

Roman Textiles from the Walbrook (London)

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Archaeological exploration of the bed of the Walbrook, a minor tributary stream of the Thames which flows through the City of London, has brought to light an unrivalled series of small finds illustrative of life and work in Roman London¹. Among the more important discoveries, but to the eye of the beholder perhaps less spectacular, are several fragments of wool cloth². They owe their preservation to the constant moisture in the bed of the stream and to the action of humic acids³. Many complete garments, such as the cloaks from Thorsberg (Kr. Schleswig)⁴, have been preserved due to similar conditions in the peat-bogs of northern Europe.

Findspot and dating

The textile fragments were recovered from Roman levels in the immediate area of the Walbrook by Mr. Francis Greenway, who presented them in 1956 to the British Museum. They are said to have been associated with coins of Vespasian and of Titus as Caesar and samian ware bearing potters' stamps, mostly of the first century, but including a stamp of RITOGENUS, a Lezoux potter of the Antonine period⁵. The coin series from the bed of the Walbrook ends with the Britannia issues of Antoninus Pius (A. D. 154–155) and the original bed of the stream, reinforced in places with timber camping, appears to have become blocked at about that date⁶. The cloth was probably lost or jettisoned at some point within the second or possibly third quarter of the second century⁷.

Technical details

Cloth fragment I

A single fragment of wool cloth in plain weave, now black in colour, without selvages. BM. Inv. no. 1956.12.1.2 (*pl.* 39).

¹ Small Finds from Walbrook 1954–1955. Guildhall Museum Publication (undated).

² British Museum Inventory nos. 1956. 12.1.1; 1956. 12.1.2. I am indebted to the Keeper of British and Mediaeval Antiquities and to the Trustees of the British Museum for permission to study and publish this material. I am especially grateful to Miss Elisabeth Crowfoot for encouraging me to undertake the task and to Mrs. F. C. Wild for reading and suggesting helpful emendations to the draft text. The textiles published here are briefly considered in: J. P. Wild, *Textile Manufacture in the Northern Roman Provinces* (1970) 55, table A, 7.8.44.

³ See W. von Stokar, *Mannus* 26, 1934, 309–314.

⁴ K. Schlabow, *Der Thorsberger Prachtmantel*. Veröffentl. des Förderver. des Textilmus. Neumünster 5 (1965). The most recent handbook on the topic is W. La Baume, *Die Entwicklung des Textilhandwerks in Alteuropa*. *Antiquitas* II, 2 (1955) 116ff.

⁵ Letter of Mr. Francis Greenway accompanying the textiles which he presented to the British Museum in 1956.

⁶ R. Merrifield, *The Roman City of London* (1965) 86–89.

⁷ On the site of Bucklersbury House a single coin with a terminus post quem of A. D. 155 was found: *ibid.* 93.151 note 8.

System 1: warp (?), coarse Z-spun yarn, c. 10 threads per cm., maximum length c. 31 cm.

System 2: weft (?), fairly strong S-spun yarn, c. 7 threads per cm., maximum length c. 22 cm.

The cloth bears a single tapestry-woven band, somewhat lighter in colour than the body of the cloth, running parallel to system 2 (weft?). In it the threads of system 1 (warp?) are grouped in fours ("tapestry over four warp-ends").

Yarn 3: singles, S-spun, c. 12 threads per cm., covering system 1 completely. The band is approximately 1 cm. wide, in all c. 20 threads.

Faults at the edge of the tapestry band where a number of weft (?) threads are paired make exact measurement difficult. They are more likely to be the result of damage to the cloth than weaving errors.

Dr. M. L. Ryder of the Animal Breeding Research Organisation has kindly undertaken an examination of the wool fibres and reports:

"Yarn a (system 1) (pigmented) has a diameter-range of 12-46 microns (mean 24.3 including 2 hairs at 58 microns). Yarn b (system 2) (pigmented) has a diameter-range of 14-52 microns (mean 27.7 including 1 hair at 60 microns). Both yarns are skewed-to-fine on histogram and are classified as generalised medium-fine wool"⁸.

Cloth fragment II

Six large and six small fragments of fine cloth in half-basket (half-panama) weave, without selvages. BM. Inv. no. 1956.12.1.1. They measure c. 150 sq. cm. in all and are black in colour.

System 1: warp (?), singles, strong Z-spun, 14-15 threads per cm., maximum length of largest fragment c. 11 cm.

System 2: weft (?), doubles, fairly weak Z-spun, 11-14 pairs per cm., maximum length c. 7 cm. Both yarns are of moderately fine quality, evenly spun.

There are remains of a tapestry-woven band running parallel to system 2 (weft?) in a lighter coloured yarn, possibly red. Miss Elisabeth Crowfoot has pointed out to me that occasional warp-threads are paired.

Yarn 3: singles, weak S-spun, c. 30-32 threads per cm., close packed to cover system 1. Width of band 1.9 cm., c. 60 threads. Maximum length c. 4.5 cm. The edge of the band is damaged.

Dr. Ryder reports:

"The yarn (pigmented) has a diameter-range of 10-52 microns with 1 hair at 60 microns (mean 24.3 microns). It has a skewed-to-fine distribution and is generalised medium-fine wool."

Cloth fragment III

A single small fragment of cord-edged 2-over-2 herringbone twill in wool, light brown in colour and felted in places. BM. Inv. no. 1956.12.1.2 (*pl. 39*).

System 1: warp (?), S-spun, 14-15 threads per cm., maximum length 13 cm.

System 2: weft (?), uncertain spin-direction, c. 12 threads per cm., maximum length 2 cm. The yarn is weak spun and S- and Z-spun yarns appear to alternate in stripes.

⁸ For definition of terms used and discussion of Roman fleece-types: M. L. Ryder, *Agricult. Hist. Review* 12, 1964, 1ff. 65ff.; *Nature* 204, 1964, 555-559.

The weaving pattern is probably weft-chevron; for in system 2 the slope of the weave reverses (with displacement) after c. 22 threads, c. 36 threads and c. 14 threads. This suggests irregular reversal of the order of the sheds rather than unbalanced threading up.

The corded edge. Groups of three or four adjacent threads of system 2 are twisted together (S-direction) to form a fringe and then the strands are twined to form a continuous cord which lies close along the edge of the cloth (*fig. 1*). The damaged condition of the cloth does not admit of certain analysis, but this explanation appears to be the correct one.

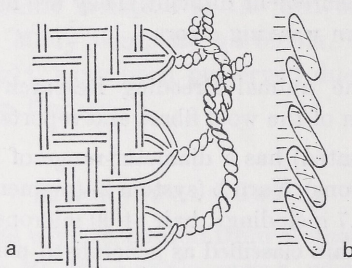


Fig.1. Diagram of corded edge on cloth fragment III from the Walbrook (London). a detail of structure; b final effect. Scale 1:1.

Discussion of the fragments

1. The spin-direction of the yarns

In the northern provinces of the Roman Empire it was conventional to spin wool and linen to the right (Z-spin). In the eastern Mediterranean area, on the other hand, yarn was regularly left-spun (S-spin). Less than one per cent of textiles found in the northern provinces consist of S-spun yarns in both thread-systems⁹. Cloth fragment III appears to fall into this category.

It was a regular practice in antiquity to weave cloth in which the yarn in the warp was spun in the one direction, that of the weft in the other; for the contrasting yarns created a tightly interlocked fabric. The technique is found (to quote but one example) in a plain-weave cloth fragment from a well at the Saalburg on the Upper-German Limes¹⁰. Cloth fragment I is of this type.

Yarns spun in different directions were combined within the same thread-system in the Bronze and Iron Ages for decorative purposes¹¹. The idea was not known apparently in the Roman period, and so, if the tentative analysis of system 2 of cloth fragment III is correct, the piece may be without contemporary parallel.

⁹ Wild op. cit. 44. Spin direction can only be used with caution as an indication of origin.

¹⁰ Saalburg-Jahrb. 24, 1967, 77f.

¹¹ Schlabow, Gewebe und Gewand zur Bronzezeit. Veröffentl. des Förderver. des Textil-mus. Neumünster 3 (1962) 43-48; H.-J. Hundt, in: Krieger und Salzherren. Kat. RGZM. (1970) 57f.



Textiles from the Walbrook (London). Cloth fragment I and cloth fragment III (bottom right).
Photograph by courtesy of the Trustees of the British Museum. Scale 1:2.

2. The weaves

Plain weave and the variant form of it, half-basket weave, in which the threads of one system are double (sisters), are both represented among textile finds in the northern Roman provinces. Plain weave is very common, but half-basket weave is rarer. Herringbone twill as in cloth fragment III with woven stripes of varying width can be paralleled in the late-fourth-century fabric from Huntcliff in East Yorkshire¹².

3. The tapestry-woven bands

A significant feature of the cloth fragments I and II recorded above is the occurrence of tapestry-woven bands, presumably dyed so as to contrast with the body of the cloth. The Iron-Age weaver of northern Europe was familiar with the technique of planned decoration in the form of stripes and bands laid into the textile during the weaving¹³. But she regularly maintained the same thread-count and weave for the band or stripe as she had used for the main web. Mediterranean practice differed from that of Iron-Age Europe in that the coloured weft of the band was normally beaten up tight and concealed the warp totally, regardless of the thread-count maintained in the rest of the cloth¹⁴.

The Walbrook fragments are among the earliest datable pieces of tapestry-woven decoration in Mediterranean style found in the northern Roman provinces. Recent excavations at Vindolanda-Chesterholm near Hadrian's Wall have brought to light a fragment of half-basket weave with a tapestry-woven band closely similar to cloth fragment II above. It dates to about A.D. 90. It is not difficult to cite further examples, from the eastern Mediterranean, in contemporary deposits¹⁵.

The precise form of the weave in cloth fragment I (tapestry over four warp-threads) can be paralleled among the late Roman tapestry-woven ornament found in Egypt. The band was woven at the same time as the rest of the cloth, but a second set of heddle-rods was used to create new sheds over re-grouped warp¹⁶. It is important to draw attention to tapestry-weaving; for it is one of the few definite contributions which Rome made to the western European textile market.

¹² First published in *Journal of Rom. Stud.* 2, 1912, 230f. pl. 16. The cloth was subsequently cut up by its discoverers and distributed among various private individuals and museums. The major portion is in the Ashmolean Museum, Oxford.

¹³ Hundt, *Neunzehn Textilreste aus dem Dürrnberg in Hallein*. *Jahrb. RGZM.* 8, 1961, 20.25.

¹⁴ For example in the textiles from Dura-Europos (before A. D. 256): M. I. Rostovtzeff et al., *The Excavations at Dura-Europos. Final Report IV: The Textiles* (1945) 6-10.

¹⁵ I am grateful to Mr. R. E. Birley F. S. A., director of excavations for the Vindolanda Trust, for entrusting his material to me for study. For Mediterranean parallels: Y. Yadin, *The Finds from the Bar Kokhba Period in the Cave of Letters* (1963) 193-197, pl. 60-66 (terminus ante quem A. D. 135).

¹⁶ V. Sylwan, in: M. Dimand, *Die Ornamentik der ägyptischen Wollwirkereien. Stilprobleme der spätantiken und koptischen Kunst* (1924) 22ff. (class A).

The technique of tapestry-weaving originated in the Near East whence it was taken to Greece and finally to Italy and the West¹⁷. The simpler type of tapestry band which is woven mechanically on heddle-rods was probably more widespread than the sophisticated free-hand ornament in Gobelin technique in which the sheds were opened with the fingers.

Tapestry-woven ornament is comparatively rare in the northern provinces, but this may be an accident of survival. There is a hint of tapestry bands on mattresses depicted on some Roman tombstones¹⁸, although in using them as evidence due allowance must be made for the influence of the artists' copy-books.

Several fragments of wool cloth from Roman Mainz, dating to the late first or second century A. D., carried tapestry bands. Some are in plain weave, as cloth fragment I, others are in half-basket weave, as cloth fragment II¹⁹.

The testator of the so-called *testamentum Lingonum*, a late first or early second-century funerary inscription from the Langres region, lists *vestes polymitae* among his possessions. I have argued elsewhere that *polymitus* means "with tapestry-woven ornament"²⁰. It is not clear in this case how complex the tapestry-weaving was, nor whether clothing or soft furnishings are meant. The term *vestis* in Latin covered all classes of textile material²¹.

The earliest archaeological evidence for free-hand tapestry-woven ornament in the northern provinces is a unique fragment of gold tapestry from Viminacium in Upper Moesia. It is dated to the first half of the third century on coin evidence²². Later in date is a more conventional tapestry-woven wool band and accompanying roundel from a late Roman burial at Conthey (Kt. Wallis) in Switzerland. They formed the decoration of a silk tunic (*strictoria*), which in general appearance would not have been unlike the dress of the *orantes* in the Christian house-chapel at Lullingstone, Kent²³. Remains of similar late Roman dress with tapestry-woven decoration were found by Dr. Hugo Borger in a burial in the Memoria IIK at Xanten²⁴.

4. The corded edge

The purpose of the corded edge on cloth fragment III was reinforcement. Roman parallels can be quoted from finds at two sites, the Cave of Letters in the Judaean Desert (c. A. D. 132–135) and Les-Martres-de-Veyre near Clermont-

¹⁷ Philologus 111, 1967, 151 ff.

¹⁸ For example the tombstone of Victor by a Palmyrene artist at South Shields: J. M. C. Toynbee, *Art in Roman Britain*¹ (1962) 159 Cat. no. 85, pl. 89.

¹⁹ Unpublished material in the Mittelrheinisches Landesmuseum, Mainz, which I have examined by Courtesy of Dr. K. H. Esser and Dr. K. V. Decker. I hope to publish it shortly in the *Mainzer Zeitschr.* Compare Wild op. cit. table B, 5.

²⁰ CIL. XIII 5708; Philologus 111, 1967, 151 ff.

²¹ Ulpian in: Dig. XXXIV 2, 23.

²² A. Geijer, E. B. Thomas, *The Viminacium gold tapestry*. Meddelanden Lund 1964–1965, 223–236.

²³ E. Vogt, *Germania* 18, 1934, 202 fig. 3; 198 ff. (Stoff A) fig. 1; pl. 23, 1.2. – *Orantes*: G. W. Meates, *Lullingstone Roman Villa* (1962) 31.

²⁴ Wild, *Textilfunde aus der Memoria IIK in Xanten*. *Bonner Jahrb.* 170, 1970, 267 ff.

Ferrand²⁵. Not enough is known about the history of the technique to justify further comment, but it may perhaps be of eastern origin. In the textiles from the Cave of Letters it is the commonest edging technique.

5. The origin of the Walbrook fragments

The character and pigmentation of the wool fibres in the main webs of cloth fragments I and II, taken together with the spin of the yarns, suggest that both pieces were woven in the northern provinces where wool of this kind was probably more readily available than in Italy or Syria²⁶. The weave and the S-spun yarn of the decorative bands, however, point to the influence of East Mediterranean weavers. These two apparently contradictory features may be reconciled if we suppose that the yarn for the tapestry bands was imported ready dyed and spun from the Mediterranean provinces and that the technique of simple tapestry-weaving had already been mastered by weavers in the northern provinces.

The herringbone twill (cloth fragment III) has no characteristics which give a definite clue to its origin. It is not usual to find S-spun yarns in both systems of textiles woven in the northern provinces. On the other hand 2-over-2 twill is rarely found in the eastern provinces. Perhaps as work proceeds on textiles found in Italy and other Mediterranean provinces the solution to this problem may be discovered²⁷.

The volume of textile trade both inside and outside the frontiers of the Empire was considerable. The occupation of *vestiarius*, probably meaning "cloth dealer", is often recorded²⁸. Items imported into the northern provinces include silk damask woven in Syria from China silk²⁹. The British contribution to trade included various types of hardwearing rugs and capes and probably wool tartans³⁰. In the East the writer of the late first century "Periplus of the Erythraean Sea" states that wool tartans (*scutulata*), tapestries and many types of fine linen were exported to Arabia and India in exchange for silk and cotton cloth and yarn³¹. The Walbrook fragments, found in one of the major centres of provincial commerce, should be seen against this background.

²⁵ Yadin, The Finds from the Bar Kokhba Period in the Cave of Letters (1963) 202 Border Type 3; 203 table 14. M. A. Audollent, Les tombes gallo-romaines à inhumation des Martres-de-Veyre. Mém. Acad. Sciences et Belles Lettres 13, 1922, 59ff.

²⁶ Wild op. cit. (note 2) 6ff.

²⁷ 2-over-2 twill cloth with Z-spun yarns from Pompeii (unpublished) can be seen in the Antiquarium on the site and in the Museo Nazionale, Naples.

²⁸ CIL. XIII 542. 3037. 3168. 3705. 5705; see especially 8568 from Neuss: *n]egotiatori vest[iario i]m[p]ortatori*.

²⁹ Holborough, Kent: Wild, Arch. Cantiana 80, 1965, 246-250. - Trier: Braun, Zeitschr. f. christl. Kunst 13, 1910, 279 (Stoff 2); Th. K. Kempf, in: Frühchristliche Zeugnisse im Einzugsgebiet von Rhein und Mosel (1965) 179, pl. 3, B.

³⁰ Compare the *byrrus Britannicus* (Wild, Antiquity 37, 1963, 193-202) and the terms *scutulatus* (Wild, Classical Quarterly NS. 14, 1964, 263-266) and *pexa* (Wild, ibid. NS. 17, 1967, 133ff.). See Diodorus V 30, 1; Pliny, Nat. hist. VIII 196.

³¹ Periplus Maris Erythraei 24, 56 (ed. Frisk 1927); for date see J. I. Miller, The Spice Trade of the Roman Empire 29 B. C. - A. D. 641 (1969) 16ff.