raw edges are turned in and finished with a securing stitch. The commonest places for slits in medieval garments were sleeve openings, usually accompanied by buttonholes.



Figure 14. Tunic with a slit at hem at Husby Sjutolfts church. Featured also are contrasting trimming at cuffs and neck and pleating around neck hole. Online source: Uplandsmuseet, <https://digitaltmuseum.se/011013966467/kalkmalning-i-husby-sjutolfts-kyrka-uppland-2009> (accessed 8.8.2023)

Pictorial sources also reveal that men's short jackets could have a slit on the side at the bottom of the hem (fig. 17) Some dresses at Herjolfsnæs also had a slit at the neck opening (Østergård 2004: 94).

TE20117 is a fragment of a fulled 2/1 twill. It is made of one piece that has been slit from one edge to the centre. The raw edges of the slit have been folded inwards and finished with overcast stitches. Two kinds of yarns have been used, a plant fibre one and another of three-ply Sz/z-twisted wool yarn. The fabric appears to have been cut grain-wise. The material is slightly fulled on one side.



*Figure 15. TMK21816: TE13027. Photo: Henna Hörkkö.*

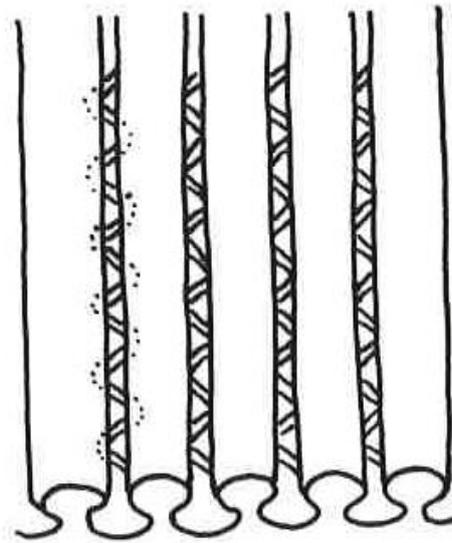
TE13027 (fig. 18) is similar in shape. It is a natural white, undyed broadcloth. It is fulled on only one side, the other being of a visible tabby weave, which makes it suitable for lining (Kirjavainen 2004: 58). It is made just like the previous one, with a slit cut towards the centre and the raw edges having been turned on one side. There are no traces of yarn, however. The edge of the slit has a faint wavy outline suggesting that there once were stitches, probably overcast stitches. The traces are 3 mm long. The raw edges have been turned to the fulled side. The edges of the fragment itself have been cut. This suggests that this part of the garment was

for whatever reason purposefully cut off. Perhaps the garment was being refashioned or resized and this particular part became unnecessary. Alternatively, someone maybe wanted to preserve the lining fabric or reuse it for some other purpose and the cutting off of the slit piece became necessary. Another likely explanation is that the lining of the garment was replaced as it was becoming worn.

TE13027 shows again that lining clothing was usual. In this case the lining fabric is a rather valuable one, it is a foreign import. Both pieces represent the medieval fashion for close-fit clothes which made opening allowing more movement necessary.

### **3.4 Pleating**

Pleating is a fashionable as well as practical feature of medieval dress that may be executed in a number of ways. Pleats are formed by gathering the excess of a fabric and securing the gathers by sewing. Pleats can be secured either only on the upper edge or on both edges. The former results in widening pleats with the garment a closer fit where the pleats are stitched and often very wide in the bottom. The latter type of pleats are of tubular shape, an even row of rounded vertical tucks (fig. 18). Both of these pleat types are found among the Åbo Akademi material. Another type of a pleat is the box pleat, a wide and sharp-edged pleat secured at both ends. This type of pleat is found on a number of medieval sites in Norway and Sweden (Vedeler 2004: 64), but none were among the Åbo Akademi material. All, with the exception of TE04916, would appear to belong to the latter type. The pleats from Åbo Akademi are very similar to those from the Turku Cathedral (Kirjavainen 2012), Uvdal church (Vedeler 2004), Herjolfsnæs (Østergård 2004) and from Prague (Březinova and Kohout 2017).



*Figure 16. The construction of a row of secured pleats as it was at Herjolsnæs. The same technique was used for the construction of false seams. (Østergård 2004: 101)*

Pleats are in fashion throughout Europe during this time, although there is much of regional variation in the arrangement of the pleats. Most often they are found on bodice pieces (fig. 20, fig. 21), neck-holes (fig. 17), skirt waists or upper sleeves (fig. 61). Pleated and gathered garments were worn in Northern Europe already in the Viking age, and therefore it is debatable whether the medieval fashion for pleats was the continuation of older, regional tradition with new improved tailoring techniques or the adoption and local adaptation of the wider European styles (Gjøl Hagen 1992: 36; Vedeler 2004: 62). The typical Finnish traditional way of pleating is around the neck and shoulders; the neckline is finished with a narrow trimming which gathers the excess fabric freely descending pleats (Pylkkänen 1956: 204; figure 17). Pleated bodices are notable feature of the Burgundian dress of 15th century, which influenced dress in many parts of continental Europe. We should be wary of assuming that this fashion ever reached the northern parts of Europe, however, there are hints that Burgundian and French fashions were not unknown at least in Sweden and Norway. The French words for overgarments *surcot* and *cotehardie* are found in Swedish and Norwegian wills from the early 14th century onwards (Andersson 2006: 327). Furthermore, there are a number of examples of Burgundian dress in Swedish church paintings. The problems with such artistic representations have already been detailed, but their presence at least shows that European fashions were not unheard of even as north as Sweden.



Figure 17. Mary Magdalene reading in a painting by Rogier van der Weyden, circa 1435–1438. Online source : Wikimedia Commons, [https://commons.wikimedia.org/wiki/File:The\\_Magdalen\\_Reading\\_-\\_Rogier\\_van\\_der\\_Weyden.jpg](https://commons.wikimedia.org/wiki/File:The_Magdalen_Reading_-_Rogier_van_der_Weyden.jpg) (accessed 8.8.2023)



Figure 18. The man's garment appears to be pleated all over while the woman wears a pleated skirt. Book of hours, France, probably Rouen, ca. 1470. MS M.32 fol. 10v. Online source: The Morgan Library, <http://ica.themorgan.org/manuscript/page/14/76886> (accessed 8.8.2023)

Vedeler (2004: 63) considers pleated garments to be an upper-class fashion since their tailoring requires more work effort than that of non-pleated garments and would thus be more costly. Also, that extra fabric is needed for pleating and the fashion's possible foreign origin can be seen in support of this view. Pleated textile finds sometimes are of higher quality. For instance, at Lödöse and Tønsberg excavations fabrics that were finely woven and shiny were also the ones generously pleated (Hammarlund et al. 2009: 82). Although it is true that pleating is requires more fabric and the view that it is first and foremost an upper-class fashion, it should be noted that simple pleating also facilitates movement in otherwise snug clothes and its value to people doing physical work should not be understated. The kinds of foreign fashions seen in Finnish and Swedish church art (fig. 6) are no doubt upper class, even nobility, fashions, and it is unlikely that these would be the sort of clothing worn by the people living in Mätjärvi, those being well-to-do craftsmen. Yet, archaeological evidence shows that even the clothes of the common man were moderately complicated in their construction, fitted and detailed, not the simplest possible cut.

TE04916 (fig. 22), dating to the first half of the 15<sup>th</sup> century, is a mediumweight 2/2-twill. There is a lot of wear and tear, but a row of pleats can be seen on one edge. The pleats appear to be sewn only on the upper edge. The pleating itself is a simple gathering of the upper edge, with the pleats narrower on one edge and widening lengthwise. There are no yarns left, but the faintly wavy outline on the gathered edge shows that yarn has been there. The gathers may have been tucking a pleat one by one and sewing them together or a thread may have run through the fabric and pulled to tighten, thus creating a gathered rows of pleats; the latter technique is well known from Viking age dress in Sweden and medieval garments in Sweden and Norway (Vedeler 2004: 61). Each gather is about 10 mm in width. This type of pleat is most often found around neck holes (fig. 17) and on skirt waists.



Figure 19. TMK21816: TE04916. Photo: Henna Hörkkö.

TE50492 (fig. 24) comprehends four fragments belonging to the same garment, dating to the early 15<sup>th</sup> century. The primary fabric is a mediumweight 2/1-twill, with warp and weft of different colours. The largest piece is evenly pleated. No yarn is left to reveal if the pleats were secured by sewing, but the even tubular shape of the pleats suggests that they were kept on place at both ends possibly by sewing. A smaller fragment of the same fabric, with no visible pleating, is attached to a much coarser 2/1-twill fabric. The largest piece, with one selvage edge,

ends on one edge to a straight line with one corner extending to a 10 cm long overhang. The latter appears to be turned on both long edges and the remaining short one to form an enclosed piece. One of the long edges has been finished with overcast stitches. A loose long strip is included, which closely resembles the latter, but is much more torn.



Figure 21. Bodice front with pleating from Herjolfsnæs. (Østergård 2004: 187).



Figure 20. TMK21816:TE50492. Photo: Henna Hörkkö.

The fragment detailed here closely resembles the Swedish and Norwegian garments described by Vedeler (2005). At Uvdal church, two young girls were buried in the 14<sup>th</sup> century wearing pleated dresses. The younger girl wore a dress with pleated bodice with pleats that appear to be exactly as in TE50492. The pleats were narrow and rounded; they were created by inserting a thread through the fabric and pulled to tighten, as already described. To keep the gathers together, additional stitching was done on the wrong side of the garment through the whole row of pleats. It seems very likely that TE50492 was executed in the same manner. The Uvdal girl's dress is too fragmentary to reveal if the pleating continued beyond the bodice. The older girl also wore a pleated dress; in this case it may be seen the pleats are made only on the bodice, directly underneath the neck hole while the lower part of the dress is not pleated. Very similar pleating is also found at Herjolfsnæs (fig. 23); the pleats on dresses D10590 and D6473 are rounded on the outer side and flat on the inside. In D10590 the pleating is reserved to the bodice and does not continue to the shoulders (Østergård 2004: 185), which seems to be the case also with TE50492. The pleating technique on TE50492 is the same as on the Turku Cathedral wool dress, but the garment itself is essentially different in cut. The latter had two large slits in both front and back with a pleated section forming a wedge. The pleating continues from bust to the

hem, widening downwards (Kirjavainen 2012: 47). The pleating in TE50492 appears to be reserved only to the presumed bodice part.

TE13030 is an undyed 2/1-twill dating to the late 14<sup>th</sup> century. It is a long rectangular fragment. One of the long edges has been folded while the other forms one long pleat. A smaller fragment included has two turned edges. The pleats in this garment appear to be set quite far apart: at least 5 cm if we consider the folded edge as a seam. The length of the fragment points to a long garment, such as a skirt. The pleat may be a false seam. False seams are a common feature on the Herjolfsnæs dresses. It has no practical purpose; it is meant to give a symmetrical impression of the number of the panels on the garment (Østergård 2004: 98). Also the tunic on the Bocksten bog body has one false seam on the back (Coatsworth & Owen-Crocker 2018: 163).

TE04920 (fig. 25) is a small rectangular fragment dating to the early 15<sup>th</sup> century. One of the short edges has a seamline. There are four groups of three pleats visible. The fabric itself is a mediumweight, perhaps slightly finer than usual, 2/1-twill. The pleats have retained their clear shape, therefore some kind of securing stitching seems likely. No yarn has been preserved, but inside the pleats very faint needle marks, spaced 6 mm apart, can be seen. It seems likely that a finely pleated fragment such as this may belong to the bodice or perhaps given the fragment's small size, to the upper sleeve of a garment.



*Figure 22. TMK21816:TE04920. Photo: Henna Hörkkö*

TE14710 (fig. 26) is a wide, torn fragment of a tabby woven fabric dating to the early 15<sup>th</sup> century. The piece is slightly curving. There is possible pleating all over the fragment, marked by evenly spaced small tucks. The arrangement of the tucks resembles the dresses cut of multiple panels, widening towards the bottom. The fragment is quite wide, suggesting a loose-

fit garment such as a skirt. The tucks may be false seams, imitating a dress with numerous panels.



Figure 23. TMK21816:TE14710. Photo: Henna Hörkkö.

TE50436 (fig. 27) is made up of pieces of two different fabrics joined by rough stitches. The fragment dates to early 15<sup>th</sup> century. The fabrics are both mediumweight 2/1-twills, one slightly coarser than the other, and the colour is reddish on both. On the larger piece, there are three seams, or tucks, spaced 4 cm apart, with two being false seams. Strands of light-coloured yarn are left on the wrong side of the false seams. The length of the stitches, where measurable, is 8 mm. The inside of the false seams is filled. The other fragment is a squarish piece that has been sewn on what seems to be the wrong side of the first fragment. Its function is unclear. A patch or underarm gusset seems possible. It bears some resemblance to the Turku Cathedral dress where the sleeve and armhole were constructed of multiple wedges (Kirjavainen 2012: 48).



Figure 24. TMK21816:TE50436. Photo: Henna Hörkkö.

TE2011 (fig. 28) is a narrow and long fragment of a midweight tightly woven tabby dating to the late 14th century. The upper long edge is torn while the shorter long edge is folded. Three stitches, in running stitch, are visible on the folded edge. Also on one long edge, short stitches in running stitch are noticeable. This means that the long edges were seamlines. Three faint pleats are visible at the upper edge, the non-folded edge, continuing, if also becoming fainter, towards the lower edge.

My belief is that the fragment is part of a skirt panel with the short edge being the hemline. The central pleat is fulled on the fold, indicating that it has been in its folded shape already when used and that the fold was possibly even secured with stitching. The pleat in question might also be a false seam as discussed above.

There is a relatively large number of pleated fragments among the Åbo Akademi textile material. The pleating techniques are similar to other northern regions, with almost identical fragments being found in Norway and Iceland.



*Figure 25. TMK21816:TE2011. Photo: Henna Hörkkö.*

### **3.5 Seams and hemlines**

This is a large group that includes all those fragments that have seamlines or hemlines by sewing. The curved edges, TE20654, TE20129, TE20622, TE50448 and TE5097, may be neck

edges or arm hole edges. The wide fragments, TE04910, TE50473, and TE20622, are most likely lower hems of large items of clothing such as skirts or cloaks. This is a part of the garment that would be more likely to be worn by contact with the ground and perhaps repeatedly replaced. In a case where a garment switched owner and possibly was resized this may be the part that was cut of as the hem was shortened. TE20177 is the most complete fragment within the material and has both lower hem as well as neckline and armhole edge. Finally, there are fragments that are made up of multiple fragments joined by seamlines.

TE20654 (fig. 29) is a fine and lightweight wool 2/2-twill, dating to the latter half of the 14th century. It has a curved upper edge that has been folded on one side. Vertically to the turned edge runs a panel of decorative weave. It is a so-called diamond twill, being the same weave as for the rest of the fabric but with a contrasting colour used and the treadles used in a different order. If we are to consider this curved edge as a neckline, the decorative panel would run vertically from the neck edge downwards. It would seem that the fabric was woven with this specific garment in mind as the positioning of the diamond twill would be crucial. However, there are strands of contrasting yarn running vertically to the diamond pattern, which would make this perhaps an overall patterned fabric with both warp and weft used to create the decorative panel. The curved edge is turned about 10 mm in and has no traces of yarn or stitches.



Figure 26. TMK21816: TE20654. Photo: Henna Hörkkö.

Diamond twills are an old pattern already known in Scandinavia in the Viking age. Similar diamond twills are known throughout Europe from Novgorod to London (Østergård 2004: 70). The pattern is relatively common throughout northern Europe. Thus, we cannot say if this diamond twill is a conservative northern tradition or a whim of a foreign fashion.

Besides TE20654, TE20129 and TE5097 are likewise necklines or armholes. The former is a fragment of a finely woven tabby dating to the late 14<sup>th</sup> century. It has a curved edge turned on one side. No yarn is preserved and neither there are needle marks visible. With TE5097 (fig. 30), fragment of a 2/2-twill fabric, dating to late 15<sup>th</sup> century, two curved edges may be seen, a longer and a shorter one. Both yarn and needle marks are preserved on both edges. The longer curved edge is finished with overcast stitches about 8 mm long. The fragment might belong to the upper bodice of a wide-necked garment, the two curved edges being the neckline and arm hole.



Figure 27. TMK21816: TE5097. Photo: Henna Hörkkö.

TE50473 is a rectangular fragment of a coarse 2/1-twill fabric dating to the early 15<sup>th</sup> century. One of the long edges has been turned to a 1 cm wide hem and finished with a hem-stitch. This kind of simple hem is the commonest among Åbo Akademi material. The same hem type is found on TE20622, a narrow rectangular fragment dating to the late 14<sup>th</sup> century. The fabric is midweight 2/1-twill. One edge is a hemline with two different yarns preserved. One holds the 1 cm wide hem on place; the stitches are 6 mm long and spaced 5 mm apart. Loose strands of a lighter coloured yarn are also present. The fragment appears to be dyed red. Also TE50448 is probably a lower hem. It dates to the early 15<sup>th</sup> century. It comprehends two fragments, a smaller and a larger one of the same 2/1-twill fabric. On the long edge of the smaller one needle

marks and plant fibre yarn are preserved. The larger piece has a long, curved edge where the seamline continues. The yarn traces are unfortunately not measurable. TE13067 (fig. 31) and TE04910 are probably the lower hems of some relatively large garments, such as skirts or cloaks. TE13067, dating to the late 14th century, is not hemmed, to be precise. The long edge does, however, have a wavy outline, which suggests that it may have been finished with an overcast stitch. The fragment has two slightly curved edges, both curved the same way and both bearing traces of sewing. The weave is a coarse 2/1-twill. TE04910, dating to the early 15th century, is a rectangular piece with one long edge folded and apparently sewn judging by the needle marks. The fabric is a midweight red 2/1 twill fulled on one side. The warp is much more lightweight than the weft. Kirjavainen (2004: 67–68) believes that this type of fabric may be home-woven and that it might even be woven on a vertical loom. The piece is much too fragmentary to tell much more about its purpose in clothing.

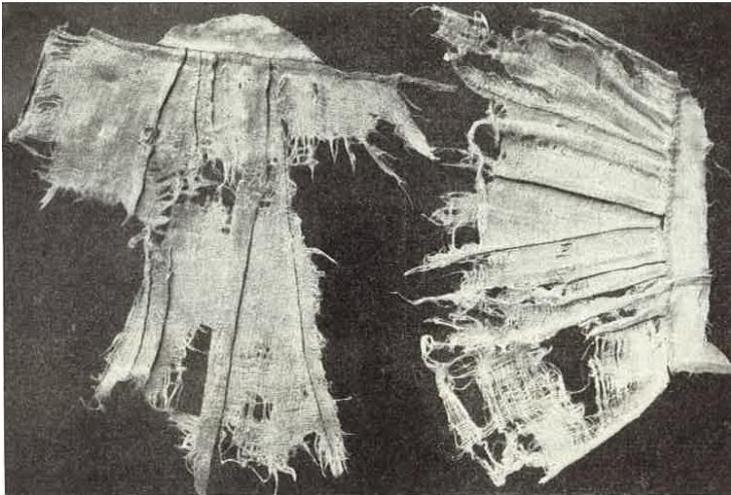


*Figure 28. TMK21816:TE13067. Photo: Henna Hörkkö.*

In all, there is not much to say about Åbo Akademi's hemlines. They are all much too fragmentary to deduce anything about the width of hems. The most common method of hemming appears to be single hem, where the edge has been turned only once. Where applicable, the stitch of choice seems to be hem-stitch, as with the case of curved hems.

Besides wide lower hem fragments there are also vertical skirt pieces that comprehend the lowest part too. KT201:1 is a long rectangular fragment. One edge is selvage, while both long edges have been turned. This fragment appears to be a skirt panel. As noted, medieval garments

are often of a much more complicated construction in the light of archaeological evidence than in that of pictorial sources. Clothes were made form-fitting by sewing them of multiple narrow panels (fig. 32; fig. 33). This is well evidenced at Herjolfsnæs (Østergård 2004) and on the costume worn the Bocksten bog body (Coatsworth & Owen-Crocker 2018: 163). Panels were also employed in sleeves and hoods (Østergård 2004: 98). The use of panels is well evidenced in TE13032. Also the pleats that are employed as false seams to give an impression of symmetry testify the popularity of panels. Where false seams are considered, skirt panels were discussed within the group of pleated garments.



*Figure 29. 15th century linen skirt with numerous panels from the Rauma church (Pylkkänen 1956: 211).*



*Figure 33. Dress D10581 from Herjolfsnæs. The skirt is made up of numerous narrow panels. Also a square-shaped patch can be seen on the bodice. (Østergård 2004: 163)*

TE20177 (fig. 34) is the most complete garment within the material. The child's dress is included in this group because the complete skirt is its most prominent feature, although it could belong the many other groups likewise. The fragment dates to the late 14<sup>th</sup> century. The fabric is a coarse tabby weave. What makes the fragment interesting, is that both the lower and upper hemlines have been preserved. The lower hem, the neck edge and armhole edge all have been turned and apparently sewn as shown by needlemarks. The simple hem is 5 mm long. The length of the fragment is 31 centimetres. Sources on medieval children's clothing are scarce. Extant examples and pictorial sources (figs. 35; 36) suggest that children's garments were

basically the same as adults'. A child's linen dress was found at Rauma church; it is sleeveless, but unlike TE20177 it is composed of separate bodice and skirts pieces (Pylkkänen 1957: 17).



Figure 34. TMK21816:TE20177.  
Photo: Henna Hörkkö.



Figure 35. Two children playing (detail). Both wear sleeveless dresses and appear to carry belts with small pouches on their waists. *Book of Hours, Belgium, Bruges, ca. 1515, MS M.399 fol.167r.* Online source: <http://ica.themorgan.org/manuscript/page/59/112362> (accessed 8.8.2023)



Figure 36. A child playing with toy (detail). *Book of Hours, France, Poitiers, ca. 1475, MS M.1001 fol. 48r*  
<http://ica.themorgan.org/manuscript/page/6/76937> (accessed 8.8.2023)

There are numerous textile finds that have seams between two or more fragments but unlike the previously discussed fragments cannot, with some exceptions that we will see, be placed to any exact part of the garment. TE13032 (fig. 37) has two fragments with a long seam between them. The fragments dates to the late 14<sup>th</sup> century. The fabric, a mediumweight red tabby weave, is full on one side. Kirjavainen (2004: 63) points out that this could be either intentional fulling in the production of the fabric or fulling due to the fabric being in contact with skin. Either way, that the fabric is full shows that it was intended to be used as a clothing fabric or that it was used in clothing. On the long seam the edges have been folded in and seam allowances pressed open. There are needle marks on the seamline and a wavy outline showing sewing marks 4 mm apart. This is repeated on both edges of the smaller of the two fragments, showing that it was attached to another pieces on both long edges. The smaller fragment is thus a somewhat narrow panel. The longest edge, made up of both fragments, is curved and has needle marks 4 mm apart. This fragment is most likely the collar of a hood. The lower edge has not been hemmed but the presence of needle marks and that it has not frayed suggest it may have been finished

with a trimming. Furthermore, panels were employed in hoods as seen for example in London Crowfoot, Pritchard & Staniland 1992: 191).



Figure 37. TMK21816:TE13032. Photo: Henna Hörkkö.

TE50467 comprises three fragments, two larger and one small. It dates to the early 15<sup>th</sup> century. The small piece is folded in half. The two larger ones are joined by a seam. Another seam is on the short edge of the two larger pieces. The fabric is a coarse 2/2-twill with every other yarn of the warp and every other yarn of the weft different colour. Red and dark brown are the colours used. There are no visible sewing marks. The fragment belongs to some larger surface of the garment and is probably a side seam. TE1643 is similar. It comprises two fragments attached together, dating to the early 15<sup>th</sup> century. The fabric is a mediumweight, red 2/1 twill. There is a curved edge that is frayed and a seamline with a wavy outline. The latter reveals needle marks 5 mm apart.

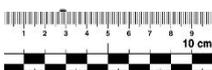


Figure 38. TMK21816:TE50319. Photo: Henna Hörkkö.

TE13094 is a long, very torn fragment. It dates to the late 14<sup>th</sup> century. The fabric is a mediumweight 2/1 twill. One of the long edges is folded with a narrow strip of another fabric attached to it by a light-coloured yarn. The length of the stitch is not visible. The fragment is probably a panel of a skirt.

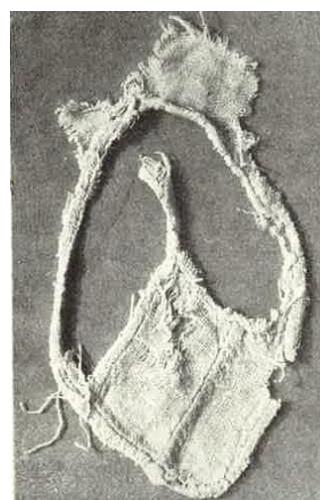
TE50319 (fig. 38), dating to the turn of the 14<sup>th</sup> and 15<sup>th</sup> centuries, comprises two fragments of different fabrics. Both are mediumweight undyed 2/1-twills resembling wadmal (Kirjavainen 2004: 65–66). One of the corners extends to a long extension in a similar way to TE50492. The extension in this case is folded lengthwise and 28 cm long. The stitched edge of the extension has faint marks left by overcast stitches. It cannot be said where in a garment this fragment belongs to, but noteworthy is the use of two different fabrics.

TE13029 comprises only the seamline itself. Dating to the late 14<sup>th</sup> century, it is made up of a complete seamline with two fragments of the same fabric partially attached. This is not an unusual type of fragment. There are a number similar cut out seams within the material. These are most likely evidence of tailor's work. Garments were resized or refashioned, and it would have been easier to simply cut off the old seams rather than unravel them. What makes this fragment noteworthy is the fabric. It is an undyed white, lightweight wool twill with a silklike texture. Kirjavainen (2004: 66) believes the fabric is a foreign import. The seam has needle marks; the length of the dentations left by stitches is 6 mm. The fragment measures 34 cm, thus probably belonging to a sleeve or a skirt. It has a slightly curved shape which makes the former interpretation seem more likely. The fabric is much finer than the other fabrics within the material, and probably was more precious. The garment was likely refashioned into another garment, the fabric reused while only the old seams were discarded. TE50350 is likewise not much more than a cut off seamline. It is a small, rectangular and slightly curved fragment, where a seam joins two fabrics, both coarse and fulled tabby weaves. The fragment dates to the turn of the 14<sup>th</sup> and 15<sup>th</sup> centuries. All edges have needle marks.

Also TE1744 (fig. 39) is included in this group for it belongs to the bodice construction of the garment. The fragment has a fold on one edge. The fabric, a 2/1-twill, is fulled on one side, most likely due to being in use. It dates to the early 15<sup>th</sup> century. There is a visible 5 mm wide fold on one edge, while all edges appear slightly rolled as if also having been folded. This is most likely an underarm gusset. A comparative example of such an underarm gusset was found at Rauma church (Pylkkänen 1956: 210; fig. 40); the dress in question consists of a number of narrow panels, in a similar fashion to the Greenlandic dresses, including a square-shaped underarm gusset. Also the Bocksten bog body's tunic had widened sleeves achieved by the insertion of gussets at both underarms (Coatsworth & Owen-Crocker 2018: 163).



*Figure 39. TMK21816: TE1744.  
Photo: Henna Hörkkö.*



*Figure 40. Armhole and gusset of a linen dress from the 15<sup>th</sup> century found at Rauma church (Pylkkänen 1956: 210).*

The last four fragments of this group are of uncertain interpretation. They have edges that have functioned as seam lines, testified by the presence of needle marks and in some cases yarn. Being relatively small and in most cases complete fragments of indeterminate shapes, it seems likely that they are some kind of constructional pieces belonging to the bodice of the garment. There is not much more that can be said, other than that TE50460 and TE0497 include curiously alike boot- or L-shaped fragments.

TE50460 (fig. 41), dating to the early 15<sup>th</sup> century, comprises two fragments of what appear to be different fabrics. Both are a mediumweight, even quality 2/1-twills, one being slightly coarser than the other. The larger piece has a half-circular shape. The straight edge is turned with needle marks spaced 3 mm apart and plant fibre yarn, in stitches 7 mm long, preserved.

The smaller fragment has a curved edge but no yarn left. All edges of the latter piece have been turned.

TE0497 (fig. 42) consists of two fragments, one more complete and the other a smaller fragment torn from the larger one. These fragments, which date to the early 15<sup>th</sup> century, are of a coarse, undyed 2/1 twill. Fibre analysis has shown that wool used was white. Kirjavainen (2004: 67) suggests that the fabric may be home-woven and that it might even be woven on a vertical loom. Her view is based on the rather inconsistent quality of the fabric, with the warp lightweight and loose and the weft thick and stiff. The fabric is fulled on one side. The fragment has three edges turned to the wrong side, with marks left by yarn on one edge. This can be seen on the wavy outline of the edge where an overcast stitch or a hem-stitch would have kept the hemline in place.



*Figure 41. TMK21816:TE50460. Photo: Henna Hörkkö.*

TE5081 is a coarse, undyed 2/1 twill dating to the turn of the 14<sup>th</sup> and 15<sup>th</sup> centuries. Two the edges of this rather large piece have been folded, forming an almost 90 degree angle on the folded lines. Both edges are very slightly curved. There are no sewing marks and the other two edges are missing; therefore it is difficult to guess what garment may have included this kind of fragment.

This is a group that is most telling about the construction of garments. It appears that Finnish garments followed the same lines as elsewhere in Northern Europe. Garments were made up of numerous pieces that allowed a better fit. The construction of clothes is much more sophisticated than pictorial sources let us believe.



Figure 42. TMK21816:TE0497. Photo: Henna Hörkkö.

### 3.6 Bias-cut fragments

This group consists of fragments that have been cut on bias, that is, diagonally to the grain of the fabric. Cutting on bias is wasteful on the fabric and was not usually the preferred method of cutting. The exception is socks, which were always cut on bias, as we will see.

TE50477, dating to the early 15<sup>th</sup> century, is a strip folded in half. The fold has needle marks. The fragment has a curved shape. The fabric is a somewhat fine tabby weave. The fragments seems like it could be a decorative ribbon or a facing strip, but judging by archaeological textile material elsewhere in Europe, these pieces were never cut on bias (Crowfoot, Pritchard & Staniland 1992: 158). Another possibility is a very narrow liripipe. Such bias-cut hood was found in Herjolfsnæs (Østergård 2004: 94), and it seems that although bias cut garments were a rarity, hoods could be made in such fashion. However, liripipes usually are made of two pieces sewn together, therefore with two seams, rather than by folding them in half. The possibility that a liripipe could be constructed this way should still not be abandoned. The fragment remains somewhat of a mystery, although a liripipe is a possible explanation.

TE50345 (fig. 43) is an oval shaped fragment dating to the early 15<sup>th</sup> century. The long edges have seamlines and needle marks. A fold of about 4 mm remains on one edge, but the edge possibly was folded all around. The fabric is a coarse weight tabby weave. The fragment is filled on what is assumed to be the wrong side. I believe this fragment belonged to the sole of a sock.

Socks are the only medieval garment that were as a rule cut on bias. The reason for this was the need for a very tight fit, which required elasticity from the fabric. A tabby weave is best suited for this purpose; all socks retrieved from the London excavations were bias cut tabby weaves (Crowfoot, Pritchard & Staniland 1992: 190) as they were also at Herjolfsnæs (Østergård 2004:94). The Bocksten bog body wore leg wraps cut on bias and a possible bias cut hose is also known from Gdansk (Rybarczyk 2010: 55). Fragment TE50345 closely resembles an oval, bias cut fragment from London (fig. 44). Crowfoot, Pritchard & Staniland (1992: 190) explain this fragment as a reinforcement for the bottom of the sock. Sock fragments, she says, are usually fulled on one side due to being in contact with bodily heat and sweat. This is true also with TE50345, which indeed is fulled on that side assumed to be in direct contact with the foot. The needle marks show that the fragment was attached to another fragment, assumably the rest of the sock fragments.



Figure 43. TMK21816:TE50345. Photo: Henna Hörkkö.

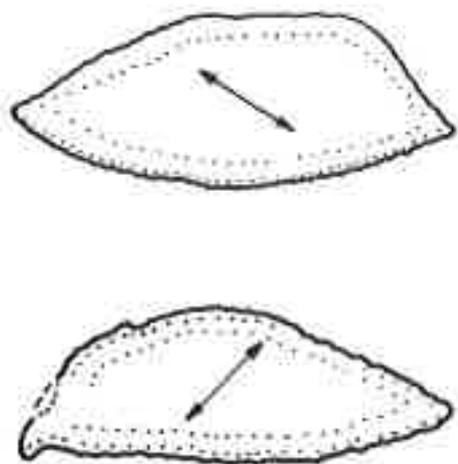


Figure 44. Sock fragments from London excavations (Crowfoot, Pritchard and Staniland 1992: 189).

### 3.7 Accessories

This group includes some miscellaneous fragments that may be considered as clothing accessories. TE13013 (fig. 45), from the late 14<sup>th</sup> century, is a long strip with one selvedge edge and one cut edge. The ends have been drawn on a slipknot. This may be the outcome of an idle past time, but alike knotted strips are seen in pictorial sources employed in various ways. The fabric is a coarse, red wadmal with a twill base. A similar knotted strip (fig. 46), of silk fabric,

was found in London and according to Crowfoot, Pritchard & Staniland (1992: 104) was used as a garter. It has been suggested that garters in their most basic form were simply torn strips of cloth (Coatsworth & Owen-Crocker 2018: 287). Another possibility is that TE13013 was employed as a girdle (fig. 47).



Figure 45. TMK21816:TE13013.  
Photo: Henna Hörkkö.



Figure 46. A twill fabric strip employed as a garter in London. (Crowfoot, Pritchard and Staniland 1992: 104).

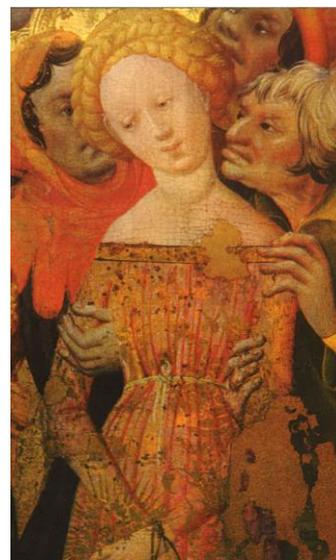


Figure 47. Saint Barbara wearing a knotted string as a girdle in Kalanti church. Mid-15th century. (István 1959: 16).

TE0824 is a square-shaped fragment that is turned on three edges. The fragment dates to the early 15<sup>th</sup> century. The fabric is a medium weight tabby weave. It may be the corner of a pouch or a purse. Also TE0493 may be the upper edge of a carrier of some type. It is a fragment of an irregular shape, folded in half so that the material is doubled. It dates to the early 15<sup>th</sup> century. The turned edge has stitches in black wool yarn and a wavy outline. The fabric is a tabby weave. Two somewhat large holes are visible.

### 3.8 Ornamental features

This group includes fragments that have a purely decorative function. TE20122, TE17419 and TE0823 are fragmentary dagges. TE1747, TE50320 and TE20917 are examples of scalloping. TE1747 and TE50320 are decorative trimmings while TE20917 has traces of such a trimming having been attached to it. TE13043 is possibly embroidered.

Beginning with the dagges, TE20122 is a fragment of a felt-like reddish mediumweight tabby weave, dating to the late 14<sup>th</sup> century. The shape is a narrow ellipse; one edge appears to be missing and all around the edge protrude triangular rips. Uncertain needle marks are found on one edge. Both ends are rounded. TE17419 is no less an odd shape. Dating to the early 15<sup>th</sup> century, the fabric is a dense, coarse tabby weave. The fragment has some straight edge with an acorn-shaped overhang in between. The edges are frayed.



Figure 48. TMK21816:TE17419. Photo: Henna Hörkkö.



Figure 49. TMK21816: TE20122. Photo: Henna Hörkkö.

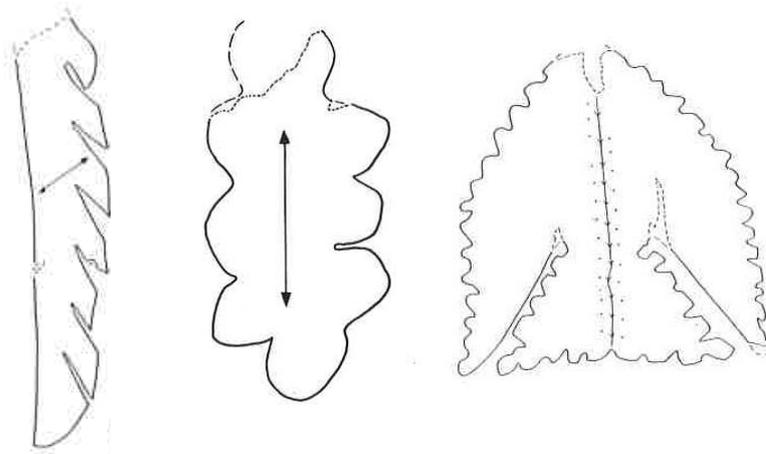
TE0823 (fig. 50), dating to the early 15<sup>th</sup> century, is small rectangular fragment of a dark red tabby weave, fulled on both sides. Two edges have been hemmed, with yarn preserved on one edge in 7 mm long stitches. There is a small piece of a light-coloured coarser fabric attached to one of the shorter edges. The two fabrics are of very different colours. The shape of the small fragment does not seem haphazardly torn, but rather intentionally cut this way. The shape resembles an acorn; it is similar to TE17419, but much smaller.



Figure 50. TMK21816: TE0823. Photo: Henna Hörkkö.

While the first two may be badly torn fragments of dagges, the third may be an example of a sort of dagge still in place. Another possibility is that the latter was an applique, from which the

attaching yarns have deteriorated. Dagges were especially in vogue in the late 14<sup>th</sup> century, while in the 15<sup>th</sup> century they became to be an even more widespread fashion (Denny-Brown 2004: 228). They came in a variety of shapes (fig. 51). The commonest dagge was a width- or lengthwise cut strip of cloth with evenly spaced slashes on the edges. Another typical dagge was acorn-shaped, known from art as well as from archaeological material. Dagges were a fashion for every social group; they could be cut from old clothes which made them attainable also for the poor. Some dagges from the London excavations indeed have seamlines showing that an old garment had been reutilised. (Crowfoot, Pritchard & Staniland 1992: 195–198).



*Figure 51. Dagges in various shapes from London excavations. (Crowfoot, Pritchard and Staniland 1992: 194; 197; 198).*

TE1747 is a possible example of an edge with rounded scalloping. The piece, dating to the first half of the 15<sup>th</sup> century, is a rectangular fragment with a tear from one edge down to the middle. The fabric is a mediumweight, tightly woven 2/1-twill. The tear does not seem to be intentionally made. One of the edges is a selvage. The lower edge of the fragment has two rounded scallops with possible a third one that is incomplete. The scallops are somewhat large. Faintly rounded edge can also be seen on the upper edge, which may mean that the fragment was scalloped on both edges. No sewing marks nor any kind of finishing can be seen. TE50320 (fig. 52), dating to the turn of the 14<sup>th</sup> and 15<sup>th</sup> centuries, is a narrow fragment with one of the longer edges cut into triangular scalloped shape. The tips of the scallops have holes, perhaps for the attachment of some other decorative feature such as bells. The fabric is a mediumweight red 2/1-twill. The scallops are much smaller than in TE1747.



Figure 52. TMK21816: TE50320. Photo: Henna Hörkkö.

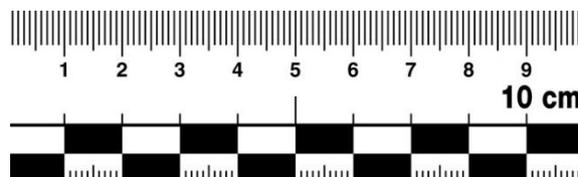


Figure 53. TMK21816:TE20917. Photo: Henna Hörkkö.

TE20917 (fig. 53) is a small fragment folded in half, although probably not intentionally. It dates to the late 14<sup>th</sup> century. Had it not been folded, the fragment would be narrow strip. One of the long edges is scalloped, with curves even smaller than on the latter two. The weave, though scarcely visible, is a tabby. The fabric is of coarse density. Black wool yarn is preserved between the fold and one edge has 2 mm long stitches spaced 3 mm apart. The width of one scallop is 12 mm.



Figure 54. Pointed pinked hem (detail). *Historien Bibel*, Germany, ca. 1375–1400, MS M.268 fol. 15r. Online source: The Morgan Library, <http://ica.themorgan.org/manuscript/page/28/113135> (accessed 8.8.2023)



Figure 55. Man wearing a hood with scalloped edge (detail). *Weltchronik*, Germany, Regensburg, ca. 1360, MS M.769 fol. 66v. Online source: The Morgan Library, <http://ica.themorgan.org/manuscript/page/5/143938> (accessed 8.8.2023)

Scalloped edges were a popular feature of medieval dress, and like dagges, came in various shapes and were applied to all sorts of hems (figs. 54; 55; 56). In the case of TE1747 the scallops appear to have been cut together with the garment itself, while with TE50320 may have been cut as a piece of its own and sewn on, or later removed as a garment was being refashioned.



*Figure 56. Man wearing a tunic with scalloped hem at Härkeberga church. Online source: Uplandsmuseet, <https://digitalmuseum.se/011013966428/kalkmalning-i-harkeberga-kyrka-uppland-2009> (accessed 8.8.2023)*

TE20917, too, would appear to be a separately attached scalloped band. Alternatively, it may belong to a scallop-edged dagge, as seen at the London excavations (Crowfoot, Pritchard and Staniland 1992: 198).

Besides dagges and scalloped edges many kinds of trimmings were a popular way of decorating clothing (fig. 58). TE2017 comprises two narrow strips of a mediumweight tabby, dating to the late 14<sup>th</sup> century. On both pieces, the long edges have been turned on the wrong side of the fabric. There are needle marks. TE1723, from the late 14<sup>th</sup> century, includes two fragments, both long strips. The fabric is a mediumweight red broadcloth. There is a seam on the long edge and small holes throughout, suggesting that it was sewn on another piece of textile. TE50428 (fig. 57), dating to the early 15<sup>th</sup> century, it comprises two fragments of the same fabric, both of uneven shapes. The fabric is a coarse tabby weave dyed red. The weaving is of inconsistent quality, with loose warp threads that create an almost twill-like texture (Kirjavainen 2004: 64). A curved trace of an ornamental band or ribbon is preserved. The trace is on a diagonal angle

to the grain of the fabric, suggesting that either the piece was cut on bias or the trimming was placed on a curved or tilted angle, as if mirroring the lines of a neck or arm hole.

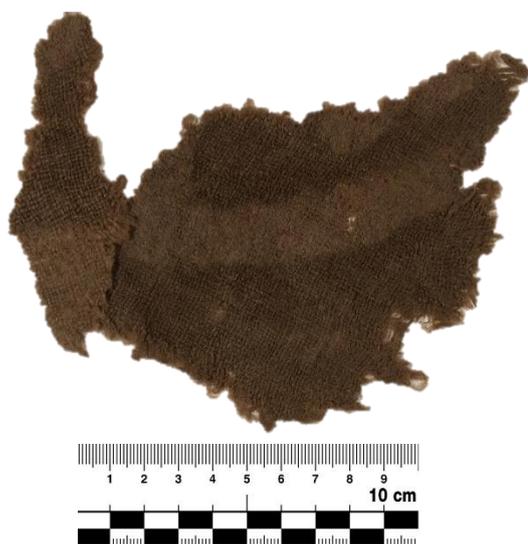


Figure 57. TMK21816:TE50428.  
Photo: Henna Hörkkö.



Figure 58. Two women wearing dresses with neck-hole, front and skirt hem trimmed with contrasting colours. *Book of Hours*, Belgium, ca. 1490, MS S.7 fol. 251r. Online source: *The Morgan Library*, <http://ica.themorgan.org/manuscript/page/55/161023> (accessed 8.8.2023)

Of the three above the first two would appear to be ornamental trimmings, while the third belongs to a garment where such a trimming was attached. The trimmings are made by turning the long edges to the wrong side, or joining two long strips, and top-stitching the so-created trimming to the desired place. The needle marks left on both example here indicate such top-stitching. Trimmings executed exactly in the same manner are known from the London excavations. In many cases, a selvage was made into such trimming (Crowfoot, Pritchard & Staniland 1992: 30). Trimmings could also be applied as facings; the edge of the trimming would be stitched to the edge of the garment, right sides facing, and turned to the wrong side, thus folding the raw edge to the inside of the garment (Crowfoot, Pritchard & Staniland 1992: 158–160). Alternatively, the trimming could be folded around to raw edge as in the cuff TE50442, or it could act as a contrasting stripe as seen on TE50428. In London, trimmings were also found on neck holes, but we have no such example from Åbo Akademi.

TE13043 is a squarish fragment with two folded edges. It dates to the late 14<sup>th</sup> century. The fabric itself is a coarse red tabby weave. Traces of plant fibre yarn are found near the seamline.

This may be a decorative stitch, embroidery so to say. A wavy edge shows sewing marks 15 mm apart. The same goes for TE50454, which is a torn fragment dating to the early 15th century. The fabric is a coarse 2/1-twill, heavily fulled. Sewing marks are found all over the fragment. All long edges have traces of overcast stitches spaced 4 mm apart. Dentations 3 mm apart, possibly left by sewing, are found all over the upper surface of the fragment.

Although purely ornamental details were superfluous and wasteful, they were not limited only to the upper classes and did not have to be costly or difficult to attain. Beginning as an upper class fashion, decorative edges and trimmings could soon bring variety even to the commoner's dress. In a similar way, old clothes could also be utilised as trimmings and edges could easily be pinked.

### **3.9 Headwear**

This group comprises textiles that are most likely fragments of hats and other headgear, although in the majority of cases it is impossible to say exactly what the hat in question looks like. TE1303 (fig. 62) consists of three triangular fragments of wadmal, heavily fulled with a twill base, dating to the late 14<sup>th</sup> century. Traces of yellowish colour were found in fibre analysis. Two of the fragments are attached at the point of the triangular shape. All pieces have their curved edges folded and bear needle marks; the central piece has needle marks 5 mm apart on both long edges, the smallest triangular piece on its straight edges and large curved piece on its curved edge. The fragments may belong to a hat. The hat is likely to have been in a shape of some sort of cap, almost certainly a man's hat. TE1691 (fig. 59) is made up from six pieces of a tightly woven, heavily fulled and stiff 2/2-twill with numerous folds and needle marks. The

fragments date to the early 15th century. The narrower long pieces may belong to the brim of a hat. The hat probably was a low cap with a narrow brim.



Figure 59. TMK21816:TE1691. Photo: Henna Hörkkö.



Figure 60. Example of a hat with triangular, tilted brim (detail). *Historien Bibel*, Germany, ca. 1375–1400, MS M.268 fol. 6v. Online source: The Morgan Library, <http://ica.themorgan.org/manuscript/page/11/113135> (accessed 8.8.2023)



Figure 61. A gardener wearing the type of hat with round, low crown and narrow, up-turned brim (detail). Notice also the pleated sleeve tops. *Rustican*, Bruges, ca. 1470–1475, Paris, bibliothèque de l'Arsenal, ms. 5064, fo i51vo, (Antoine 2003: 205)

Although it is nearly impossible to know what these hats once looked like, a tempting exemplar is found in pictorial sources usually worn by agricultural workers and gardeners (alongside others participating in physical work). TE1691 might be this kind of round, low cap with a narrow, slightly turned-up brim (fig. 61). Alternatively, the brim might have been turned to a slightly triangular angle, a style that is also well attested in pictorial sources (fig. 60). TE1303 appears to have multiple seams (fig. 63). Comparatives are found in pictorial sources widely.



Figure 62. TMK21816:TE1303. Photo: Henna Hörkkö.



Figure 63. The kind of cap with seams that might into question (detail). *Book of Hours*, France, ca. 1480, MS M.6 fol. 5r. Online source: The Morgan Library, <http://ica.themorgan.org/manuscript/page/7/76831> (accessed 8.8.2023)

Pylkkänen (1956: 246) mentions a cap known as *patalakki*, a cap composed of six gores that

belongs to the traditional Finnish folk costume. Its origin is unknown, but presumably very old, possibly prehistoric. In the 16<sup>th</sup> century it was used in burial costumes.

TE04918 (fig. 64) is a large rectangular piece of a coarse tabby weave, with a circular hole reaching from one edge to the centre of the fragment. It dates to the early 15<sup>th</sup> century. All edges are folded and bear needle marks, and therefore are seamlines. The fabric is cut on bias. This fragment is most likely some kind of hood or bonnet. It is quite small, thus probably a child's.



Figure 64. TMK21816:TE04918. Photo: Henna Hörkkö.



Figure 65. TMK21816:TE21111. Photo: Henna Hörkkö.

TE21111 (fig. 65), dating to the late 14<sup>th</sup> century, comprises two fragments of a coarse 2/1-twill sewn together. Both pieces preserve 6 mm long stitches. One of the corners ends in a 8,5 cm long extension. The extension itself is a separate piece attached to the outmost corner of the larger piece. A seam is found on both long edges of the extension. The tip is frayed but seem to be a round shape. There is a seam on the larger piece exactly on line with the upper seam of the extension piece. The shape and stitching strongly resembles the tips of hoods found in archaeological contexts elsewhere (fig. 66; fig. 67). The hoods are constructed in the way that was apparently most commonly used; the liripipe cut in two pieces and with a seam on the crown of the head. All of the Herjolfnæs hoods were made this way while the hood of the Bocksten bog body is the only known one to be cut in one piece and without the seam on top of the crown, with selvage on both sides of the face opening (Coatsworth & Owen-Crocker 2018: 38). The Bocksten bog body was considered to be a man of wealth and higher social standing. The way his hood was constructed would have been more wasteful on material;

perhaps this method was reserved to those with more to spend on clothing while a more economic cut was preferred by common folk.



Figure 66. Hood D10598 from Herjolfsnæs. Seam on top of the head and on both long edges of the liripipe are visible (Østergård 2004: 205).



Figure 67. Hood D10602 from Herjolfsnæs. Liripipe is cut separately longitudinally to the grain of the fabric (Østergård 2004: 209).

TE13068 is a long narrow strip folded in half lengthwise. It dates to the late 14<sup>th</sup> century. The fabric is a mediumweight, fulled 2/2-twill. Both long edges have needle marks. There is a possible rivet mark on one end. The shape looks as if it could belong to a hood like TE21111.

### 3.10 Knitted fragments

Three knitted fragments are known within the Åbo Akademi material. All are knitted in the so-called *nålebinding* technique, also known as knotless netting and looping (Vajanto 2014: 22). Contemporary knitted items in London were all knitted on two pins in stocking stitch (Crowfoot, Pritchard & Staniland 1992: 73–74). *Nålebinding* mittens are also known from medieval Estonia, but alongside these a number of knitted items are known, and according to Rammo (2015: 124) knitting reached Estonia no later than in the 14<sup>th</sup> century. Numbers show that by the Middle Ages *nålebinding* was clearly already less popular in Estonia than in Finland. Also in Northern Poland a medieval *nålebinding* mitten has been found (Rybarczyk 2010: 53). *Nålebinding* was known all over Europe at this time, but in Western Europe it gives way to actual knitting during the Middle Ages. This technique of knitting with two pins was slow to arrive to Northern Europe where *nålebinding* was still used in some places in the 19<sup>th</sup> century

(Ringgaard 2017: 286). It is therefore not surprising to find all Åbo Akademi's knitted fragments in *nålebinding*.



Figure 68. TMK21816:TE2028.  
Photo: Henna Hörkkö.



Figure 69.  
TMK21816:TE1722.  
Photo: Henna Hörkkö.



Figure 70. TMK21816:TE1743.  
Photo: Henna Hörkkö.

In *nålebinding*, instead of knitting with two needles as in modern knitting, only one needle, resembling a blunt sewing needle rather than a knitting needle, is used. A short length of yarn is pulled through each stitch as the work progresses: this creates a fabric of interlocking loops (Mauer 2013: 65).

TE2028 (fig. 68) is a fragmentary mitten dating to the late 14<sup>th</sup> century. The preserved part is the thumb with and some of the opening of the mitten. TE1722 (fig. 69) is likewise a fragmentary mitten dating to the late 14<sup>th</sup> century. In this case the preserved part is the cuff, the outmost edge of the opening. A braid is knitted onto the edge. The fragment is very full. TE1743 (fig. 70) is another tubular fragment, this time dating to the early 15<sup>th</sup> century. Its function is unknown; the tube is very narrow to be a cuff or a sock unless it was a child's. The fragment is knitted in a sort of ribbed pattern, the ribbing being horizontal.

*Nålebinding* was usually limited to hats, caps, mittens and purses (Vajanto 2014: 22). A sock in *nålebinding*, the provenance of which is uncertain, dated only "medieval", is known from Uppsala, Sweden (Coatsworth & Owen-Crocker 2018: 293). Two of the three knitted fragments from Åbo Akademi are mittens. The third remains something of a mystery. Since *nålebinding* represents a traditional prehistoric craft in Finland its continuing use in medieval times may be considered something of a conservative phenomenon. As we have seen in the preceding

chapters, there were many elements of clothing that were new, foreign, and fashionable. Here on the other hand is a craft that has stayed in use despite new available techniques. Since *nålebinding* mittens and socks were usually knitted at home for household needs (Ringgaard 2017: 286) they were probably prepared by women. As discussed, many scholars have noted that men were more likely to take up on foreign fashions than women, being usually bound to home and thus less travelled, were more conservative in their dress (Piponnier & Mane 1997: 155; Ribeiro & Cumming 1997: 20; Scott 1980: 224). This may be one reason why the traditional technique of *nålebinding* maintained its significance. An interesting note is also that the Brigdettine nuns of the Naantali cloister were apparently remarked for their *nålebinding* mittens (Väisänen 2015: 22).

#### 4. Conclusion

In the preceding chapters I have introduced sources to medieval clothing history, discussed what is already known of medieval clothing in Finland and studied a selection of archaeological textiles from the Åbo Akademi excavation. In medieval Turku clothing was notably uniform with that in other European towns. Fashionable novelties and new sartorial techniques changed the manner of dress in Finland as they did elsewhere in Europe. In the margins of Europe there is abundant evidence that clothing imitated the fashions from continental Europe with the available local resources. How far dress assimilated to foreign novelties depended on the availability of information on new fashions; different social groups had different accesses to that information.

The importance of textile studies lies in its potential to speak about past people on an individual level as well as about societies and social constructions on a larger scale. Archaeological textiles are often ignored in research, which is a serious setback. Much of that little textile research focuses on quantitative aspects, technical descriptions and chemistry-based analyses. The information gained by these studies is indispensable, but there is nevertheless a need for studies of the following phase too in which the textiles are considered in their cultural context. In this study I have attempted to place the textile fragments in that wider frame of archaeological and historical research. The fragments have been studied beyond their immediate appearance and physical and technical properties, in an attempt to know what the fragments once were.

Fashions spread slowly in the Middle Ages, but some modes to dress reached even the farthest corners of Europe. There is pictorial and literary evidence that many fashions that had originated in continental Europe were known in Sweden and Finland as well. Within societies the upper classes were the ones that set fashions and adopted foreign styles. Fashions were sometimes utterly outmoded by the time they reached the common folk. Commoners nevertheless had chances of acquiring clothes that had belonged to their superiors by second-hand retail, charity or inheritance. Within its limits, lower class clothing imitated the fashions worn by the members of the upper classes.

The textile material has shown that the medieval clothing in Turku had many parallels not only in other Nordic countries but elsewhere in Europe too. Turku was connected to wider Europe through commerce and the cultural exchange that came with it. The textile material is very

similar to that elsewhere in the Nordic countries, which shows that connections to these regions at least were tight. Pictorial sources especially in churches in both Finland and Sweden as well as written sources on the medieval burghers in Turku show that Germans especially were a notable transmitter of European culture to Finland. Through these mediums also European fashions in clothing may have been introduced to Turku.

The Åbo Akademi site, which in the Middle Ages belonged to the Mätäjärvi quarter was a centre of handcrafts that included textile and clothing manufacture. There is apt archaeological evidence that some of this was professional. The textiles from Åbo Akademi included both home-made and professionally woven fabrics as well as foreign imports. The craftsmen inhabiting the quarter were by no means wealthy, but nevertheless the clothing fragments they have left behind are not those usually considered poor people's clothes; their cut is far from simple and there are details that show these clothes attempted to imitate those of the upper classes.

The textile material was divided into groups according to their technical properties or intended function. Buttonholes especially showed accordance with European fashions; numerous buttons positioned closely to one another. As buttonholes were applied to various different types of garments, it is impossible to say exactly what the garments were. TMK21816:TE50442 was certainly a sleeve cuff while others, including TMK21816:TE1382, most likely belonged to sleeves, bodices or hoods. A younger textile dating to the 16<sup>th</sup> century, TMK21816:TE5164, may be an upright collar, buttoned on the front.

Slits likewise showed likeness to European trends. Their primary function was to facilitate movement in otherwise tight-fitting clothes. There were only two fragments identified as slits; TMK21816:TE13027 and TMK21816:TE20117. The former has been interpreted as a lining piece, confirming that lining was a regular feature in medieval clothing.

Pleating formed the group with most variety. Many different types of pleats were found; pleats that were gathered only at the upper edge, pleats that were secured by stitching at both ends as well as through the entire pleated section, all pleated in various sequences of pleats, and false seams that were meant to give an impression of symmetrical cutting. Parallels to all these pleats were found in archaeological material elsewhere, most notably in Norway and Iceland. Archaeological clothing fragments all over Northern Europe have shown that garments were

made form-hugging by constructing them of numerous panels. If the positioning of the panels seemed uneven, false seams were applied to make the garment appear symmetrical. Fragments TMK21816:TE13030, TMK21816:TE14710, TMK21816:TE50436 and TMK21816:TE2011 confirm that the technique was practiced in medieval Turku as well.

Seams and hemlines were detailed under one subheading alongside other constructional features. Only one fragment, TMK21816:TE20177, a child's dress, was complete enough to give a full impression of the garment. Yet, on the basis of smaller fragments it can be concluded that clothing was made of multiple pieces, skirt panels and separately cut sleeves. Hems were finished with simple turnings as were also neck holes. Bodice pieces appear to have included gussets in underarm as is shown by TMK21816:TE1744 and TMK21816:TE50436.

The only bias-cut fragments were TMK21816:TE50345, the sole-piece of a sock and TMK21816:TE50477, a long and narrow strip, possibly a liripipe. This is in accordance with archaeological textile material elsewhere where bias-cutting is very rare. The only bias-cut fragments elsewhere are socks and hoses and on rare cases other small garments such as hoods.

Fragments classified as accessories consisted of TMK21816:TE0824, a pouch and TMK21816:TE13013, a possible garter or girdle. Examples of the application of simple cloth strips as girdles and garters are known from archaeological textile material elsewhere as well as from pictorial sources.

Decorative elements included scalloped edges, dagges and trimmings. Comparative fragments were especially found from the London material as well as in numerous pictorial sources. The comparative material from London has shown that decorative details were a fashion every social class could follow; seams confirm that dagges were often cut from old clothes. There are no examples of this practice among the Åbo Akademi material, although it is very possible that old textiles were used to make decorative elements to new garments. Scalloping likewise would have been an economical way to make a garment more variable. TMK21816:TE50428 shows that simple trimmings were also used to decorate garments.

The many types of headwear found included hats and hoods in different shapes. TMK21816:TE1691 appears to be a hat with a narrow brim. Possible likenesses are found in pictorial sources. TMK21816:TE1303 is probably likewise a hat or a cap; it appears to have

multiple seams and so be composed of several gores. Also this type of cap is found in pictorial sources and in Finnish traditional costumes. TMK21816:TE04918 is possibly a child's hood while TMK21816:TE21111 may be a somewhat short liripipe. The latter is constructed exactly the same way as liripipe hoods in other archaeological textile collections; the liripipe itself is cut separately to the hood piece, which has a seam on the crown.

Knitted fragments were all executed in the *nålebinding*, a prehistoric technique that was still very common in the Nordic countries in the medieval times. Two, TMK21816:TE2028 and TMK21816:TE1722 are most likely mittens, while the third fragment, TMK21816:TE1743, could not be identified. The continuing tradition of *nålebinding* is perhaps explained by that women who prepared *nålebinding* crafts at home had less opportunities to take on foreign novelties.

By studying the material here and by comparing it to archaeological textile material elsewhere we can conclude that the cut of clothing was similar to that elsewhere in Europe and the presence of foreign influences is evident. Further support to this view is given by related, non-textile finds such as shoes, which appear to be the same types that were worn elsewhere in Northern Europe and especially around the Baltic Sea. The people in Turku apparently dressed fashionably even if the materials were simple and not of high value. Garments that elsewhere may have been made of silk or other fine fabrics were here made in the same fashion with numerous buttons, slits and dagges but of coarse woollen cloth. There were some examples of finer imported fabrics but all were woollen. Climate most likely will explain this: this far north wool was the most practical material. On a finishing note, the similarity of the cut suggests that the people of Turku had knowledge of the way people dressed elsewhere in Europe and their sartorial techniques.

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## Appendices

### Appendix 1 List of studied textile fragments

This listing recites the textile fragments studied in this thesis in order of appearance. Only the information provided by the finds catalogue is included; further descriptions and interpretations on the function of fragments are detailed in chapter 3 of this study.

Catalogue number	Context	Measurements in cm	Thread count per cm
TMK21816:TE50442	M504	20,5 x 8,5-16	8 x 8 and 14 x 14
TMK21816:TE1382	M138B	13,5 x 8-1,5	10 x 9
TMK21816:TE1322	M132D	7 x 10	9 x 7
TMK21816:TE50323	M503G	14,5 x 20,5	10 x 7
TMK21816:TE2044	M204	14 x 5,5	10 x 9
TMK21816:TE5164	M516	16,5 x 5,5	10 x 10
TMK21816:TE5131	M513	11 x 5,5	10 x 10
TMK21816:TE20117	M201	12/10 x 9/5	14 x 7
TMK21816:TE13027	M130F	14,5 x 6	14 x 14
TMK21816:TE04916	M49L	9,5 x 18	11 x 7
TMK21816:TE50492	M504	32 x 13; 15 x 13; 15 x 6 and 9,5 x 4	10 x 8 (all four fragments)
TMK21816:TE13030	M130E	9 x 7 and 51 x 12,5	10 x 8
TMK21816:TE04920	M49L	2,5 x 10,5	12 x 10
TMK21816:TE14710	M147	17 x 9	12 x 12
TMK21816:TE50436	M504	19 x 15	9 x 9 and 11 x 8
TMK21816:TE2011	M201	45 x 11,5	12 x 11
TMK21816:TE20654	M206	21 x 7,5	12 x 6
TMK21816:TE20129	M201	10,1 x 7	12 x 12
TMK21816:TE5097	M509	6 x 17	8 x 8
TMK21816:TE50473	M504	7 x 15	10 x 8
TMK21816:TE20622	M206	12 x 2,8 and 8,5 x 2,9	12 x 12
TMK21816:TE50448	M504	7 x 8 and 7 x 12,5	10 x 9
TMK21816:TE13067	M130E	3 x 7 and 19 x 7	10 x 8

TMK21816:TE04910	M49L	8 x 16	16 x 7
TMK21816:KT201:1	M201	5,2 x 1,25	10 x 10
TMK21816:TE20177	M201	31 x 13	10 x 9
TMK21816:TE13032	M130E	19 x 10,5 and 16,5 x 19,5	11 x 10
TMK21816:TE50467	M504	15 x 24 and 5,5 x 2	8 x 8
TMK21816:TE13094	M130E	36 x 8,5	12 x 9
TMK21816:TE50319	M503M	30 x 16,5	10 x 7 and 12 x 7
TMK21816:TE13029	M130E	40 x 5,5	22 x 18
TMK21816:TE1744	M174	7,5 x 5	10 x 8
TMK21816:TE50460	M504	17 x 11 and 6,5 x 11	10 x 8 and 11 x 10
TMK21816:TE0497	M49L	5 x 9	9 x 8
TMK21816:TE5081	M508	22,5 x 19	10 x 10
TMK21816:TE50477	M504	1 x 22	12 x 12
TMK21816:TE50345	M503G	7,5 x 8	10 x 9
TMK21816:TE13013	M130E	30 x 1	8 x 6
TMK21816:TE0824	M82G	6 x 6	9 x 9
TMK21816:TE20122	M201	8,5 x 2,5	11 x 9
TMK21816:TE17419	M174	6 x 9,5	10 x 6
TMK21816:TE0823	M82G	3,5 x 6	13 x 12
TMK21816:TE1747	M174	10,5 x 12	12 x 8
TMK21816:TE20917	M209	4 x 1,7	10 x 10
TMK21816:TE2017	M201	5,5 x 0,9 and 9,5 x 0,9	12 x 11
TMK21816:TE1723	M172	11 x 0,9 and 16 x 0,9	12 x 11
TMK21816:TE50428	M504	18,5 x 13 and 3,5 x 10,5	10 x 8
TMK21816:TE13043	M130E	5,5 x 7	10 x 10
TMK21816:TE1303	M130E	11 x 4,5	10 x 8
TMK21816:TE1691	M169	5 x 6,5 and 14,5 x 9,5	15 x 12
TMK21816:TE04918	M49K	23 x 15	10 x 10
TMK21816:TE21111	M211	6,5 x 27	10 x 8
TMK21816:TE13068	M130E	2,7 x 18	10 x 9
TMK21816:TE2028	M202	15 x 15	5
TMK21816:TE1722	M172	8,5 x 12	unavailable
TMK21816:TE1743	M174	7 x 8	unavailable

## Suomenkielinen lyhennelmä

Tutkielmassani tarkastelen Åbo Akademin tontin kaivausten tekstiiliaineistoa pukuhistoriallisessa valossa. Kaivaukset suoritti vuonna 1998 silloinen Turun maakuntamuseo, nykyisin Turun Museokeskus. Kaivaus oli poikkeuksellinen laajuutensa sekä hyvin säilyneen keskiaikaisen löytöaineistonsa vuoksi. Kaivauksilta löydettiin yli 700 tekstiilifragmenttia, joista tähän tutkielmaan olen valinnut noin sata. Valituissa fragmenteissa tavataan merkkejä, jotka osoittavat niiden kuuluneen vaateustekstiileihin; näitä ovat muun muassa napinlävet, rypytykset ja pliseeraukset, halkiot, helmat ja saumat. Tavoitteenani on tekstiilifragmentteja tutkimalla selvittää, millaisia keskiajan turkulaisten vaatteet olivat, minkälaisia tekniikoita niiden ompelussa käytettiin ja miksi eräät muoti-ilmiöt ja ompelun tekniikat omaksuttiin turkulaisten pukuparteen. Sivuvavia kysymyksiä tutkielmassani on minkälainen ihminen vaatteita käytti, kuka ne ompeli ja missä, ja millainen oli vaateen elinkaari.

Åbo Akademin tontin tekstiiliaineistoa on tutkinut Heini Kirjavainen vuonna 2004 pro gradutyössään; hänen näkökulmansa pyrkii saamaan yleiskuvan tekstiilien luonteesta. Hyödynnän työssäni Kirjavaisen jo tutkimia tekstiilien teknisiä ominaisuuksia vastatakseni kysymyksiin keskiajan turkulaisten pukeutumisesta. Kirjavaisen työn ohella on kirjoitettu joitakin opinnäytetöitä, jotka tavalla tai toisella sivuavat tekstiiliaineistoa. Muutoin on Suomen keskiaikaisista arkeologisista tekstiililöydöistä kirjoitettu valitettavan vähän.

Pyrin hyödyntämään työssäni mahdollisimman monipuolisesti erilaisia lähdeaineistoja. Ensisijaisena on vertailukohteet, arkeologiset tekstiililöydöt muualla Pohjoismaissa ja Euroopassa. Kuvalliset lähteet ovat olleet suureksi avuksi, joskaan eivät täysin ongelmattomia. Suurin vaikeus on niiden puute. Suomesta ei ole säilynyt täysin keskiaikaisia kuvallisia lähteitä, joissa ihmisten pukeutuminen tulee ilmi; ainoa kuvitettu teos, Olaus Magnuksen Pohjoisen kansojen historia ilmestyi vasta 1540-luvulla, ja kirkkojen maalaukset ovat enimmäkseen samaten 1500-luvulta. Vaikka varhaisempiakin kirkkomaalauksia tunnetaan, ovat taiteilijat useimmiten ulkomaalaisia, etenkin saksalaisia, ja silloinkin kun he ovat suomalaisia, ovat he yleensä saaneet oppinsa ulkomaalaisilta mestareilta. Mistä tiedämme esittävätkö maalaukset kohteensa pukeutuneena niin kuin suomalaiset olisivat pukeutuneet tai kenties kuten taiteilijan kotimaassa pukeuduttiin? Vaikeuksia aiheuttavat myös kuvataiteen vakiintuneet käytänteet. Aiheet ovat enimmäkseen raamatullisia tai historiallisia; hyvin usein kuvat on kopioitu valmiista malleista ja hahmoilla on jo vakiintunut pukeutumistapansa. Historialliset hahmot on

usein puettu nykypäivän muotiin tai päinvastoin hyvin mielikuvituksellisesti. Kuvauksen kohteissa esiintyy epätasa-arvoisuutta; yläluokkien henkilöitä kuvataan paljon useammin kuin rahvaita, samoin miehiä enemmän kuin naisia. Viimeksi mainittu hankaluus tavataan myös kirjallisissa lähteissä. Kirjallisiin lähteisiin luetaan testamentit, tavaraluettelot, asiakirjat ja kaunokirjallisuus. Suomen keskiajan pukeutumista koskevista kirjallisista lähteistä kysymykseen tulee oikeastaan vain ensimmäisenä mainittu, testamentit, joita tunnetaan jossain määrin. Kuitenkin miehet kirjoittivat enemmän testamentteja kuin naiset, yläluokkaiset ja porvarit enemmän kuin tavallinen kansa.

Vaikka Suomi keskiajalla olikin monin tavoin eristyksissä kaukaisessa pohjoisessa, Turku oli huomattavan kansainvälinen kaupunki. Se oli Ruotsin valtakunnan toiseksi suurin kaupunki ja yksi niistä harvoista, jotka saivat käydä ulkomaankauppaa. Näin ollen Turku oli merkittävät kaupankäynnin ja kulttuurin keskus. Keskiajan varhaisina vuosina johtava porvaristo oli enimmäkseen saksalaisperäistä, myöhemmin myös syntyperäiset suomalaiset nousivat merkittävien porvariain joukkoon. Voidaan kuitenkin olettaa kulttuurin olleen erityisesti saksalaisvaikutteista. Kauppaa käytiin etenkin Itämeren piirissä, ja tätä kautta myös ulkomaiset muodit lienevät levinneet.

Keskiajan pukeutumista on mahdotonta yleistää yhdeksi yhteiseksi muodiksi, sillä paikallisia pukeutumistapoja oli paljon. Kuitenkin voidaan joitakin yleiseurooppalaisia ilmiötä hahmotella. Vaatteet muuttuivat yksityiskohtaisemmiksi ja leikkaukseltaan monimutkaisemmiksi keskiajan kuluessa. Väljien pään yli vedettävien vaatteiden tilalle tuli ihonmyötäiset napitettavat tai nyöritettävät vaatteet. Vaatteet yleensäkin muuttuivat yhä tiukemmin istuviksi, vaikkakin välillä nähtiin myös väljiä kaapuja suosivia muoteja. Miesten pukeutumisen merkittävä uusi vaatekappale oli lyhyt takki, jonka kanssa housukat jätettiin näkyviin. Naisen puvussa miehusta ja hame alettiin leikata erikseen, ja vaikka ne yhä ommeltiin aina yhteen vyötäröltä, puvun laskeutuvuus muuttui, sillä paino siirtyi olkapäiltä vyötärölle. Vaatekappaleita pidettiin edelleen useita päällekkäin; alushame oli yleensä eri värinen kuin päällyshame, ja alemman vaatekappaleen annettiin näkyä päällimmäisen alta. Ihoa vasten pidettiin pellavavaatteita.

Suomalaisten tekemät testamentit kirjoitettiin ruotsiksi tai latinaksi. Sisällöltään ne ovat hyvin samanlaisia kuin samanaikaiset Ruotsissa tehdyt. Testamenteista tiedämme, mitä nimiä ihmiset vaatteistaan käyttivät, joskaan emme tiedä, mitä nimet olivat suomeksi. *Tröja* merkitsi miesten

lyhyttä takkia, *hosor* housukkaita. Naisten alusmekko tunnettiin nimellä *kjortel*, päällysmekko taas nimellä *kopa*. Ruotsalaisissa lähteissä vastaava päällysmekko tunnetaan joskus ranskalaisella nimellään *surkot*. Muutoinkin vaatteiden alkuperäisiä ranskankielisiä nimiä tavataan toisinaan lähteissä, muun muassa *cotehardie* esiintyy toisinaan sanan *tröja* sijasta. Tämä vahvistaa käsitystä, että eräät pohjoismaissa tavatut muodit todella olivat mannermaalta kotoisin ja tästä oltiin tietoisia. Lähes kaikki käyttivät jotakin päähinettä; naisilla tämä oli yleensä jonkinlainen liina, miehillä taas hattu, joita oli saatavilla mitä erilaisimmissa muodoissa. Huppu oli molempien sukupuolien käyttämä päähine.

Kaupungeissa oli saatavilla räätälin palveluita, muutoin vaatteet valmistettiin kotona. Arkeologisten tekstiilien osalta ompelun laatu voi toisinaan paljastaa ovatko vaatteet räätälin ompelemia vai kotona ommeltuja. Åbo Akademin tontin tekstiiliaineistoon sisältyi runsaasti leikkuujätettä, mikä saattaa kertoa peräti ammattimaisesta ompelutoiminnasta. Tekstiilien lisäksi työvälineet, kuten sakset, neulat ja sormustimet, ovat ompelusta kertovaa arkeologista materiaalia.

Tekstiilien ohella vaateenkiinnittimet ja kengät voivat kertoa pukeutumisesta ja tukea tekstiileistä tehtyjä tulkintoja. Åbo Akademin vaateenkiinnittimiin sisältyi muun muassa erilaisia solkia, neuloja ja nappeja. Neuloilla on voitu kiinnittää esimerkiksi naisten liinapäähineitä ja irtohihoja. Nappeja oli hyvin vähän napinlävellisiin tekstiileihin verrattuna. Oletettavasti napit valmistettiin jostakin, josta ei selvästi käy ilmi, että kyseessä on nappi. Euroopan kaivauksilta on usein tavattu pyöreästä kangaspalasta täyttämällä valmistettuja nappeja; kenties tällaiset olivat käytössä myös Turussa, mutta niitä ei ole löydetty tai tunnistettu napeiksi. Näiden ohella Åbo Akademin tontin kaivauksilta löytyi kulkunen ja pieni metallirengas. Huomattakoon, että kulkuset olivat erityisen suosittuja koristeita keskiajalla ja rengas saattaa olla nyöriyksessä nyörinreiän ympärille ommeltava vahvike. Turun keskiaikainen kenkämuoti puolestaan osoittaa, että Turku liittyi vahvasti laajempaan Itämeren kulttuuripiiriin. Samanlaisia kenkätyyppejä tunnetaan erityisesti muista Pohjoismaista, mutta myös useista Itämeren keskiaikaisista rannikkokaupungeista. Toinen huomionarvoinen seikka on, että Turun laajasta keskiaikaisten kenkien kirjosta löytyi sekä hyvin muodikkaita pitkäkärkisiä kenkiä että auttamattoman vanhanaikaisia, mahdollisimman yksinkertaisia kenkiä, joiden aiemmin uskottiin olleen keskiaikaan mennessä käytössä vain syrjäisimmällä maaseudulla. Kenkiensä puolesta keskiajan turkulaiset siis pukeutuivat joko hyvin

muodikkaasti mannermaiseen tapaan tai hyvin yksinkertaisesti ja vanhanaikaisesti. Samanlaisia havaintoja voitaneen olettaa tekstiiliaineiston osalta.

Tekstiiliaineiston tulkintaa hankaloittaa tekstiilien elinkaari. Vaatteiden hajotessa tai tullessa epämuodikkaiksi niitä ei suinkaan heitetty pois, vaan leikattiin ja ommeltiin uudelleen. Vaatteiden jättäminen perintönä oli yleistä kuten oli myös käytettyjen vaatteiden kauppa; näin saatuja vaatteita varmasti usein jouduttiin lyhentämään tai pienentämään, jolloin tiettyjä vaateen osia, kuten saumoja, helmoja ja hihansuita, leikattiin pois. Enemmistö tekstiiliaineiston fragmenteista vaikuttaisi olevan juuri tällaisia muutosompeleissa yli jääneitä osia. Huomattava on myös, että mitä kallisarvoisempi tekstiili, sitä todennäköisemmin se on ommeltu ja käytetty yhä uudelleen, ja sillä on saattanut olla huomattavankin pitkä elinkaari.

Napinlävelliset fragmentit osoittavat eniten yhtäläisyyttä eurooppalaisen arkeologisen tekstiiliaineiston kanssa. Napinlävet ovat tiheään aseteltuja ja niitä on yleensä runsaslukuisesti. Näpinläpiä käytettiin kaikenlaisissa vaatteissa; pukujen miehustoissa, päänteissä, hihansuissa ja kauluksissa. Vain yksi näpinlävellinen fragmentti, TMK21816:TE50442, voidaan varmasti tunnistaa hihansuiksi; muut voivat olla mitä vain edellä mainituista.

Halkiot helpottivat liikkumista ja vaateen ylle pukemista; keskiajalla niitä ommeltiin yleensä helmoihin ja päänteihin. Åbo Akademin halkiollisia fragmentteja on kaksi; TMK21816:TE20117 ja TMK21816:TE13027, joka näyttää kuuluneen vuoritettuun vaatteeseen.

Rypytyksissä ja pliseerauksissa eniten vertailukohteita löydettiin muista Pohjoismaista. Niitä on usealla tavalla ommeltuja; yksinkertaisia rypytyksiä, jotka on vain yhdestä reunasta ommeltuja; pyöristettyjä, kauttaaltaan ompelein vahvistettuja laskoksia; valesaumoja, joiden tarkoituksena on tehdä mekon saumojen luvusta symmetrinen. Viimeksi mainittu osoittaa, että vaatteet ommeltiin ruumiinmukaisiksi leikkaamalla ne useina kapeina kaistaleina.

Päämätyt fragmentit olivat joko päänteitä, hihanaukkoja tai helmoja. Tekstiiliaineistoon sisältyi useita saumallisia fragmentteja, joissa kaksi tai useampi palanen oli ommeltu yhteen. Monissa fragmenteissa oli sauman jälkiä, vaikka saumalla kankaaseen yhdistettyä toista fragmenttia ei enää ollutkaan. Myös nämä vahvistivat edellä kuvatun seikan; pitkät osat, kuten hameet, leikattiin kapeina kaitaleina, jotka ommeltiin yhteen. Tekstiiliaineiston kokonaisu-

fragmentti on lapsen mekko, TMK21816:TE20177, jossa on helma, käden aukko ja pääntie. Lasten pukeutuminen ei poikennut merkittävästi aikuisten käyttämistä vaatteista.

Langansuuntaan nähden vinoon leikattuja fragmentteja oli vähän, vain kaksi, mikä toisaalta ei ole yllättävää, sillä keskiajalla vinoon leikkaaminen oli harvinaista sen suuren kangasmenekin vuoksi. Toinen fragmenteista, TMK21816:TE50345, on sukan pohjaan kuuluva soikea kappale; sukat leikattiin yleensä vinoon. TMK21816:TE50477 on joko vinonauhan tapainen koristenauha tai hupun pitkä kärki.

Erilaisiin lisävarusteisiin kuului pienen pussin fragmentti TMK21816:TE0824, ja vetosolmulle solmittu kangassuikale, TMK21816:TE13013. Taskuja ei keskiajan vaatteissa ollut, vaan vyöllä kannettavan pussit korvasivat ne. Solmittu nauha on saattanut toimia esimerkiksi vyönä tai sukkanauhana, kuten vertaileva aineisto osoittaa.

Vaatteita koristeltiin monin tavoin. Koristelemisen ei tarvinnut olla kallista; kaikkien yhteiskuntaluokkien ihmiset saattoivat koristaa vaatteitaan esimerkiksi leikkaamalla rimpsuja käytetyistä vaatteista. Moni epämääräisen muotoinen pienikokoinen fragmentti saattaa olla tällainen vaatteen reunaan leikattu koristekuvio. Myös pykäreunat esiintyvät usein kuvallisissa lähteissä, ja niitä on myös tekstiiliaineiston joukossa. Hihansuut ja pääntiet saatettiin koristella nauhoin, ja koristeellisia nauhoja ommeltiin myös vaatteen muihin osiin. Joitakin tällaisia koristenauhoja löytyy Åbo Akademin tontin tekstiiliaineiston joukosta, kuten myös fragmentti, johon on jäänyt jälki nauhan ollessa siihen kiinnitettynä, TMK21816:TE50428.

Mahdollisia hattuja on tekstiiliaineistossa kaksi. Kumpikin on hyvin tiiviiksi vanutettua villakangasta. TMK21816:TE1691 on luultavasti matalakupuinen hattu kapealla lierillä, kun taas TMK21816:TE1303 on useasta kappaleesta ommeltu saumallinen lakki. Oletettuja hupun kappaleita on myös kolme; yksi luultavasti lapsen hupun pääntie ja kaulus sekä kaksi mahdollista hupun kärkeä. Etenkin hupuissa oli yhtäläisyyksiä pohjoismaisen ja eurooppalaisen vertailuaineiston kanssa. Olennaista on ulokkeen yhdistyminen oletettuun huppuosaan saumalla sekä hupun laella kulkeva sauma.

Neulottuja fragmentteja on kolme, kaikki neulaskinnastekniikalla toteutettuja. Vaikka puikoilla neulominen oli tunnettu muualla Euroopassa tähän aikaan, Pohjoismaissa neulaskinnastekniikka pysyi yleisimpänä vielä pitkään uudelle ajalle saakka. Pukuhistorioitsijat

ovat esittäneet näkemyksen, että keskiajalla miehet olisivat todennäköisemmin seuranneet uusia, ulkomaalaisia muoteja naisten ollessa pukeutumisessa enemmän paikallista pukupartta suosivia. Tämä selittyy sillä, että miehet matkustivat enemmän ja tutustuivat ulkomaalaisiin kulttuureihin naisten pysyessä kodin piirissä. Kenties myös tästä syystä perinteinen neulakinnastekniikka on säilyttänyt suosionsa uusien tekniikoiden kuitenkin ollessa saatavilla.

Yhteenvedona todettakoon, että vaatteiden leikkauksen ollessa monin tavoin monimutkainenkin eikä missään nimessä mahdollisimman yksinkertainen, kankaat ovat enimmäkseen melkoisen karkeita. Joukossa on kuitenkin myös hienoja ulkomaalaisia tuontikankaita. Mitään selvää 90 yhteyttä monimutkaisempien rakenteiden ja kankaan laadun välillä ei havaittu; myös pliseeratut ja napinlävelliset fragmentit olivat samanlaisesti melko karkeasta kankaasta tehtyjä. Yhtenä syynä kankaiden paksuudelle ja karkealle laadulle saattaa olla ilmasto. Karkeudesta huolimatta kankaiden suhteellisen arvon puolestaan puhuu, että monet, etenkin napinlävelliset fragmentit, ovat punaiseksi värjättyjä. Hienompien mannermaisten muotien leikkauksia pyrittiin jäljittelemään paikallisten mahdollisuuksien ja käytännöllisyyden mukaan.