

Saxon textiles from London excavations

Photography by Jon Bailey

TEXTILES ARE NOT commonly found on archaeological sites. In London, however, waterlogged conditions prevailing along the Thames waterfront and damp, anaerobic deposits present in pits, wells and ditches have aided the preservation of a wide range of textiles. By analysing the cloth from such stratified deposits it is possible to distinguish a variety of different types of cloth. This is of considerable interest and importance since no other source of information can provide such detailed evidence about the appearance and texture of ordinary cloth from the past.



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The type of cloth produced in any period depends upon a number of factors ranging from the type of yarn selected and the manner in which it is spun, to the type of loom on which it is woven and the finishing processes practised. This article looks at a group of some forty textiles dating from the late 9th to the 11th century and indicates features characteristic of cloth produced and traded in late Saxon England.

General character of the textiles

The textiles were recovered during excavations undertaken by the Department of Urban Archaeo-

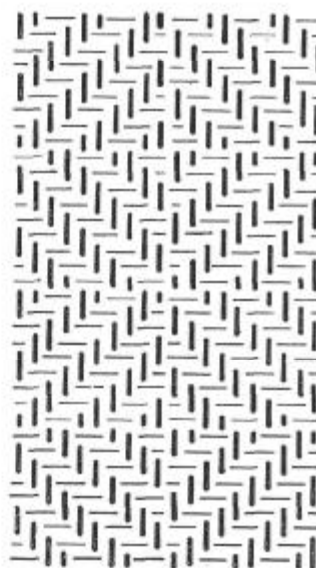


Fig 1: (a) Four-shed lozenge twill, late 9th-10th century (x1.5).
(b) Diagram of weave.

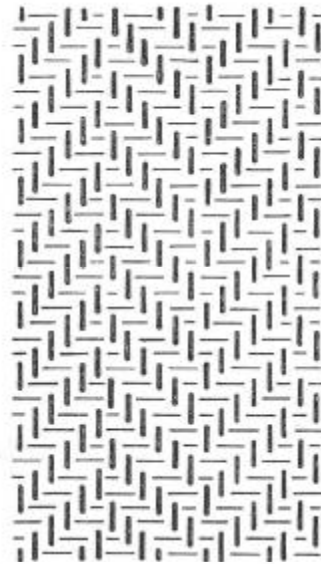
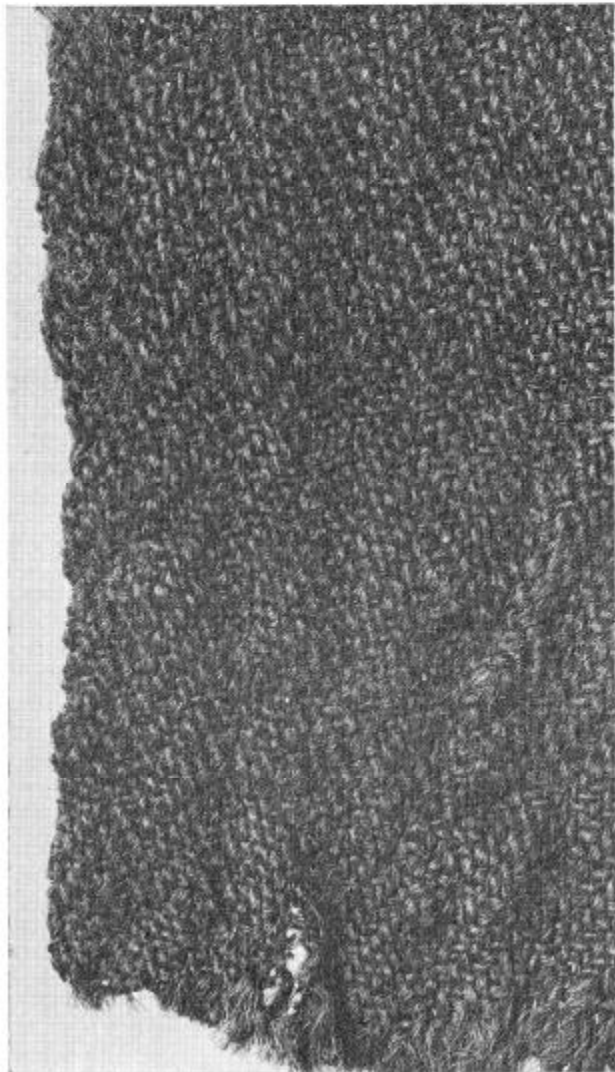


Fig 2: (a) Four-shed herringbone twill, late 9th-10th century (x2.5)
(b) Diagram of weave.

logy in 1976-78 from two sites in the City, Milk Street and Watling Court.¹ They were found in a series of rubbish pits and on floors inside 10th and 11th century buildings. Most are woven from wool but a few of the coarser fragments are probably goat hair,² while the finest pieces are woven from silk. Vegetable fibres rarely survive in acidic conditions and hence linen which was widely used for clothing in the late Saxon period is not present apart from some very brittle fragments where the fibres have

become replaced through contact with metal artefacts.

The wools

The wool textiles have mainly patterned weaves with four-shed lozenge and herringbone twills predominating (Figs. 1 and 2).³ These twills have a distinctive break or displacement in the pattern due to the manner in which the warp was tied onto the loom and threaded through the loops on the heddle rods.⁴

1. S. Roskams and J. Schofield 'Milk Street, Part 2' *London Archaeol* 3 (1978) 227-234; D. Perring 'Excavations at Watling Court part 2: late Roman to modern' *London Archaeol* 4 (1982) 208-213.
2. Identified by Dr. P. L. Armitage.

3. See glossary below for an explanation of the weaving terms used in the text.
4. For a discussion of the tie-up on the loom see A. E. Haynes 'Twill weaving on the warp weighted loom: some technical considerations' *Textile History* 8 (1975) 156-164.

Such broken twills are a characteristic product of the warp-weighted loom⁵ and they may have been woven locally since bun-shaped clay loomweights, which were used to keep the warp taut, have also been found from Saxon deposits in London.

Most of the other remaining fragments of wool cloth are of simple design although two pieces in tabby weave have a pattern of intermittent stripes created by means of occasional paired wefts (Fig. 3), while a tiny fragment of a four-shed twill employs two contrasting thicknesses of weft yarn. Added texture is also imparted to many of the examples by using yarn which has been spun in opposing directions and with a different degree of twist. The warp yarn, which takes most of the strain during weaving, is consistently Z spun (i.e. twisted to the right) and evenly drawn out while the weft yarn is usually S spun (i.e. twisted to the left) and often softer and fluffier (Fig. 4).

Two fragments of cloth from the floor of an 11th century 'cellared' building at Watling Court demonstrate the changes in weaving techniques which were being introduced into Western Europe at this time. Both are lozenge twills but the design of the cloth repeats without any displacement in the pattern and three sheds rather than four are employed (Fig. 5). It is likely that this type of cloth was woven on a horizontal treadle loom. Indeed, the earliest depiction of such a loom in an English manuscript shows a length of cloth being woven with a similar lozenge design (Fig. 6).

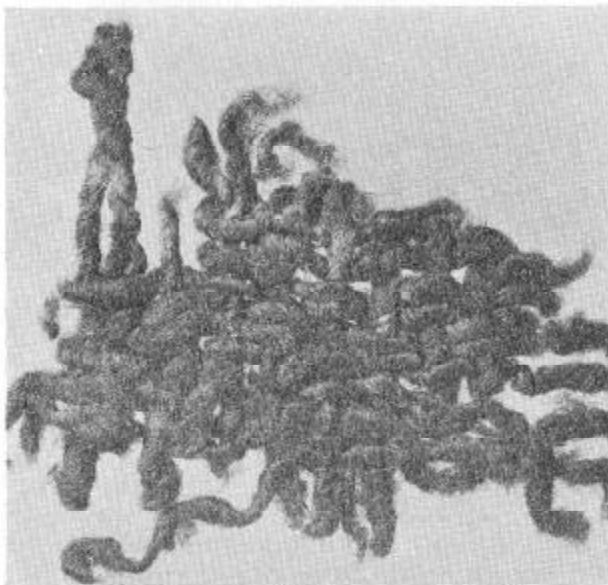


Fig 3: Fragment of tabby woven cloth with self stripes, late 9th-10th century (x1.5)

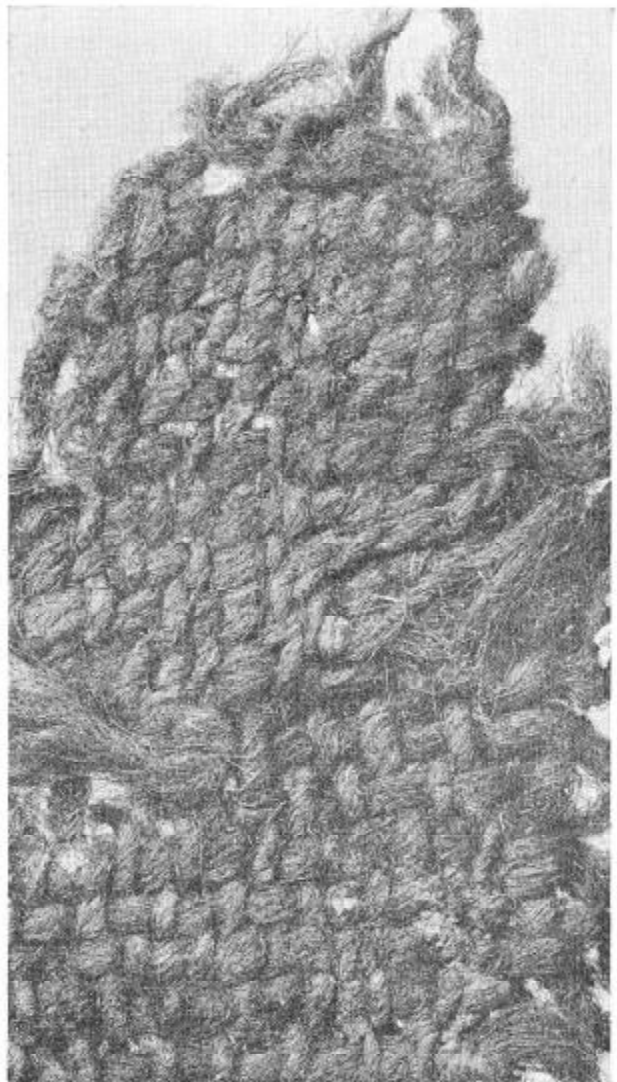


Fig 4: Fragment of tabby woven cloth with contrasting warp and weft yarns, late 9th-10th century (x2.5)

White wool is chiefly used for the cloth although one simple broken twill and one simple three-shed twill are woven from natural dark brown wool.⁶ Some of the other fragments of cloth are dyed, particularly the better quality cloth.⁷ Most cloth was probably dyed in the piece although the yarn must in some instances have been dyed prior to weaving in order to obtain

5. Marta Hoffmann *The Warp-weighted Loom* (Oslo, 1964) 187-188.
6. Wool fibres were examined at 200x magnification.
7. The dyes on the wools were identified by Penelope Walton.

special colour effects since on one example weft yarns of contrasting colours occur. The most common dyestuff identified is madder (*Rubia tinctorum L.*) which would have required the addition of a mordant, usually alum, in order to produce various tints of red or orange, while woad (*Isatis tinctoria L.*) a vat-dye, which turns cloth blue has been detected on four fragments. Both madder and woad are referred to in an estate memorandum of the late 10th-11th century⁸ and it is likely that they were cultivated on farms in England during this period.

In contrast, three of the herringbone twills are dyed with a purple-producing lichen which may have been gathered growing wild on rocks, still a custom today in remote areas of Britain. This dyestuff has also been identified on a herringbone twill of similar late Saxon date from the Coppergate excavations in York, which suggests that a trade may have existed in such cloth.⁹

Further evidence of dyeing practices is provided by the detection of more than one dyestuff on a single cloth. In both examples identified, of the cloth has been dyed first with woad and then shaded with madder on one example (a three-shed lozenge twill) and lichen purple on the other (a four-shed

8. *Be Gesceadwisan Gerefan* in F. Liebermann (ed.) *Die Gesetze der Angelsachsen I* (Leipzig, 1903) 455.

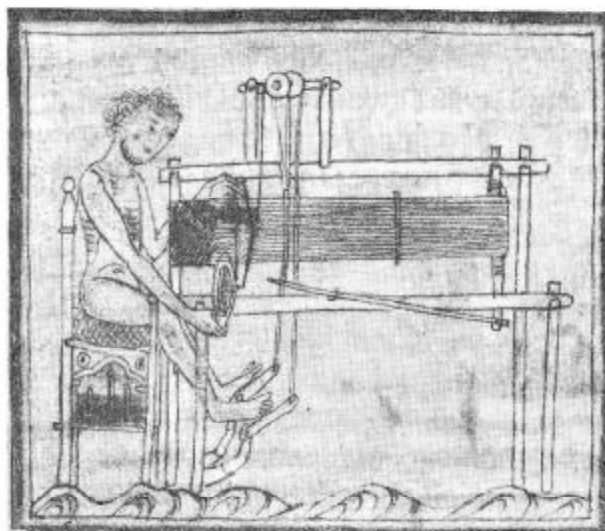
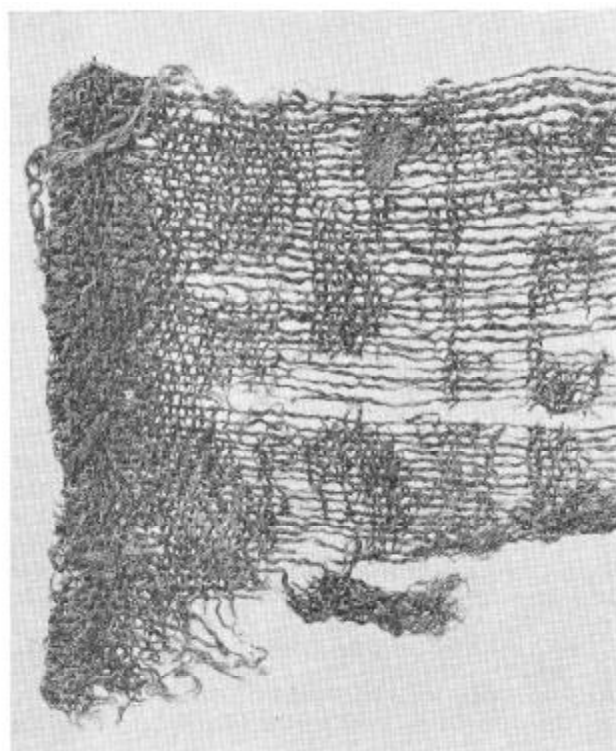


Fig 6: Man weaving cloth with a lozenge design on a horizontal treadle loom, 13th century. (Trinity College Cambridge MS. O. 9. 34, f. 32v). Reproduced by kind permission of the Master and Fellows of the College.

herringbone twill) to obtain a deep purple hue. This indicates a thorough knowledge of the behaviour of dyes since two separate dyebaths would have been

9. Penelope Walton, *pers. comm.*

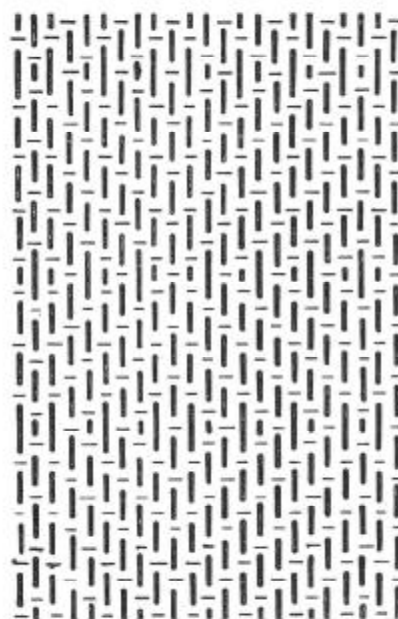


Fig 5: (a) Three-shed lozenge twill, 11th century (x2.5).
(b) Diagram of weave.

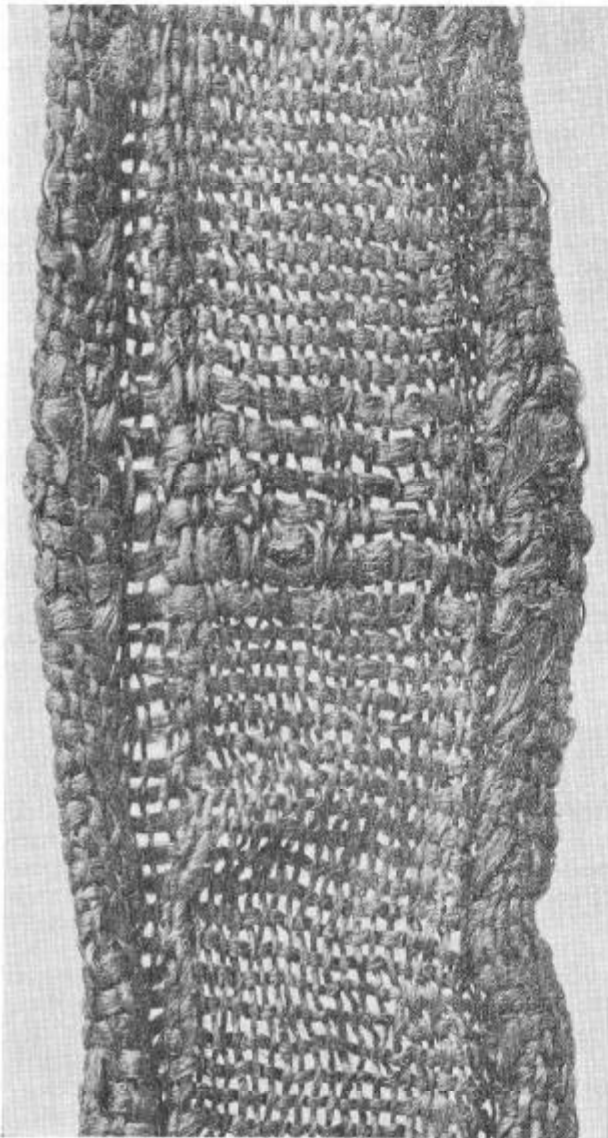


Fig 7: Silk ribbon with hemmed edges late 9th-10th century (x8).

needed to achieve the desired result, thus adding considerably to the expense of the cloth. It also illustrates the fashionable predilection for purple current during the period.¹⁰

The silks

The silks from the excavations similarly provide exciting new information about late Saxon taste in textiles and demonstrate the far reaching trade in luxury goods. Most are small items such as simple

10. C. R. Dodwell *Anglo-Saxon Art* (Manchester, 1982) 36-7.

tabby woven ribbons, trimmings and headdresses (Fig. 7) for which the quality of the silk is not high and which could have been produced by craftsmen in small workshops in Byzantium or in other parts of the Levant.¹¹ Such silks may have been purchased at the international market in Pavia, Lombardy, which was regularly visited by Anglo-Saxons in the 9th century, or traded via the Baltic.¹² Silk embellishments appear to have enjoyed widespread popularity throughout Northern Europe. Einhard, for example, describes Charlemagne as wearing a tunic

11. R. S. Lopez 'Silk Industry in the Byzantine Empire' *Speculum* 20 (1945) 8.

12. Dodwell *op.cit.* in note 10, 151 and 155.

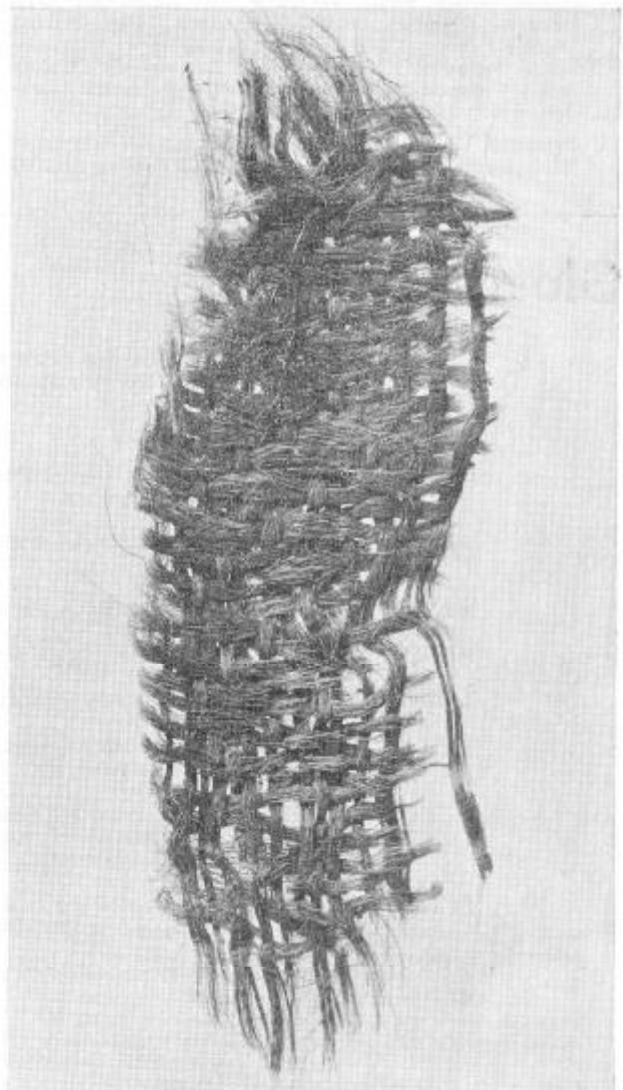


Fig 8: Figured silk, late 9th-10th century (x10).

edged with silk in the style of the Franks¹³ while narrow silken stripes of cloth have been recovered from among the remains of clothing preserved in numerous graves at Birka, the famed Viking trading emporium,¹⁴ and from among 10th and 11th century occupation refuse in York¹⁵ and Dublin.¹⁶

More exceptional is a fragment of figured silk from one of the Milk Street pits (Fig. 8). It is a weft-faced compound twill with single main warps and a non-reversible design¹⁷ which would have required to have been woven on a more sophisticated type of loom with a figure harness. Again the cloth could have

been produced in Byzantium but the design and loose weave suggest that it may have been produced in Islamic Spain, which developed its own silk industry during the 8th century.¹⁸

Conclusion

Documentary evidence provides tantalising glimpses of the textile trade and industry in the late Saxon period. This knowledge, however, is now being greatly enhanced and extended by the study of cloth recovered from archaeological excavations of which the textiles from London form a most important contribution.

13. L. Thorpe (ed.) *Life of Charlemagne* (1969) Book 3, ch. 23, 77.
14. Agnes Geijer *Birka, III: Die Textilfunde aus den Grabern* (Uppsala, 1938). Also Inga Hagg 'Viking women's dress at Birka: a reconstruction by archaeological methods' in N. B. Harte and K. G. Ponting (eds.) *Cloth and Clothing in Medieval Europe* (London, 1983) 334.
15. Penelope Walton, *pers. comm.* Silk headdresses from York and Lincoln are described by Dr. Anna Muthesius in A. MacGregor 'Anglo-Scandinavian finds from Lloyds Bank, Pavement, and other sites' P. V. Addyman (ed.) *The Archaeology of York* 17/3 (York, 1982) 132-136.
16. Information published by permission of Pat Wallace, National Museum of Ireland.
17. The weave was analysed by Gillian M. Eastwood who also commented upon the source of the silk.
18. Florence L. May *Silk Textiles of Spain* (New York, 1957) 3.

Glossary

A short glossary is included for readers who may be unfamiliar with weaving terminology. For further reference Dorothy K. Burnham *A Textile Terminology* (Ontario, 1980) should be consulted.

WARP	The longitudinal threads of a textile that are attached to a loom during weaving.
WEFT	The transverse threads of a textile that are passed through the warp.
SHED	The opening in the warp that permits the passage of the weft yarn.
HEDDLE ROD	A rod with loops used on simple looms for making a shed opening.
TABBY	The simplest type of weave requiring only two binding points.
Twill	A basic weave based on a unit of three or more warp ends and three or more weft picks. The binding points form diagonal lines.
WEFT-FACED COMPOUND TWILL	A weft-patterned weave with two warps, a main warp and a binding warp, and a weft composed of two or more series of threads usually of different colours.
FIGURE HARNESS	A group of shafts or leashes that control the execution of the pattern in figured textiles.
MORDANT	A metallic salt used to attach a dyestuff to a fibre to make the colour fast.
VAT-DYE	A dye which is converted by fermentation to a reduced soluble form and reoxidised on exposure to the atmosphere to give the coloured, insoluble form. It does not require the addition of a mordant.