

The pre-Fire burial ground of St Sepulchre without Newgate: excavations at 5–7 Giltspur Street, City of London

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(accessioned finds) and Karen Stewart (plant remains)

Introduction

Archaeological investigation of the site at 5–7 Giltspur Street, City of London, EC1 (Fig 1) was undertaken in a number of phases of work by Museum of London Archaeology (MOLA). Initial work, conducted during 2010, consisted of the monitoring of geotechnical works at 5–6 Giltspur Street and an archaeological evaluation at 7 Giltspur Street. An excavation was subsequently carried out at 7 Giltspur Street in July–December 2011.¹ Following the excavation, development work in the basement of 5–6 Giltspur

Street was monitored through an archaeological watching brief.

The full site archive is deposited under the site code GSP08.² This is the first of two reports covering the more significant findings of this programme of work and concentrates on the evidence for a medieval and early post-medieval burial ground on the north side of the church of St Sepulchre without Newgate (Fig 1). The second article will focus on the later post-medieval period, particularly on two significant groups of clay tobacco pipes.³

A total of 91 articulated human skeletons were recorded, but intensive use of the cemetery and the impact of later buildings meant that many individuals were truncated and incomplete. The majority of the bone showed moderate to good bone preservation; the subadult remains, however, were more degraded. Full osteological analysis results are also available through the site archive.⁴ Data regarding the human remains assemblage will also be made available for researchers to access and download via the Museum of London's Centre for Human Bioarchaeology website.⁵

Natural and topography

The site is located on the upper part of the east side of the valley of the River Fleet. The formation level of the new development was insufficiently deep for natural deposits to be observed across the entire site. However, beneath 5 Giltspur Street, untruncated river terrace gravels lay at c. 13.6m OD in the main excavation trench and banded sandy gravel at c. 14.36m OD. Gravel capped with brickearth was recorded at c. 13.71m OD within the lightwell

between 5 and 6 Giltspur Street during the watching brief phase.

Roman

The site lies c. 60m outside the Roman city wall and c. 70m north of the main road to the west which left Roman London at Newgate. Modern Newgate Street preserves the alignment of this Roman road, which in common with many of the principal routes leading into the Roman town was flanked by cemeteries.⁶ No *in situ* Roman deposits were present at the site but a small quantity of human bone recovered from the basement watching brief may have derived from Roman interments disturbed by medieval quarrying. Occasional fragments of Roman material were found in later contexts, including a sherd of samian ware with a secondary perforation, perhaps used as a toy, a possible Roman coin and a small chip of Roman bottle glass. Also present was part of the folded foot of a small Roman glass cup.

Medieval and early post-medieval

St Sepulchre and its setting

St Sepulchre was established just outside Newgate by at least 1137, when the founder of St Bartholomew's Hospital appointed its priest⁷ and it had a churchyard by c. 1240. The church was entirely rebuilt in the mid-15th century⁸ and subsequently underwent major alterations during post-Great Fire and 19th-century restorations.⁹ As a result, little is known about the size and form of the original church.

The present church lies c. 20m to the south of the site (Fig 1). Post-medieval maps show a churchyard only

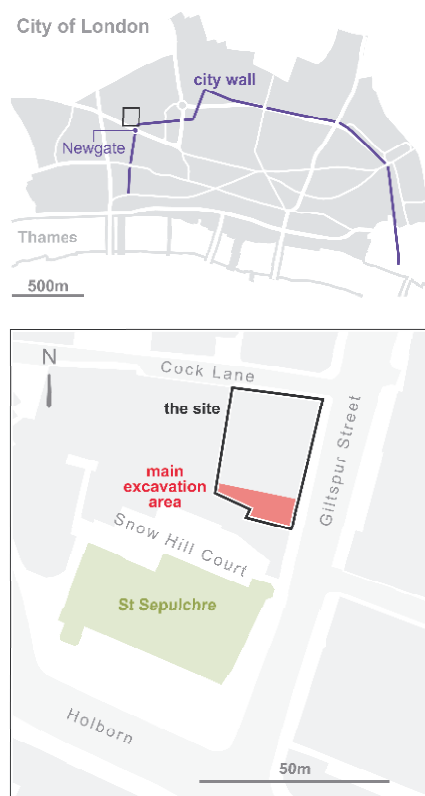


Fig 1: location of the site within the City of London and of the main excavation area in relation to St Sepulchre's church

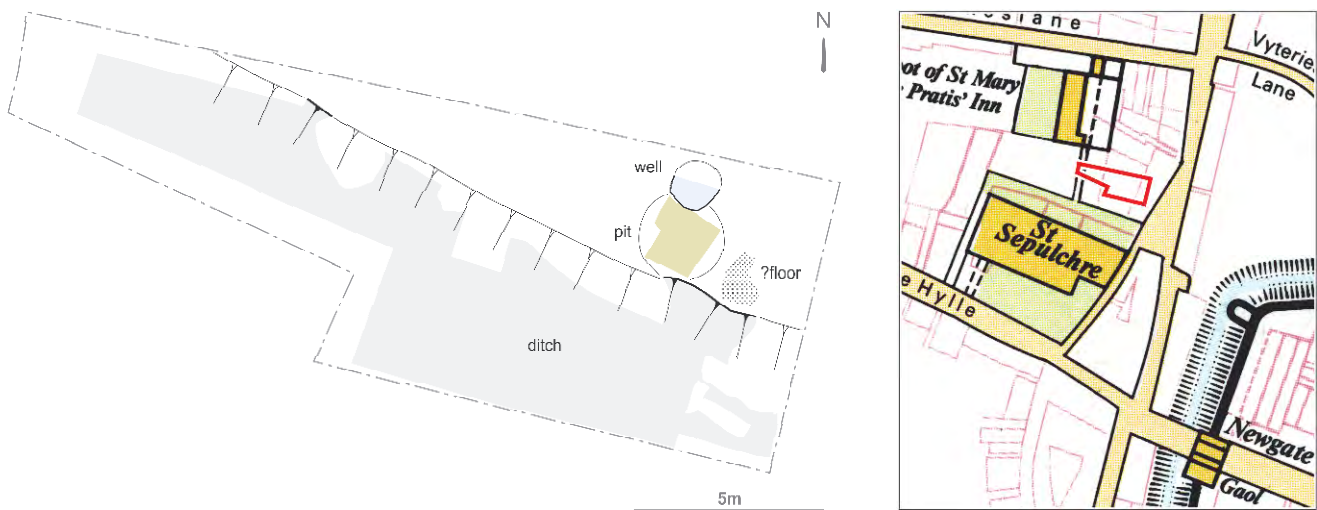


Fig 2: the use of the site in the 12th century with the site location superimposed on Lobel's map showing the conjectured layout of the area c. 1270

on the southern side of the church, but the existence of a burial ground on the north side may be implied by a bequest of 1379.¹⁰ The site lies just outside the medieval city wall (which reused the Roman fabric) and ditch. The ditch was exposed in excavations on the Merrill Lynch site, where it contained large amounts of pottery and other finds dating to c. 1230–1380/1450.¹¹ Here London was slow to outgrow the area enclosed by its wall and there is relatively little archaeological evidence for early suburban development outside Newgate.¹² However, refuse dumping into the city ditch from the late 12th to early 13th century onwards may reflect both suburban growth and the declining importance placed on maintaining the defences.

The plan figures, accompanying the discussion that follows, show the site in relation to maps published by Lobel¹³ showing the conjectured layout of the area in c. 1270 (Fig 2; Fig 4) and 1520 (Fig 7). These maps are based on documentary rather than archaeological sources and do not necessarily agree in detail with the excavated evidence.

The site in the 12th century

The dominant feature of the site in the 12th century was a major ditch running north-west/south-east across the site (Fig 2). Its southern edge lay outside the excavation area, but it was at least 5.4m wide and, based on a borehole transect, a minimum of 2.35m deep. Even after the ditch fell out of use, the line of its northern edge continued to influence

the later development of the site which strongly indicates that it defined a boundary, presumably the northern limit of the property belonging to St Sepulchre's church.

To the north of the ditch lay a barrel well, a pit and a worn brickearth surface, possibly a floor – although no associated walls survived (Fig 2). The pit contained early medieval shell-tempered ware and London-type ware dating to c. 1080–1150. The construction of the well is dated to c. 1170–1200, and the possible floor produced pottery dated to c. 1140–1200.

Towards the end of the 12th century the ditch was backfilled. The pottery from these fills, dated c. 1180–1225, consisted predominantly of London-type wares with smaller amounts of contemporary wheel-thrown coarse wares – shelly-sandy ware and south Herts-type grey ware – also present (see also the summary of the medieval finds assemblages below).

Of note are the complete base of a London-type ware Rouen-style jug with internal and external sooting, a ?handled south Herts-type grey ware bowl with thick sooting and internal residue, and a shelly-sandy ware cauldron/cooking pot with horizontal, vertical and diagonal applied strips. The most complete finds comprise the base and lower body of a London-type ware early baluster jug with applied scales on the body and pellets over the handle (Fig 3, <222>) and a cooking pot in early-medieval shell-tempered ware.

Other finds include the remains of three wooden bowls, two made from alder (*Alnus cf. glutinosa*) and one probably from field maple (*A. campestris*).

A diverse range of food plants was recovered from environmental samples taken from the boundary ditch backfill and is summarised below. It is possible

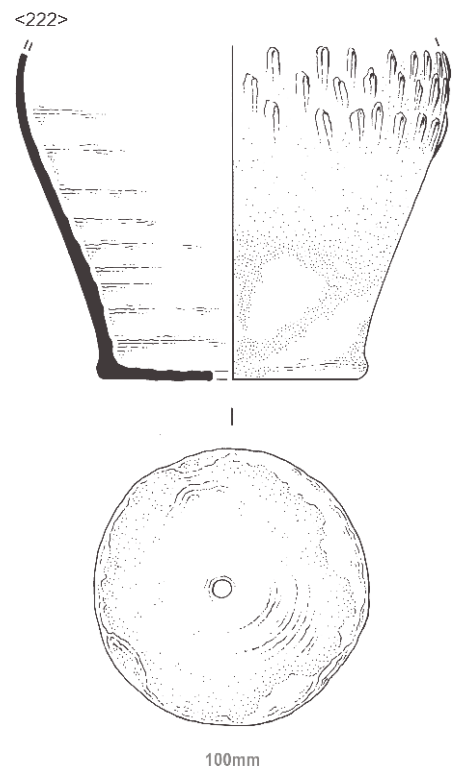


Fig 3: London-type ware early baluster jug <222> with applied scales on the body and pellets over the handle

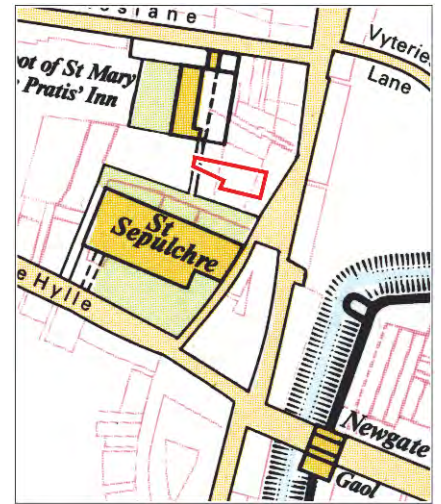
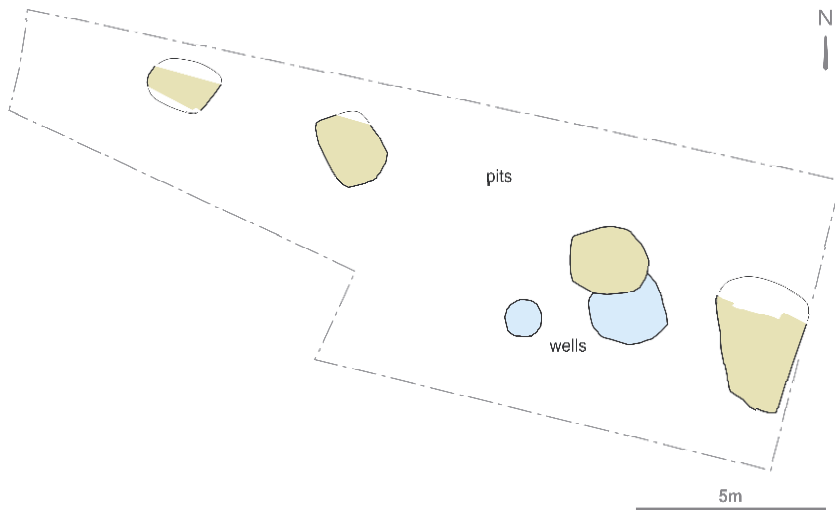


Fig 4: activity on the site in the 13th/14th century with the site location again superimposed on Lobel's map showing the conjectured layout of the area c. 1270

that an orchard or kitchen garden was located nearby.

Consolidation and activity to the north of the burial ground (13th–14th century)

Following the backfilling of the boundary ditch, a series of dumped consolidation layers sealed the 12th-century features and was cut by two barrel wells (Fig 4). The layers yielded a

few sherds of London-type ware and Kingston-type ware dating to c. 1270–1350, while the fill of one barrel well produced a large assemblage of pottery dated to c. 1310–50. London-type ware was the dominant type by sherd count, and includes a near complete tulip-necked baluster jug. Surrey white wares are more common by vessel count, however, and include part of a Kingston-type ware possible metal copy jug (Fig 5, <223>). Also present are smaller amounts of south Herts-type grey ware, Mill Green ware (including the near complete upper body of a baluster jug) and residual early medieval pottery.

A group of large pits, probably quarries, dated by their fills to c. 1270–1300, were cut along the alignment of the north edge of the backfilled ditch. This would suggest that some form of the boundary that the ditch had marked remained in place (Fig 4). Layers of dumped material produced pottery mainly dated to c. 1300–50, including jugs, such as the stabbed handle from a south Herts-type flint-tempered grey ware (Fig 5, <224>) and also jars and cooking pots.

Finds from dumps also included a number of worked bone items. Two bone peg-like objects had turned cylindrical shafts and expanded faceted ends that taper in to the terminal (Fig 6, <208>, <209>). As bone needle cases are generally of post-medieval date, the longer example may have been intended as a thread reel¹⁴ or tuning peg;¹⁵ the smaller one may have been

intended as a stopper. Other finds include a turned round-headed bone stylus (Fig 6, <203>); similar finds from London and Southampton are mainly dated to the 13th and 14th centuries.¹⁶

St Sepulchre's northern burial ground (late 13th to ?early 17th century)

Extent and dating

Whilst the external dumps were accumulating in the north of the site, its southern part was converted for use as a burial ground (Fig 7). The dating evidence from the cemetery soils was

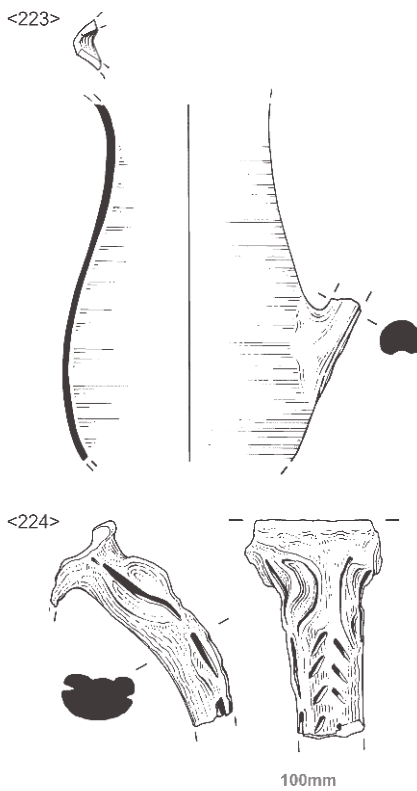


Fig 5: Kingston-type ware possible metal copy jug <223> and the stabbed handle from a south Herts-type flint-tempered grey ware jug <224>



Fig 6: bone objects: stylus <203>, ?thread reel <208> and possible stopper <209>

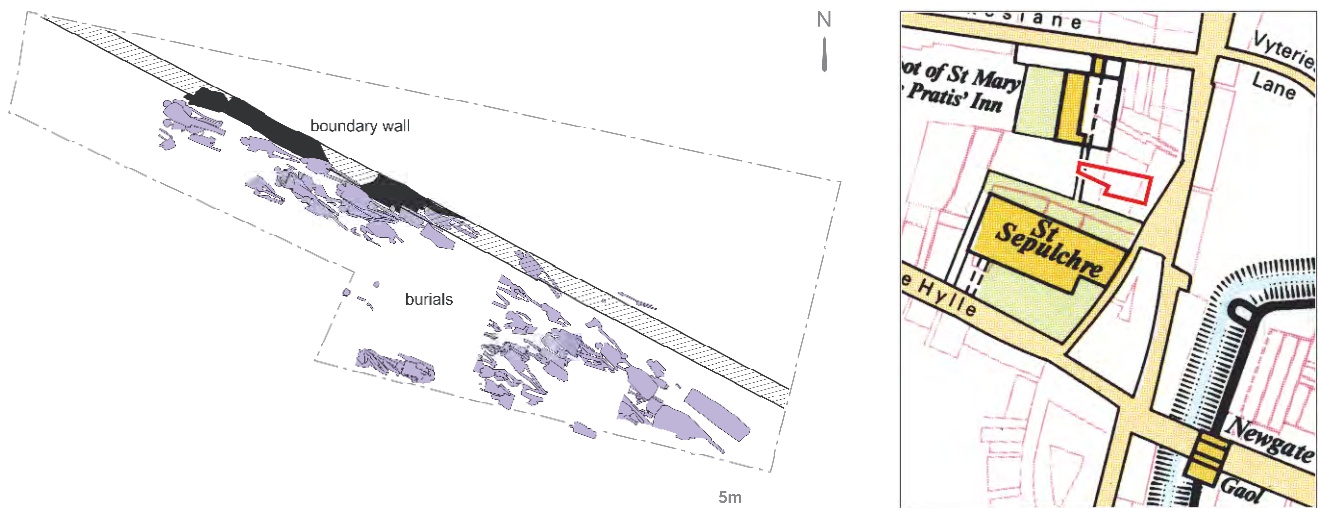


Fig 7: plan showing the excavated burials and the wall which formed the north boundary of St Sepulchre's northern burial ground. The site location is superimposed on Lobel's map showing the conjectured layout of the area c. 1520

sparse and difficult to interpret because cemetery soils are always highly disturbed and the stratigraphy of densely-intercutting graves difficult to identify. However, on the date-ranges derived from strata underlying the cemetery, it is apparent that the earliest burials must be later than c. 1270–1300. It is also unclear when the burial ground fell out of use but a chalk-lined cesspit was constructed at the western end of the site in the late 16th/early 17th century and 17th-century maps show that much of the area had been built over.¹⁷

A total of 91 human burials were recorded in the excavated area (Fig 7). The northern limit of the area occupied by the inhumations lay south of a line that once approximated to what had been the northern edge of the ditch. This northern burial ground boundary was subsequently formalised by the construction of a wall, whose ragstone and chalk rubble footing survived. The levelling below the wall was dated to c. 1270–1350. It was not a primary feature of the burial ground and overlay some of the earliest burials.

Layout and burial practice

In those areas less affected by later truncation, there is some evidence for the organisation of the burial ground. Some burials were arranged in rows and others clustered, but the patterning is considerably obscured by the density of burial and repeated grave digging (Fig 7). The predominant north-west/south-east alignment is parallel to the

northern cemetery boundary and to Newgate Street (now Holborn Viaduct), which had itself influenced the alignment of the 15th-century church.

The burials conformed to medieval Christian norms and can be paralleled with many other medieval parish churchyards.¹⁸ No evidence for grave markers was found and, as would be expected, grave goods were absent. The dead were placed in coffins or wrapped in a shroud, generally laid supine and extended, with heads to the west.¹⁹ All but four burials at St Sepulchre conformed to this standard rite. Four individuals (two identifiable as males) were reversed, with their heads laid to the east or south-east. It has been suggested that such burials may represent punishment, although no clear overall patterns have been established.²⁰ In exceptional cases, different burial rites were accorded for those who had suffered a 'bad death', where it was believed the individuals concerned would have problems at the Last Judgement. This included those who died unexpectedly without last rights, the unbaptised, women in childbirth and criminals.²¹ No evidence of spatial patterning was apparent.

The people of St Sepulchre: the osteological evidence

The excavated area covered only part of the total burial ground area at St Sepulchre and many of the burials that were excavated only partially survived. This means that there are two

constraints: limits on the range of osteological information about the population that could be recovered and the extent to which the excavated sample is representative of the original buried population cannot be determined. However, the osteological assemblage indicated a predominantly younger adult male population, although there was some survival into old age. Evidence of health, disease and lifestyle suggested a hard strenuous life with degenerative joint conditions and injuries sustained from a young age. Of particular note was a penetrating wound to the lower leg of an adult that highlighted the threat of interpersonal violence and possibly warfare faced by the population at this time.

Sex and age

The assemblage comprised 78 adults with a pronounced bias towards males



Fig 8: right lateral mandible of male [483] showing severe dental wear and multiple dental abscess formation

over females (2.9:1). This compares to a ratio of 1.4:1 recorded at St Mary Spital (period 16, c. 1250–1400).²² Whilst this bias may to some extent reflect a population in which men predominated, perhaps because more men than women migrated from rural areas into the medieval city,²³ there are caveats. Firstly, the sample size is small and, secondly, it was not possible to determine the sex of 22 adults, so the recovered sex ratio may not be representative of the original buried population. The majority of adult deaths occurred aged 36–45 years with a peak in mortality for both sexes at ages 26–45 years. Five adults were aged as 46 years or more.

Thirteen subadult (<18 years) burials were recorded but no evidence was found for perinatal or infant burials. If these were placed in shallow graves, they may have been more vulnerable to later disturbance. However, no perinatal or infant bones were found in the disarticulated sample. It is possible that this age group were buried in another section of the burial ground.²⁴

Physical characteristics

The physical characteristics of adult stature and skeletal indices and the average adult skull shape – brachycranial (round headed) – conformed to St Mary Spital and other medieval populations.²⁵

Two individuals had abnormal skull shapes: female [279] was hyperbrachycranial (very round headed) with flattening to the back of the skull that may have occurred in infancy if lain flat on their back for extended periods. This individual also had a cranial fracture to the left parietal. Male [200] had a bathrocephalic skull shape with a convex bulge at the back of the head. Such disorders would likely have had little clinical significance.

Palaeopathology

Indicators of stress in the form of pitted lesions to the roofs of the orbits (cribra orbitalia) were present in seven adults and two subadults and porous lesions to the outer surfaces of the skull (porotic hyperostosis) were observed in nine adults. The presence of these conditions is considered diagnostic of

iron deficiency anaemia and may reflect dietary deficiency, blood loss or gastrointestinal infection.²⁶

Observations of surviving teeth presented evidence of cavities, mineralised plaque deposits, gum disease, abscess formation and tooth loss during life. Dental disease would have been suffered by many during this period through a poor level of oral hygiene and a diet containing cariogenic, starchy, carbohydrate-based foods.²⁷ Male [483], aged 36–45 years, had multiple externally-draining abscesses at six tooth socket locations (Fig 8). Heavy dental wear had exposed the underlying pulp cavity leaving the teeth vulnerable to infection.

For the majority, bread and ale would have formed the staple diet, but fresh meat, dairy produce and vegetables would also have been increasingly available for those that could afford it.²⁸ Two individuals with ‘dripping candle wax’ new bone formation in the right lower spine suggested evidence of possible dietary excess. Diffuse idiopathic skeletal hyperostosis (DISH) is associated with advancing age and has been linked to obesity and diabetes.²⁹

A single adult male [467], aged 26–35 years, displayed bowing of the legs, suggesting they had suffered from rickets, caused by vitamin D deficiency, in childhood. A low crude prevalence of rickets was also recorded at St Mary Spital (8/5837: 0.1%). An overall rate of 0.7% (25/3418) for the late-medieval period suggests that living conditions in London did not affect sunlight exposure or that nutritional stress through food shortages was not severe enough to affect vitamin D intake.³⁰

Infectious disease would have accounted for high mortality in this pre-antibiotic era.³¹ Evidence of infection was recorded in 15 adults and one subadult, although no specific disease could be identified. The majority of cases represented inflammation to the outer surfaces of the long bones (periostitis), with lesions largely distributed in the bones of the lower legs. A similar pattern was recorded at St Mary Spital, where a



Fig 9: outer surface of the right sphenoid of female [279] with active periostitis (arrowed)

quarter of the population had periosteal bone lesions, 67.7% of all cases in the tibiae or fibulae.³²

Female [279], aged 18–25 years, had healed bone growth in the maxillary sinuses, indicating longstanding sinusitis. The infection had spread to the right temporal bone and sphenoid, possibly resulting in sphenoidal sinusitis and was active at the time of death (Fig 9). Symptoms may include headache, cold, fever, pain in the face or behind the eyes. Without treatment, this condition may have been life threatening.³³

Over a quarter of individuals had suffered trauma, with a higher incidence amongst the male sample. Many occupations may have caused repetitive strain injuries and accidents may have been commonplace for those involved in heavy or manual labour.³⁴ Nineteen individuals had fractured bones with the ulna of the lower arm and hamate of the wrist most frequently injured.

Male [466], aged 36–45 years, had suffered multiple injuries, including a healed ‘parry’ fracture in the left ulna and a broken right rib. There was a healed but non-united comminuted fracture in the distal left fibula, where a fragment of bone had splintered from the shaft and the broken ends had failed to fuse.

Adult [260] displayed an unhealed penetrating stab injury in the lower right tibia (Fig 10). The lower leg may have been a target in battle, particularly when trying to bring down an opponent on horseback.³⁵ This injury would have required a strong force to fully penetrate the bone and may have

resulted from a projectile such as an arrow, or stabbing with the end of a poleaxe or sword with a thin, pointed blade.³⁶ A fall from a height onto a sharp object may also be a possibility. The wound to the posterior surface was surrounded by immature new bone growth, suggesting that the individual may have survived 2–3 weeks after the injury.³⁷ However, no healing was present on the anterior surface and death from infection may have occurred sooner.

Spinal joint disease showed an increase with age up to the over 46-year age category, with the exception of Schmorl's nodes. These lesions representing herniation of the vertebral disc into the surfaces of vertebral bodies affected 95% of the male sample and were most prevalent in the 18–25-year age group. They have been associated with increased stresses placed on the spine and may reflect

strenuous activity from a young age.³⁸ Osteoarthritis affected knees of adult [230], while male [441], aged 36–45 years, had joint degeneration in the right elbow following a fracture of the radial head.

Further evidence of bone changes, possibly resulting from injuries sustained at a young age, were identified in two adults. The calcaneal (heel) bones in the feet of male [418], aged 46 years or more, displayed extensive changes, with flattening to the sole facing surfaces, which were covered in dense, rugged, remodelled bone (Fig 11). These changes may have been in response to trauma to the overlying soft tissue. Sever's disease typically affects children aged eight to fourteen when bone is still forming and is sensitive to stress. Repetitive stress through running on a hard surface may lead to muscle strain and inflammation of the calcaneal growth plate causing

heel pain. This condition has also been linked to obesity, a tight Achilles tendon and flatfoot.³⁹

The surfaces of the left hip of male [350], aged 36–45 years, were expanded and remodelled. The femoral head was flattened and mushroom-shaped with little remaining of the heavily pitted joint surface following necrosis of the bone tissue. These changes may have resulted from a slipped femoral epiphysis resulting from a stress fracture in the growth plate. This condition commonly occurs in individuals aged nine to sixteen and may have led to pain in the leg and limited hip movement.⁴⁰

Male [217], aged 26–35 years, displayed growth in the right frontal sinus, formed of a thin shell of cortical bone surrounded by trabecular bone, possibly representing a slow-growing, non-cancerous tumour. This may have affected breathing, sense of smell and vision.⁴¹

The medieval finds assemblages

Most of the medieval pottery appears to date to c. 1150–1350, with little that definitely belongs to the 15th century. This pattern is similar to that on the nearby Weddell House site, a short distance to the north at 13–21 West Smithfield / 22–29 Hosier Lane⁴² and also at 8–22 Smithfield Street / 30–36 Hosier Lane.⁴³ There does not, however, appear to have been the same degree of quarrying as at Weddell House⁴⁴ or on other sites to the north.⁴⁵ The main concentrations of medieval pottery are in the boundary ditch, notably fill [488], dated to c. 1180–1200, the well [368], dated to c. 1310–1350, and the make-up layers [318], [202] and [319] over the ditch, which all contain pottery broadly dated to c. 1270–1350.

As a whole, the amount of pottery is greater than that from other sites in the area. In all cases, however, the finds reflect activity from the 12th century onwards, although with less evidence for the 15th century than earlier periods, and offer some insights into the changing local economy. Here the sequence conforms to that established for London distribution, although the amount of Mill Green ware (c. 7.5% of the total medieval sherds) is less than that for Weddell



Fig 10: unhealed penetrating injury in lower right tibia of adult [260]: a. posterior view showing entry wound; b. anterior view showing partial exit wound; c. anteroposterior radiograph (wounds arrowed)

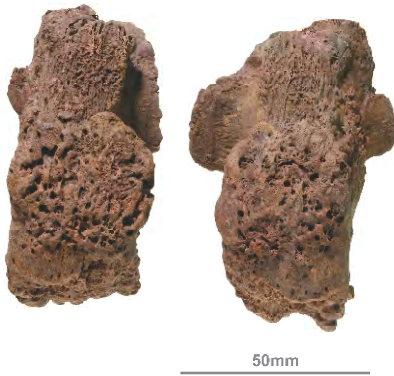


Fig 11: calcanei of male [418] with possible Sever's disease (plantar surface)

House and other sites in the Smithfield area.⁴⁶

The accessioned finds follow the same pattern. With a few exceptions, the medieval finds are mundane and in fragmentary condition, with a mix of household and personal items or dress accessories. There is evidence for some bone-working on or near the site in the 14th century (see Fig 6). Given the location of the site, with a ready supply of bone from the Smithfield meat market, it is perhaps surprising that there is not more evidence for this craft from the area.

Additionally, an extremely well-made hollow ivory ruler <205> (Fig 12), was found in an apparently 14th-century make-up dump [226] in the burial ground. Two fragments from one end and most of the body survived (extant length, 126mm; diameter 9mm) with octagonal section and incised transverse guide lines at intervals of 12mm (c. half an inch) along one side of each fragment, on which are one to three punched dots. The numbers 2, 3, 5 and 6 are incised to the left of alternate dots; the 1 is missing at the broken end, while 4 has been lost at the

break. The 6 comes at the finished end, which has an internal screw thread to fit a lid with onion-shaped finial. Both the lid and container have traces of red ink, or similar, inside.

This object needs more study to establish its date and function and it seems possible that the item is intrusive, as the context also produced a single sherd of London-area early post-medieval red ware, dated c. 1480–1600.

The plant remains from the boundary ditch

The medieval boundary ditch (see above) produced evidence for cereals in the form of bran, of which wheat/rye (*Triticum/Secale* spp.) was the dominant type, though oat (*Avena* spp.) was also noted. The volumes of bran recorded suggest that either whole grain foods, such as pottage, were being consumed, or that the bread consumed was made with dark, unsieved flour. Significant quantities of straw may indicate that stable waste, thresh or thatch fragments were being discarded in the feature.

Fruit seeds, particularly plums (*Prunus domestica*), cherries (*Prunus cerasus/avium*), apples (*Malus domestica/sylvestris*) and mulberry (*Morus nigra*), were extremely numerous. These were common trees of medieval monastic or manorial gardens and orchards. Blackberries (*Rubus fruticosus*) and raspberries (*Rubus ideaus*) were both also noted, as were low numbers of strawberry seeds (*Fragaria vesca*). The identification of stone cells of quince (*Cydonia oblonga*) is noteworthy, as it is a relatively rare occurrence archaeologically in Britain.

Walnut shells (*Juglans regia*) were recorded and may also have been growing locally in an orchard, though

walnuts were likely also being imported from the continent during this period. Other imported fruits present are grape (*Vitis vinifera*) and fig (*Ficus carica*). They are likely to have been imported as dried whole fruits. Beet (*Beta vulgaris*) seeds are likely to represent beet being grown as a leaf crop nearby.

Two very rare food plants were also recorded. Sweet cicely (*Myrrhis odorata*) is a plant that has been used for both its leaves and its seeds. Its leaves are particularly sweet and were added to desserts and jams as a sweetener. Its seeds, also quite sweet, can be used as a spice. One other tentative identification of the plant was made at a Roman Southwark site,⁴⁷ but this is the first record of it from a medieval site in the city. The ditch also contained fennel (*Foeniculum vulgare*), another common flavouring of the period.

The second rare botanical find was seeds of medlar (*Mespilus germanica*). The medlar tree is a member of the *Rosaceae* family and has been cultivated since at least the Roman period. Unlike other fruits, the fruits require 'bletting' before they become palatable. Bletting is the process whereby the medlar fruits are allowed to rot, whether on the tree or after picking. This softens and sweetens the flesh of the fruit, which before rotting is very hard and bitter.

A huge array of plants, many with multiple other uses, was used medicinally during the 12th century. Of the plants recovered from the ditch, flax seed, sweet cicely, fennel and hemlock (*Conium maculatum*) are the most likely to have been used for this purpose.

The most common wild plant taxon was corncockle (*Agrostemma githago*),



Fig 12: ivory ruler <205>, of uncertain date

a very common weed of cereal crops in the past. Though poisonous, it was a common contaminant of the cereal crop and its seeds are often found in cess deposits alongside cereal bran, perhaps explaining its presence here.

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1. National Grid Reference 531805 181500.

2. The full site archive is deposited with the Museum of London Archaeological Archive, where it may be consulted by arrangement. Occasional reference is made to context numbers ([n]) or accession numbers (<n>) to facilitate the location of relevant records or finds in the archive.

3. H. Knight and J. Pearce, with L. Blackmore, 'Post-medieval development and the local clay tobacco pipe industry in the late 18th-/early 19th-century: excavations at 5-7 Giltspur Street, City of London' *London Archaeol* (forthcoming).

4. All articulated remains underwent full osteological analysis and were recorded onto an Oracle 9i (v9.2.0) relational database following MOLA recording criteria. See B. Connell and P. Rauxloh in N. Powers (ed) *A rapid method for recording human skeletal data* (2nd edn, revised 2007); N. Powers (ed.) *Human osteology method statement* (rev edn 2012)

MOL online publication source:

<http://archive.museumoflondon.org.uk/NR/rdonlys/3A7B0C25-FD36-4D43-863E-B2FDC5A86FB7/0/OsteologyMethodStatementrevised2012.pdf> (last accessed 7 July 2015).

5. Source: <http://archive.museumoflondon.org.uk/Centre-for-Human-Bioarchaeology>.

6. J. Hall 'The cemeteries of Roman London: a review' in J. Bird, M. Hassall and H. Sheldon (eds) *Interpreting Roman London: papers in memory of Hugh Chapman Oxbow Monogr* 58 (1996) 57-84; S. Watson *An excavation in the western cemetery of Roman London*, MoLAS Stud. Ser. 7 (2003).

7. N.J.M. Kerling (ed) *The cartulary of St Bartholomew's Hospital* (1973) 25.

8. J. Schofield 'Saxon and medieval parish churches in the City of London: a review' *Trans London Middlesex Archaeol Soc* 45 (1994) 75-6, 128.

9. *An inventory of the historical monuments in London: Vol 4, The City RCHM* (Eng) (1929) 134; Schofield *op cit* fn 8, 128.

10. Schofield *op cit* fn 8, 128.

11. Site code: KEW98; L. Whittingham 'The medieval and post-medieval pottery' in J. Lyon *Within these walls: Roman and medieval defences north of Newgate at the Merrill Lynch Financial Centre, City of London* MoLAS Monogr. 33 (2007) 165-7.

12. See for example, P. Askew 'The western stream, Roman city wall and medieval city ditch: excavations at 7-10 Old Bailey, London EC4' *London Archaeol* 14 (1) (2014) 11-18; P. Rowsome 'Roman and medieval

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