

Fig 1: site location

Medieval drainage near Smithfield Market: excavations at Hosier Lane, EC1

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Introduction

This article presents the results of archaeological work carried out by the Museum of London Archaeology Service and the Department of Urban Archaeology on the site of 2-12 Hosier Lane, City of London, EC1 (Fig. 1). It refers to fieldwork undertaken between 1992 and 2001. Latterly, this was in advance of the construction of a five-storey office block and a residential and commercial block. The work was commissioned by Luxor Developments Ltd.

The archaeological fieldwork produced evidence of medieval activity, dominated by an extensive drainage ditch, which was recorded across the two main areas of excavation (Fig. 2). A total length of 54m of the ditch was seen; it was at

least 7m wide and had a minimum depth of 2m. It had been dug during the early medieval period, probably to drain into the River Fleet to the west, and is thought to have related to the meat market at Smithfield. The ditch fills contained much animal bone and leather, which had been well preserved due to the waterlogged nature of the ditch. Extensive dumping across the ditch during the later medieval period reclaimed the boggy land before development.

Later channels and dumps had been truncated by a series of chalk walls, which may have been associated with late medieval cellars. A contemporary barrel well also truncated the ditch backfill to the south. Fragments of early post-medieval chalk and brick walls also survived,



Fig 2: plan of ditch

despite heavy truncation by Victorian foundations.

Archaeological and historical background

The area investigated lies about 75m to the south of the Corporation of London Central Meat Market, Smithfield. The natural geology of this area is London Clay overlain by the second terrace of the Thames river gravels and, where it survives, intermittent deposits of brickearth. These gravels slope down gradually to the west, where they meet the main channel of the River Fleet; the contours of this area are formed largely by the action of the river and its tributaries.

West Smithfield has disclosed activity as early as the Bronze Age, with the discovery of isolated pits. Evidence of Roman activity in the area is dominated by the cemetery to the west of *Londinium*, which contained both inhumations and cremations. Roman law prohibited the burial of the dead within Roman towns and so cemeteries were sited alongside the main routes out of towns. Recent excavations at St Bartholomew's Hospital, Giltspur Street and Atlantic House all revealed Roman burials.

Documentary evidence suggests that the origins of Smithfield as a market area, in particular for the trading of horses, lie in the Saxon period.¹ The first documentary evidence for Smithfield dates from the 11th century. A large open market centred on modern day West Smithfield was recorded. Land surrounding the market was a favoured location for the establishment of large religious houses, such as St Bartholomew the Great and St Sepulchre, in the 12th century. The central area of Smithfield, however, appears to have been largely undeveloped throughout the medieval period. The River Fleet, to the west of Smithfield, was extensively used both for navigation and transportation and also as a permanent running sewer. Due to the close proximity of the meat market, industries such as leather tanning and the processing of animal bone were likely to have been carried out along its banks.

Hosier Lane is first recorded in 1328, as *Hosierslane*, and the first recorded tenant in 1332, a hosier called John de Flaunden. Hosiery is traditionally associated with the shoemaking or cordwaining industries: cordwainers made shoes and cobblers repaired them. Much of the waste from this site indicates that both activities were taking place in the immediate area.

By the 17th century, the area of the site was largely developed. The Great Fire is commemorated as having stopped at Pie Corner, on the junction of Giltspur Street and Cock Lane, which lies immediately to the south-east of the development site at Hosier Lane.

The Central Meat Market at Smithfield was constructed in its present form in 1868. Many of the trades recorded on 19th-century Ordnance Survey maps of the area of the site are associated with the meat market: saddlers, beast salesmen, cow-keepers and grocers. There is also evidence of a boot-maker's at 7-9 Hosier Lane between 1845 and 1885 and a leather-worker's at 10-12 Hosier Lane from 1900 to 1933, indicating continuity with the medieval industries in the vicinity.

Results of the archaeological fieldwork

Two phases of evaluation in 1992 and 1998 were followed by an excavation and watching brief in 1999, two phases of excavation in 2000 and a further watching brief in 2001.

Roman

Evidence of Roman quarrying was recorded, representing the earliest activity surviving on the site. In addition, the retrieval of some human bone fragments within the lower fills of the medieval ditch suggests disturbance of Roman burials; the bone probably related to the western cemetery. It is likely that the ditch also removed further evidence of Roman remains, before more extensive truncation in the post-medieval period. Residual ceramic building material dating from the period *c.* AD 50–160, including two box-flue and wall tiles, was also recovered.

Early medieval

Although there is some evidence for dumping on the site in the Late Saxon/early medieval periods, the principal feature to survive at Hosier Lane was an east-west drainage ditch, which is thought to have run into the River Fleet to the west (Fig. 2). Pottery recovered from the earliest fills dated from the second half of the 11th century to the middle of the 12th century.

The environmental and artefactual evidence suggests that the ditch was used as a means of

disposing of domestic refuse, as well as general processing waste from the meat market of Smithfield. The dearth of fish bone and plant food remains suggests that it was not used for the disposal of cess.

The earlier ditch deposits produced a large molluscan assemblage. This comprised a small number of common mussel (*Mytilus edulis*), common/flat European oyster (*Ostrea edulis*) and a single example of common whelk (*Buccinum undatum*). All of these species are still available from the Thames estuary and adjacent coasts. Freshwater snails were also recovered, predominantly twisted ram's-horn (*Bathyomphalus contortus*), which may be found in permanent stagnant drains and ditches.

The primary group of ditch deposits also produced a large assemblage of leather, including both adults' and children's shoes and showing that similar styles were worn by all ages. The majority of the fragments were from wrap-round uppers and worn soles, mostly from ankle boots with drawstring fastening and plain pointed toes. A number of the uppers have decorative stitched stripes up the centre of the vamp, a style common in the 12th century.² A boot <21> (Fig. 3) has five vertical rows of threaded thongs, each with a toggle at the top, on the outside of the boot. Boots with a similar style of thonging are dated in London to the late 12th century,³ but are unusual and none of the examples excavated in London have had toggles on the thong terminals.

Contemporary environmental conditions can be construed from the presence of large and diverse assemblages of seeds and other plant remains. Samples from the ditch fills contained high numbers of seeds from water-pepper (*Polygonum hydropiper*), nodding bur-marigold (*Bidens cernua*), tripartite bur-marigold (*B. tripartite*), celery-leaved crowfoot (*Ranunculus sceleratus*), and golden dock (*Rumex maritima*). These are all annual plants that grow on the muddy banks of streams and ditches which are nutrient-rich, and subject to seasonal flooding.⁴ Celery-leaved crowfoot and golden dock prefer soils with particularly high levels of nitrogen, which would be very likely at this site, considering the proximity of Smithfield Market, through which many horses, sheep, pigs and cattle would have passed during the lifetime of the ditch.

Seeds of several types of thistle (*Onopordium acanthium*, *Carduus* sp., *Cirsium* sp., and *Sonchus oleraceus*) were also very abundant in the ditch fills. These, along with mallow (*Malva* sp.) and white horehound (*Marrubium vulgare*), belong to a group of perennial plants that grow in dry, fairly nitrophilous waste ground, rubbish tips and by roadsides. Several other nitrogen-loving plants, such as nettles (*Urtica dioica*, *U. urens*), black nightshade (*Solanum nigrum*) and fat hen (*Chenopodium album*) were also frequent in the assemblages, reinforcing the suggestion that the whole area was rich in nitrogen and other nutrients.

The two groups described dominated the plant assemblages and give a picture of waste ground subject to some sort of human activity, but neglected enough to allow the growth of a community of large perennial plants such as thistles. The ditch would have been waterlogged during the wetter months, but drying out in the summer, allowing vegetation to grow within it. This environment seems to have persisted as the ditch slowly filled up, although there were signs of increased human activity. This can be seen from the presence of a smithing hearth bottom, straw fragments and significant numbers of seeds from arable weeds, including corn cockle (*Agrostemma githago*), stinking mayweed (*Anthemis cotula*) annual knawel (*Scleranthus annuus*) and corn marigold (*Chrysanthemum*

segetum). In addition, there was an increase in nitrogenous species such as hemlock (*Conium maculatum*), stinging nettle, and henbane (*Hyoscyamus niger*). A small assemblage of charred cereal remains was also present, consisting mainly of oat (*Avena* sp.) grains, with smaller numbers of free-threshing wheat (*Triticum* cf. *aestivum*), barley (*Hordeum sativum*) and rye (*Secale cereale*). These changes suggest a more intensive use of the area, probably linked to the livestock market; the arable weed seeds may have come from crops brought into the area for animal fodder and the nitrogenous plants would have been encouraged by an increase in animal dung. Oats were commonly fed to horses and these charred grains could have been waste material or sweepings from a stable, used as fuel for a fire. The presence of the smithing hearth bottom may be more significant in the context of wider research on industry in the Smithfield area, and does not necessarily reflect activity on site or in the immediate vicinity.

The ditch also produced a bone assemblage derived mainly from adult ox (*Bos taurus*) with much smaller components of adult sheep/goat (*Ovis aries/Capra hircus*) and young adult pig (*Sus scrofa*). There was a definite bias towards elements of the head and feet, suggesting waste processing from the market, with comparatively minor recovery from areas of better meat-bearing quality. Dental eruption and wear evidence

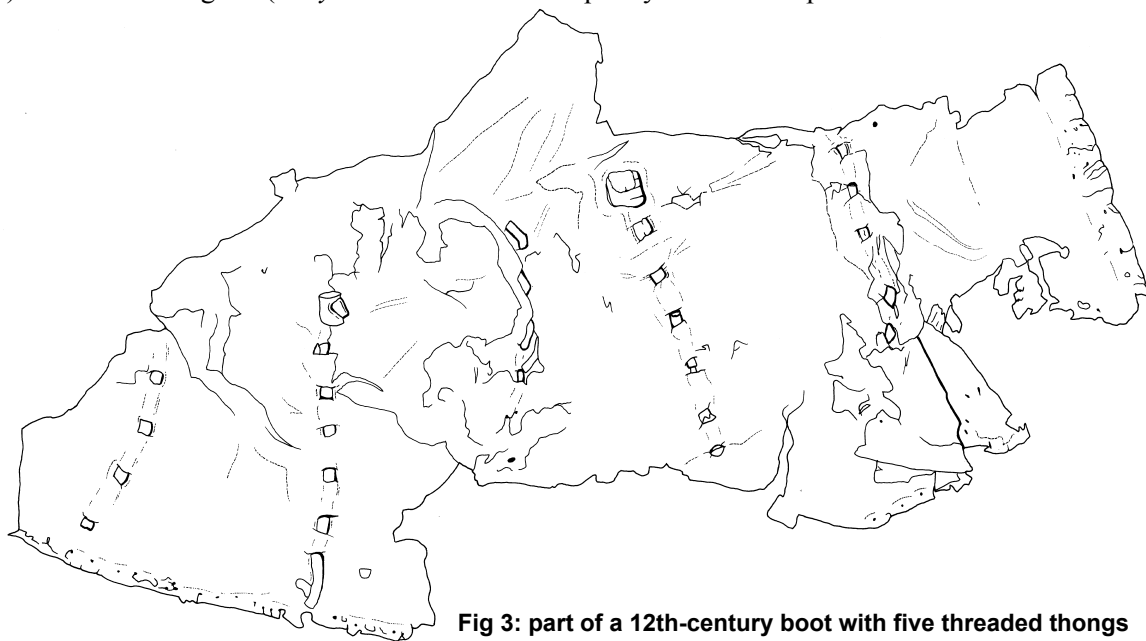


Fig 3: part of a 12th-century boot with five threaded thongs

indicated that, predominantly, the oxen were in at least the fourth or fifth year of life, the sheep/goats in the third or fourth year of life and the pigs in the second year of life, at time of death. This suggests that consumption was mainly of animals that had fulfilled a primary function, with only a small proportion purpose-reared solely for meat quality. More unusually, a dog (*Canis familiaris*) pelvis had suffered a number of blows with a cleaver, which strongly suggests that this animal had been used for its meat.

Later medieval

The backfilling of the ditch is thought to have been largely completed by the end of the 13th century, giving the ditch a life-span of well over a hundred years. A number of later channels or sumps truncated the backfill of the ditch. They dated from the middle of the 14th century, confirming that the main ditch was fully backfilled before this date.

A barrel well, dating from between 1340 and 1350, truncated the ditch to the south. Backfill within the timber barrels dated from the end of the 14th century and contained fragments of glazed peg tiles, as well as remains of a wild 'game' species, brown hare (*Lepus europaeus*).

Land reclamation dumps over the area of the ditch and subsequent activities, such as pitting, produced deposits containing peg tile fragments dating from between c. 1240 and c. 1450. This confirms a 13th-century date for the demise of the drainage ditch and also depicts the nature of the area immediately prior to development. A similar sequence of dumps was recorded during an excavation to the north of the site, at 8-21 Smithfield Street and 30-38 Hosier Lane. A large group of pits dating from the 13th-14th centuries and suggesting increased human activity was also revealed there.⁵

The later ditch and post-ditch deposits at 2-12 Hosier Lane provided the most abundant and equally diverse bone group of the whole assemblage. As before, the bulk of the bone-weight and fragment count was provided by ox with smaller components of sheep/goat. There was also considerable recovery of dog and occasional fragments of cat (*Felis catus*) bone. Wild 'game' species were represented by a radius of a curlew (*Numenius arquata*) and an adult

fallow deer (*Dama dama*) mandible. The curlew radius showed fine knife scrapes along the midshaft, possibly resulting from initial skinning of the bird. Curlew bones are rarely found on archaeological sites in London. Fallow deer are thought to have been a Norman introduction into Britain.⁶

A few fragments of raven (*Corvus corax*) bone were recovered and fish fauna was confined to occasional fragments of cod (*Gadus morhua*). The raven's role as a scavenger supports the evidence that the contents of the ditch include a high proportion of refuse. The major domesticated bone from ox, sheep/goat and pig was mainly from adults, although there was occasional recovery of foetal/neonates and infants. A fragment of whalebone recovered was taken either from a longbone or a mandible of a large cetacean and possibly represents working waste. It had several deep and superficial cut marks to its exterior surface and may have been sawn.

Evidence of butchery was seen only on two ox bones: an ox cervical (neck) vertebra had been split down the middle, indicating division of the carcass into sides, and an astragalus (ankle) had been chopped transversely indicating removal of the hind foot. This group is small, but strongly suggests disposal mainly of primary carcass-processing waste, with a smaller quantity of refuse derived from consumption of chicken, beef, mutton and pork. A partially worked sheep tibia and a fragment of goose ulna were also recovered, both possibly intended as whistles.

A small leather fragment <22> with openwork lattice decoration is probably part of a shoe upper (Fig. 4). This type of decoration is more typical of the 14th and 15th centuries.⁷ A small assemblage of fragmentary worn leather shoes was recovered from post-ditch deposits, largely consisting of soles and clump (patch) soles. They include a side-laced boot with a wrap-round upper and eighteen lace holes on each side, and a child's toggle-fastened shoe with a wrap-round upper with three toggles and one loop. Both of these shoes probably date to the 13th or 14th century.⁸

A segment of chalk wall was recorded running east-west across the site, truncating the post-ditch deposits. It is possible that this wall related to a late medieval phase of development on the site. Research relating to an excavation at 13-21 West

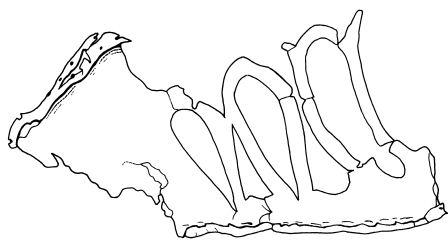


Fig 4: leather with openwork decoration, probably part of a shoe upper

Smithfield and 22-29 Hosier Lane, to the north-east of the site, revealed evidence that the land in this area may have been purchased for building in the 13th century.⁹ After initial quarrying, that site was levelled before the construction of at least two medieval buildings with chalk wall foundations, similar to those recorded above.

Post-medieval

A chalk and brick wall at 2-12 Hosier Lane had truncated one of the earlier chalk foundations: the bricks dated from the late 15th century. This later type of construction was also recorded on site in the form of an east-west drain and may relate to the buildings shown on the Agas map of c. 1562 (not illustrated).¹⁰

Victorian cellars had largely truncated much of the post-medieval phase of the site, which included a 19th-century brick-lined well.

Conclusion

After the departure of the Romans, the area of Smithfield appeared to remain largely undeveloped until the later medieval period. The discovery of the drainage ditch at 2-12 Hosier

Lane, however, demonstrates the need for water management in the area; from the 12th century onwards, it possibly related to activities at Smithfield Market which would have required the removal of waste products. Increasing pressure on the land by the late 13th century can also be seen, as the ditch is backfilled and structures built. This development is reflected in the neighbouring sites to the east and north.

The archaeological investigation at Hosier Lane has provided valuable evidence for the industrial, economic and environmental character of the area at the beginning of its association with livestock and leather-making. It also demonstrates the wealth of information which can result from environmental preservation.

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