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ANCIENT TEXTILES SERIES VOL. 6

THE MEDIEVAL BROADCLOTH

THE MEDIEVAL BROADCLOTH

Changing Trends in Fashions,
Manufacturing and Consumption

Edited by
Kathrine Vestergård Pedersen
and Marie-Louise B. Nosch

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LIST OF CONTRIBUTORS

John H. Munro is Professor Emeritus of Economics, University of Toronto. John Munro received his M.A. and Ph.D. in History from Yale University and was nominated full professor in 1973 at the University of Toronto, Department of Economics. His principal research interests concern later medieval and early modern England and the Low Countries, with a focus on the history of the textile industries, and also on monetary, financial, and labour history. His major recent publications are: *Textiles of the Low Countries in European Economic History*, Studies in Social and Economic History, Vol. 19 (1990); *Bullion Flows and Monetary Policies in England and the Low Countries, 1350–1500* (1992); *Textiles, Towns, and Trade: Essays in the Economic History of Late-Medieval England and the Low Countries* (1994). He served as the Medieval Area editor for the *The Oxford Encyclopedia of Economic History*. He is elected as a lifetime Foreign Member of the Royal Flemish Academy of Belgium for Science and the Arts.

Carsten Jahnke is a historian and associate professor at the Saxo Institute, University of Copenhagen. He was trained in Kiel, Germany and is a specialist in medieval economical and social history. His research includes the history of the Hanseatic League, the Estonian trade up to the 16th century and the political, economical and social history of Denmark in the Middle Ages. He is the author of the article on The Baltic Trade, in the *Handbook of Hanseatic History*, ed. Don Harrald, a monograph about the Hanseatic herring trade and the trade between Tallinn/Reval and Amsterdam in the 15th and 16th century. In the present volume he presents evidence on the cloth trade in the Baltic.

Heini Kirjavainen is a doctoral student in the Department of Archaeology, University of Turku in Finland. She is specialized in medieval textile research and archaeological fibre identification. Her research concentrates mainly on urban textile finds and their manufacturing sphere in the medieval town of Turku in south western Finland. In this present volume she discusses medieval broadcloth imports to Finland.

Riina Rammo is an archaeologist, and currently Ph.D. student at the University of Tartu, Finland, and also works there at the Institute of History and Archaeology, University of Tartu. She is specialized in archaeological textiles, especially findings from the Middle Ages. Her research also includes studies in history of prehistoric and medieval costume in Estonia. In the present volume she has gathered evidence on broadcloth among medieval archaeological findings from Tartu, a medieval Hanseatic town in Livonia.

Jerzy Maik is Associate Professor at the Institute of Archaeology and Ethnology of the Polish Academy of Sciences. He received his Ph.D. degree and Habilitation at the Institute of Archaeology and Ethnology, Polish Academy of Sciences. His main focus is the history of textiles in Poland, particularly in the Roman period and the Middle Ages; his research also includes medieval cities and castles and their inhabitants. Maik is the editor of the scientific journal *Fasciculi Archaeologiae Historica*, Łódź. He is a member of the organization committee of the North European Symposium for Archaeological Textiles, and organizer of the 8th North European Symposium for Archaeological Textiles, 2002 in Łódź, and editor of the volume *Priceless invention of humanity – Textiles. Report from the 8th North European Symposium for Archaeological Textiles”, 8–10 May 2002 in Łódź, Poland*, “Acta Archaeologica Lodziensia”, No 50/1, Łódź 2004

Camilla Luise Dahl holds a Masters in history from the Saxo Institute, University of Copenhagen. Her main research areas are clothing references in medieval Scandinavian documents and terminology and typology of dress. She is the editor of *Dragtjournalen*, a journal dedicated to the study of costume published by a consortium of Danish museums; she has published numerous articles on history and terminology of dress from medieval through early modern times.

Anton Reurink is trained as a Master technician of fine mechanics and has worked for the University of Utrecht in Holland. He has conducted several experiments regarding ancient textile technology, and organises workshops about medieval textile production. He has also created exhibitions in several museums. He is currently conducting a large collaborative study of *Broadcloth from the 15th century* as made in the city of Leiden, Holland, and employs both historical sources and experimental archaeology.

Kathrine Vestergård Pedersen has an M.A. from the Department of Medieval Archaeology at the University of Aarhus. She is attached to the Danish National Research Foundation's Centre for Textile Research, University of Copenhagen. Her research centres on textiles and clothing from the Viking Age and the Medieval period, with a special emphasis on combining theoretical analysis with practical knowledge garnered from handicraft processes.

Marie-Louise B. Nosch is the director of the Danish National Research Foundation's Centre for Textile Research, located at the Saxo Institute, University of Copenhagen. She is trained in history, archaeology and philology, and holds her Ph.D. degree from the University of Salzburg. She was co-organiser of the international seminar on broadcloth, and is the editor of the *Ancient Textiles Series*.

INTRODUCTION

The study of medieval textiles is by no means a new field, either within the context of historico-archaeological research or in textile research in general. Over the decades archaeological textiles have been investigated and published, and historical medieval sources have been interpreted and analysed. The medieval period – here defined as the period from around 1000 to 1500 – is wonderfully rich regarding the extent of available sources – many well-preserved textiles, textile tools, pictorial sources of working scenes and tools in use, as well as written sources with information on medieval production, organisation, standards and the spread of textiles via trade routes and import bills. The focus of the research into medieval textiles has varied from discussions about their economic importance, the use of cloth, the development of craft traditions, and the influence on consumption and social status. The research area appears unlimited. However, research into medieval textiles has been more or less divided between a historical area and an archaeological area, and a fully interdisciplinary cooperation between the two has rarely been attempted. The present volume is the result of an interdisciplinary seminar on medieval textiles where archaeologists and historians not only shared their expert knowledge, but also studied the actual archaeological textile finds together on an excursion to the Lödöse Museum in Sweden.

The topic of the seminar was *broadcloth*. The word *broadcloth* is used in historical research as an overall term for the woven textiles that were mass-produced and exported all over Europe. Broadcloth was first produced in Flanders, as a decidedly luxurious cloth from the 11th century and throughout the medieval period. Broadcloth is the English term while in Flemish it was called *Laken*; *Tuch* in German, *Drap* in French, *Klæde* in the Scandinavian languages and *Verka* in Finnish. The definition of *broadcloth* derives from written sources, however, it cannot be identified so readily in the archaeological textiles, thus making the topic of medieval broadcloth very suitable as an interdisciplinary area of study. The first chapter of the book is written by John Munro – the well-renowned expert of Flemish broadcloth. He presents a splendid introduction to the subject and takes the reader through the manufacturing and economic importance of medieval broadcloth as a luxury item. With the help of a series of tables he demonstrates the real value of several broadcloth types.

A major factor in the medieval history of broadcloth is the Hansa trade network and its role in European trade. Chapter two in this publication deals with the cloth trade in the Baltic Sea area. Historian Carsten Jahnke demonstrates the excellent value of the Holdebrand Veckinghusens and Hans Selhorst account books as a source. He describes how broadcloth was produced according to certain standards, how it was controlled and labeled and how it was packed and shipped off, as well as who was responsible for these



The participants on excursion to Lödöse Museum in Sweden. From the left: John Munro, Kathrine Vestergård Pedersen, Stella Steengaard, Sandra Comis, Heini Kirjavainen, Jerzy Maik. The photo was taken by Dominique Cardon. Camilla Luise Dahl is absent from the photo.

actions and who received the cloth when it reached its destination. He then considers the sums and the prices and concludes that it was not the highest luxury quality cloth which was imported to the Baltic.

After this thorough introduction to the historical, economic and mercantile context of broadcloth production, the view is turned towards its archaeological remains. Chapters three, four and five investigate archaeological textiles excavated in the Baltic area, as well as in Finland and Poland. The data are presented by archaeologist Jerzy Maik, Heini Kirjavainen and Riina Rammo. Their contributions demonstrate the evidence in archaeological material for both local and imported textiles, and the richness of types and qualities in the archaeological textiles. Certain textile types can be interpreted as broadcloth imported to these regions due to their fibre type and physical properties.

Chapters six and seven deal with the problems that occur when combining the terminology from written sources with the terminology of archaeological textiles. Camilla Luise Dahl gives examples of the terminology of multi-coloured textiles – the variation in the words and their use in different languages as well as changes to the meaning of these words over the course of time. As an example the terms *strijpte laken* and *gheminghet laken* have changed meaning and use in the Scandinavian languages and documents. Kathrine Vestergård Pedersen adds to the terminology by presenting examples of different visual features in archaeological textiles from Lödöse including coloured, striped and marbled patterned textiles. In this material both imported broadcloth types as well as locally

produced imitations of the imported types are presented. The final chapter is a report from an ongoing reconstruction project where Anton Reurink from the open-air museum in Eindhoven, Holland, has recreated medieval broadcloth based on written and iconographic sources. He has reconstructed the tools for the preparation and spinning of wool and has had a group of spinners produce yarn in the appropriate quality according to written sources from the Leiden broadcloth production. Thus far a total of approximately 20 metres of cloth have been woven and the first experiment with fulling by foot has been performed. The project is on-going and will continue with more experiments in fulling, napping and shearing.

The basis for this collaboration was a seminar organised by the Danish National Research Foundation's Centre for Textile Research and the Annual Meeting for Historians at the University of Copenhagen in August 2006. The excursion to Lödöse Museum was a great opportunity for the researchers to exchange knowledge and working methods. The archaeologists could contribute with comparisons to their material and the historians contributed with information on different kind of cloth types known from the written sources and pointed them out in the Lödöse textiles.

We thank the authors for their expert contributions.

Kathrine Vestergård Pedersen and Marie-Louise B. Nosch
June 2009

A Finnish Archaeological Perspective on Medieval Broadcloth

Heini Kirjavainen

Several terms are used for the various cloth types in the Finnish medieval written historical sources. This makes the interpretation and identification of a cloth rather complicated, since the archaeological textile finds are not obviously labelled by their trade names when unearthed. Furthermore, fine woollen cloth or broadcloth (called *Tuch*, *Laken*, or *kläde*) may have been used as a definition for any type of imported textile. Archaeological pieces of fine woollen cloth, woollen tabby and twills and coarser goat hair textiles are mainly found on the medieval urban sites of Finland, particularly in Turku (Kirjavainen 2002, 346–351; 2003, 12–19). The majority of these textile groups include fabrics made of the finest fibres with extraordinary patterns and some of them are probably imported items of the type termed broadcloth.

FINNISH *VERKA* AND BROADCLOTH

Broadcloths were considered to be high-quality textiles; the etymology for the Finnish word *verka*, i.e. fine woollen cloth is unknown. However, etymologist Hannes Pukki argued in 1941 that the names of various cloths originate from western vocabulary and *verka* means ‘valuable red cloth’ and thus red woollen cloth in general. The origin of an ancient Scandinavian word *ferga*, meaning “a divinity”, created the Finnish form *verka*. Pukki associates the word with Finnish *kaleva* meaning a bad mannered, cursed person, son of the *kaleva* (Fi. *kalevanpoika*) who would typically be depicted wearing red clothes (Pukki 1941, 67, 72). However, Aulis Oja suggested that a person called *kalevanpoika* belonged to a higher social stratum and had a real historical background (Oja 1969, 182). Names used for *verka* in written sources are in the forms of *kläde*, *clede*, *klede*, *klädhe*, *clæde*, *clædhe*, *klædhe*, *lakenn*, *laken* and *tuche* (FMU; REA).¹

The appearance of Frisian cloth could be seen as the beginning of commercial production of fine woollen cloths. It appears for the first time in written sources already during the 8th century under the name of *pallium fresonicum*. Ermoldus Niggellus reported that Frisian tradesmen exchanged (or “traded”) dyed *pallium fresonicum* to timber, wine and grain. The cloth was so valuable that even Charles the Great sent it to Harun al Rashid as a token of his appreciation (Ingstad 1980, 81). However, according to Lise Bender Jørgensen, the first

“branded” textile goods were produced in the Hallstat culture or even further back in the Early Iron Age. She suggests that the Roman cloth production for military purposes made textiles more standardised and accelerated the change of some cloth types into “branded goods” (Bender Jørgensen 1995, 82).

How have various textile researchers defined this Frisian type of cloth? Agnes Geijer believed that it was a cloth of diamond twill woven in fine worsted wool, like those found in the Viking Age graves in Birka (Geijer 1994, 98). Since this type is similar to Syrian cloths, it was suggested that it was imported goods. However, Anne Stine Ingstad argues that the cloth originated from England, and was traded to places such as Birka in Sweden and Kaupang in Norway by Frisian tradesmen (Ingstad 1980, 95). In her study of the textile fragments found in the Birka graves, Inga Hägg argues that Frisian cloth was made in tabby or twill weave with or without fulling. It could substitute money when acquiring goods (Hägg 1994, 90–91). The fundamental qualities and prerequisites for producing Frisian cloth have been studied and described here, including how it evolved into a commercially produced fine woollen cloth during the medieval period.

ARCHAEOLOGICAL AND HISTORICAL POINT OF VIEW

Whether it was bold seafaring tradesmen with rolls of cloth or frightful Vikings in their fancy clothing accessories; someone did reach the shores of Finland because the cloth type mentioned above was found in a 12th century grave in Rikalanmäki, Halikko in south-western Finland (Hirviluoto 1992, 102; Mäntälyä 2006, 53–55). Similar pieces of cloths in 2/1-twill were also found in Tampere in Vilusenhari (Tomanterä 2003, 43–44), in Satakunta in Köyliö (Tomanterä 1978, 111) and in Turku in the Kirkkomäki burial ground (Riikonen 2006, 376). All these graves are dated to the 11th and 12th centuries and are most likely burial sites of people from a higher stratum of society. By far, these are the oldest pieces of this type of cloth ever found in Finland. It is exciting to find foreign textile brands in Late Iron Age burials and discover that similar materials have been excavated in Northern European medieval towns.

New specialised skills were required in order to advance the already highly developed cloth production in Europe even further. Trade of clothiers arose and required specialised skills from sheep farmers and wool workers for combing, spinning, weaving, felting, dyeing and nap shearing (Bohnsack 1985, 107; Hollbach 1999, 641; Kjellberg 1943, 46). Cloth production became controlled and restricted by regulations. Quality control before the cloth was sold was extremely important to ensure the reputation of towns where cloth was produced (Kjellberg 1943, 46). This, however, was not yet the case in Finland during the 12th and 13th centuries, although specialised cloth production in households may have occurred during this period. It was the Hanseatic merchants and craftsmen at the turn of the 14th century who took advantage of the absence of fine woollen cloth production in Finland. Furthermore, Hanseatic models for urban administration were applied by the Turku town council probably already in the 1280s (Kallioinen 2004, 7).

Cloth shearers (Sw. *öfverskärare*) created a guild of their own during the medieval period. These specialised craftsmen are mentioned on several occasions in the lists of burghers from

Turku in medieval times (Kallioinen 2000, 289, 305). Only cloth shearers were allowed to trade imported cloths (Kjellberg 1943, 53). Letters from Finnish merchants from the period provide us with information about selling and buying shrunken and readily shorn cloths (REA 278, 553; FMU V, 3909). A letter dated the 23rd of June 1396 in Turku describes how nine ells of shrunken and readily shorn fine woollen cloth was sold for five marks (*ix alna klæde krompit oc vffuerskurit for v mark*) (REA 278). Another merchant's letter from Paimio dated the 11th of February 1396 mentions cloth that has not been shorn (*klædhe, oskurit, helom stykkiom oc halfuom*) (FMU I, 897). The letter from Paimio refers to woven and dyed cloth without shorn nap, and since the shearing was one of the most time consuming and costly production phases, these types of cloths were cheaper than the cloth that had undergone the more time-consuming processes of napping and shearing. This could explain both the presence of cloth shearers as well as the absence of other crafts connected to the local Finnish production of broadcloths during the early medieval period. Although it was forbidden to exercise one's profession outside the town, there are mentions of rural, specialised workshop production and import of Finnish coarse woollen cloths (Fi. *sarka*) (Voionmaa 1911, 20–22).

It is obvious that broadcloth was imported to Finland during the medieval period. The first time locally produced fine woollen cloth is mentioned in written sources is from the mid-16th century when the cloths of Turku and Halinen appear by their commercial names. An iron tenter frame (Fi. *rautaraami*) for stretching the cloth is mentioned in accounts regarding Turku castle in 1563. As well as the amount of 4000 cards (Fi. *kardessi*), 1000 cards (Fi. *kartta*) and two pairs of shears for shearing the cloth (Fi. *verankeritsemisakset*) are mentioned (Melander 1914, 5). If the recorded cards refer to wool carding, the amount seems too high. However, if they refer to cards for cloth napping and frames made of thistles (*Dipsacus fullonum* L. or *Dipsacus silvestris* L.), the amount seems reasonable since they were easily worn out.

From the 16th century and to the beginning of the 17th century, foreign sheep breeds were imported and cross-bred with local Finnish sheep with the aim to obtain a more homogeneous wool type (Tapio and Kantanen 2000, 22) and to start a Finnish broadcloth production. In Finland, castles and royal estates were the first places for large scale organised cloth production which was established to meet the needs of civil servants and military officers. For example, wool processing and weaving were carried out at Turku castle, while dyeing and fulling were executed at the fulling mills in Halinen on the upper parts of the river Aura (Melander 1914, 2). Cloth from Turku was regarded as the finest quality in Finland, and was worth more than the cloth of Häme, which was produced at Häme castle (Voionmaa 1911, 26; Vilkuna 1998, 164). However, cloth production did not take place on a large scale during the 1550s and 1560s. Within this ten year period, the average annual production was only between 1000 to 1300 ells, that is, 600 to 700 metres of cloth. This was hardly sufficient for the needs of state officials and their annual salary that included a certain amount of fabric (Fi. *Verkapalkkaus*) (Toropainen 1998, 12). The cloth of Turku was used for paying wages during the 16th century, but because of its lesser quality compared to imported woollen cloths, it was not qualified for the higher ranks of state officials and their demand for imported cloth continued as earlier (Voionmaa 1911, 26; Melander 1914, 3).

IMPORTING A CLOTH

The medieval written sources refer to cloth trade with the main origin of imports being Flanders at the end of the 14th century as well as during the 15th century. The Netherlands and England became prospective suppliers in the 15th and the beginning of the 16th century (Taavitsainen 1982, 24). Traded goods were rarely shipped straight to Turku; instead ships sailed to Hanseatic towns like Reval, Lübeck and Danzig (Kerkkonen 1981, 468).

Turku was a centre for Finnish medieval trade. Most exported goods were products of natural resources like butter, animal skins and fish (Kallioinen 1999, 42; Kuujo 1981, 119). The peasant sailing to Reval and Stockholm promoted the arrival of foreign fine woollen cloths and other commodities to Turku. Already during the 14th century, Hanseatic tradesmen employed the Finnish peasants to carry out mercantile activities with Hansa traded goods. The imported cloths were not at the peasants' disposal, but they commissioned textiles for people of higher social strata, such as members of the clergy and wealthy townsmen (Kerkkonen 1959, 31, 133).

Danzig was the most important trading port for the merchants of Turku in the beginning of the 15th century. Trade connections between Reval and Riga started to fade away at the end of the 15th century and merchants moved towards Danzig. Lübeck remained the most important of the Hanseatic towns, and eventually Hanseatic tradesmen also appeared in Turku during the 14th century (Kallioinen 1999, 44). Lübeck acted as a promoting agent for the spread of Flemish and English cloths into the Baltic markets (Mührenberg & Falk 2001, 135). Although Stockholm is situated near to Turku, most townsmen ignored it because of its rival status in trading, which is why it was possible to buy the same foreign commodities in both towns (Kallioinen 1999, 44). The contacts to Flanders were made in the beginning of the 15th century and most of its goods kept arriving via Reval (Kuujo 1981, 129). The Dutch were interested in the Baltic markets, and they forced out the Flemish tradesmen and contested with the English tradesmen later on in the 15th and the 16th centuries (Kuujo 1981, 130; Taavitsainen 1982, 25).

For the cloth trade, statutes meant that the conventional length of a piece of cloth was 44 ells (one ell is one Swedish *aln* i.e. 59 cm). Pieces of cloths were transported in packages, which sometimes included no less than 20 pieces of broadcloth in full length. Cloth packages were wrapped in a coarse textile for packaging, and tied with a cord. During the 15th century, pieces of cloths were also transported in barrels (Ruuth 1982, 154). When cloth packages arrived, they were carried into a Cloth Hall (Sw. *klädeshus*) where measures and quality of textiles were inspected carefully and the origin of the manufacturer was registered (Kjellberg 1943, 39). After these procedures, broadcloth was ready for selling. However, the importer of a cloth could not sell it by ells but only by piece. Retailing was conveyed by the town's own merchants, and the retailing sale and prices were thus controlled locally (Kjellberg 1943, 38–40). For example, in 1450 king Karl Knutsson accredited a new price statute for various qualities of broadcloth that concerned Sweden and Finland: '*en alin Bowist half mark, aln Amsterdamst for en mark; en alin Ængelst 6 öre, alin Busniskt 5 öre, en aln Minist 3 öre, och grat Lybist 2 öre*' (FMU III, 2861).

An essential part of the cloth trade were the lead cloth seals, since these acted as a

guarantee for the quality. Cloth sealing started in Europe as early as the 13th century and continued until the 19th century (Egan 1994, 1). Cloth seals indicate the town of origin. Several seals may have been attached onto a piece of cloth; one for the weaver, the other for the dyer, a third for the fuller or cloth shearer. Clothiers could also add their own seal, and the final seal was added at the port of export (Taavitsainen 1982, 26). This meant that these highly controlled cloths carried information on cloth quality, length of a piece of cloth, or number of pieces in a package (Baart *et al.* 1977, 1259). Despite efforts to control it, forgery of the seals was not uncommon, and punishments for forgery were typically fines, deportation, corporal punishment, or sometimes those guilty of forging the seals could even be sentenced to death (Mührenberg & Falk 2001, 135).

Medieval cloth seals identified and found in Finland originate from Tournai, Leiden, Augsburg, Amsterdam and Reval (Taavitsainen 1982, 26–29) as well as Deventer (Appelgren & Christiansen 1997, 325). The origins of the seals are mostly continental Europe. No medieval English seals have been found (Taavitsainen pers. comm.), although English cloths are often mentioned in the written sources concerning late medieval Finland. It is, however, an almost impossible task to identify a particular seal with a cloth type based on a verbal description from the Finnish medieval written accounts.

The manufacturing town usually gave name to a cloth, although sometimes the name could come from the cloth's colour (Fig. 3.1). Ypres was one of most important production centres during the 13th and 14th centuries (Kjellberg 1943, 46) and was famous for its various fine woollen cloths. The most expensive dyed broadcloths called *tinctoros* were dyed twice, first with woad and then with madder (Chorley 1996, 111–113). Cloths from the Low Countries started to arrive to the Finnish markets at the end of the 14th century and in the 15th century. Naarden and Leiden were well-known for their important production capacity. Amsterdam and Kampen were cloth manufacturing towns as well as cloth exporting towns for trade in the Baltic Sea (Kjellberg 1943, 47). In Fig. 3.1, it can be observed that cloths from the Low Countries form the largest group of imported cloth (Taavitsainen 1982, 25). The German cloth towns mentioned in the written sources represent only a fraction of all cloth producing activity in Germany at that time. It could be said that German woollen cloths were not as expensive, and of less quality than the Flemish or Dutch cloths (Holbach 1999, 648). Lübeck had a very large cloth production, and also benefitted from its centrality for the Hanseatic League. Münster was a prominent producer of coloured cloths and was well-known for its craftsmen's trade and as a centre of dyers. Cloth from The Hague was named after the town itself (Taavitsainen 1982, 25).

Mustervilie, mentioned numerously in written sources could originate from the town of Montivilliers in France. The earliest mention of this specific cloth can be traced to a medieval record which reads '*graa kapa af muster-filie ferga*' (FMU V, 4150). Here the cloth type is specified as grey. The town of Montivilliers is mentioned in a 15th century poem saying that '*Good grey cloths are at Montivilliers*' (van Uytven 1983, 167); cloth sold under the trade name *muster de villers* was already manufactured in Montivilliers during the 13th century. Manufacturing continued until the 16th century, but it appears less likely that all *mustervilie*-named cloth was produced at Montivilliers at this later stage (Picken 1999, 228).

By the end of the 14th century, England had established its own cloth manufacture and during the 15th century English cloths started to spread to the Baltic area. *Kersey* was

Figure 3.1.

Area/town of origin	Cloth name appearing in FMU/REA	Date	Source/reference
Aalst	alstedeskt, alist	1445, 1469	Ruuth 1906; 1909; Taavitsainen 1982
Amsterdam	amsterdammist, amsterdamst, amstherdampst, amsterdamisk	1439, 1521	FMU VIII, 6054; REA 483, 485; Taavitsainen 1982
Brabant	brabandesche	1502	FMU VI, 4957
Colchester	kolsesters, colchesterskt	1440	FMU III, 2344, 2348; Taavitsainen 1982
Komen	kumist, kumisth, kwrest	1380, 1398, 1422?, 1423–1469	FMU II, 1721; III, 2026, 2065; IV, 2889, 3393; REA 245, 284, 399, 560, 578; Taavitsainen 1982
England	engilsk, Ængelst, engelsche, engelsz, engylsth, enelsche, ceengilsth, ängilst	1444, 1469, 1505–1524	FMU VI, 5109; VII, 5482, 5547, 5622, 5687; VIII, 6048, 6139, 6188; Ruuth 1906; 1909; Taavitsainen 1982
The Hague	hagensk, hagensche, hagens	1505, 1510, 1515, 1521	FMU VI, 5109; VII, 5459, 5837, 5838; VIII, 6054; Taavitsainen 1982
s-Hertogenbosch	busniskt	1450	FMU III, 2861
Holland	holländskt	1522	FMU VIII, 6088; Taavitsainen 1982
Kampen	kamper	1515	FMU VII, 5803; Taavitsainen 1982
Kersey; also manufactured in various places in England	kirsey	1469	Ruuth 1909; Taavitsainen 1982; Walton 1991
Leiden	leydnisk, leysk, leisk, lädisk, leysth, leydzsk, leydisk, leydeske, lejdnisk, leidisk, leijdesche, leist, leydesch	1449–1458, 1469, 1497, 1505–1525	FMU VI, 5109; VII, 5422, 5459, 5482, 5527, 5622, 5760, 5762; VIII, 6054, 6069, 6207; REA 553; Ruuth 1909; Taavitsainen 1982
London	lundisch	1514?	FMU VII, 5748; Taavitsainen 1982
Lübeck	lybst, lybist	1450, 1469	FMU III, 2861; Ruuth 1909; Taavitsainen 1982
Lynn; also manufactured in various places in England	västerlindenskt, westerlennist	1481, 1497	Ruuth 1906; Kjellberg 1943; Taavitsainen 1982
Montivilliers, France; also manufactured in various places	musterdefylers, mwsterfilij, mustervilie, mwster-filie, messterdefijlges, mussterdefyllisch	1487, 1509, 1513, 1514?	FMU V, 4150, 4358; VII, 5422, 5687, 5748; Taavitsainen 1982; van Uytven 1983; Picken 1999
Münster	mynsterskt	1481	Ruuth 1906; Taavitsainen 1982
Naarden	nerdesche, naerest, närsk, nerdiske, nersk	1469, 1482, 1514?, 1521, 1525	FMU V, 3909; VII, 5748; VIII, 6045, 6054, 6069, 6207; Ruuth 1909; Taavitsainen 1982
Rotterdam	rotterdams, rotterdamskt	1440	FMU III, 2344, 2348; Taavitsainen 1982
Ypres	yperst, ypersth	1412, 1439, 1440, 1445	FMU II, 1372; III, 2344, 2348; REA 481; Ruuth 1906; Taavitsainen 1982

named after its manufacturing town although it was produced in various places in England (Walton 1991, 321). All English cloths mentioned in the written sources regarding Finland indicate that the cloths arrived from the South-Eastern part of England.

BROADCLOTH UNEARTHED

A small number of archaeological textiles found in Turku in 1998 are presented below: Relative dating of the fragments dates them at the turn of the 14th and 15th centuries (Kirjavainen 2002, 348; 2005, 143). They are woven in fine and short fibred wool (fibre length are approx. 2–3 cm), which is similar both in warp and weft yarns. Characteristic for these textiles are the same thread count in both yarn systems and that the weave is well balanced underneath a dense nap (Kirjavainen 2005, 143). They are all woven in tabby and differ from the cloth types of the 11th and 12th centuries (Kirjavainen & Riiikonen 2005, 31–32). All are dyed with madder, either with dyer's madder (*Rubia tinctorum* L.) or bedstraw (species of *Galium*) except for one single white piece. Some pieces of cloths are dyed in a combination of blue and red, of which a dark brown piece included woad (*Isatis tinctoria* L.) (Kirjavainen 2002, 348). The nature and visual appearance of the wool fibres and of the cloth appears similar to the 'New Draperies' of Flanders – or that of England.

It is difficult to identify a piece of archaeological textile as a cloth name mentioned in a written source. Cloth can be identified by colour. Blue cloths were often from Leiden (FMU VI, 4675; VII, 5760, 5762) and red from England (FMU VIII, 6139), but English cloths were, nevertheless, available in all beautiful colours '*de anderen aken sijn enelsche, so wan allen chanten farwe*' (FMU VII, 5687). Not all cloths were dyed; white undyed fabrics were also available. The Swedes especially liked their cloths from Lübeck in grey and white (Holbach 1999, 644). However, medieval Finns seemed to be keen on various reds and purples but also browns are traceable in the Turku archaeological broadcloth collection.

In order to reveal the textile quality, fibre analysis was carried out on five individual pieces of cloths found from the Åbo Akademi site in Turku. The result showed a much finer fibre distribution than in the other textiles identified as domestically woven cloths (Kirjavainen 2002, 348; 2005, 143), compared to the present wool sample collection and that of the archaeological medieval textile collection finds from Turku as well as similar types excavated in Poland (Maik 1990, 121). However, these analysed cloths were not the finest quality of wool available in medieval times. Whether the Finns – or the Swedes – bought and used cloths from the Low Countries, Germany or England, cannot be verified just by the appearance of the excavated pieces of a cloth, without conducting further analysis on the cloths themselves. Therefore, the origin of manufacture remains unsure but most likely they were imported cloths.

Note

1. Texts are cited as *FMU* and *REA* in this article, and the numerical characters after combination of letters refer to the number of the document. Variations of spelling exist because medieval accounts were written in Swedish, Latin or Low German and every clerk had his own way of writing.

Sources

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