

Post-medieval development at 8 Tyers Gate, Bermondsey

David Divers
Douglas Killock
Philip Armitage

Introduction

An archaeological excavation at 8 Tyers Gate, Bermondsey, London Borough of Southwark, revealed evidence for medieval drainage, early post-medieval tanning, the construction of buildings in the late 16th to 17th centuries, and their repeated modification throughout the 18th and 19th centuries (Fig. 1). The excavation was conducted by Pre-Construct Archaeology Ltd during November 1999, following an evaluation in October of the same year.

Topography and natural deposits

The predominant feature of the natural topography of Bermondsey and Southwark is a series of sand and gravel islands divided by stream channels and low-lying mud flats. The site lies toward the western edge of one of these islands, known as the Horsleydown Eyot. Its early history depended heavily on the nearby River Thames, which itself reflected fluctuations in sea level caused by climatic change and isostatic readjustment. This changing environment has resulted in the formation of peat layers and the deposition of silts and clays with a cumulative depth of nearly two metres in lower-lying areas.¹ Peat deposits in Bermondsey have generally been equated to the Tilbury IV regression which occurred in the late second millennium BC,² although the proposed succession may oversimplify a more complex alluvial regime.³

The alluvial sequence at Tyers Gate consisted of clay, overlain by a 0.3 m depth of peat at 0.1 m OD, above which more clays were recorded. This appears typical of alluvial sequences recorded elsewhere in Bermondsey. The pollen profile suggests that the peat post-dates 3000 BP, broadly comparable to dated peat deposits found nearby.

Archaeological and historical background

Prehistoric finds, generally sealed below or within these alluvial deposits, have been found in the Bermondsey area covering the period from the Mesolithic to the late Iron Age. There is no evidence of large-scale Roman occupation from the immediate vicinity of the site, although Romano-British ditches been discovered at nearby excavations suggesting the area formed part of the agricultural hinterland of the Roman settlement.⁴ There was no evidence for any prehistoric activity, but two residual sherds of Roman pottery were recovered from the site.

The history of Bermondsey has been intrinsically linked to the development of Bermondsey Abbey, located at the south-eastern end of Bermondsey

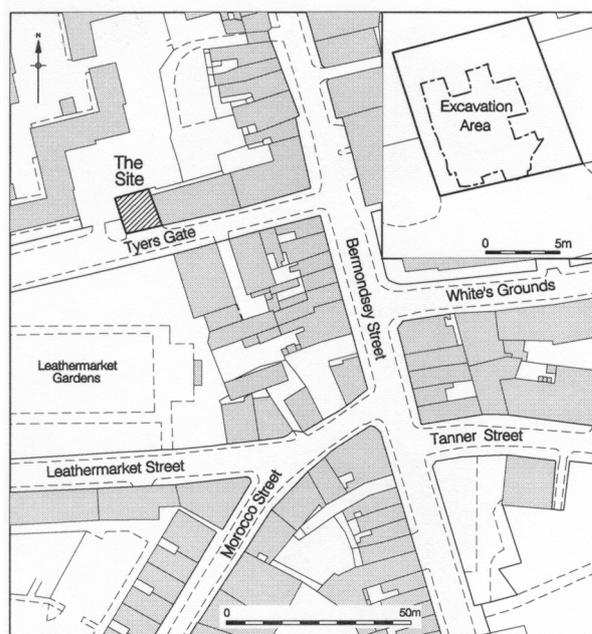


Fig. 1: site and trench location

Street. The area around the Abbey site was recorded as a royal manor in the Domesday Book and was granted to the French priory of La Charité-sur-Loire in 1089; it became a Benedictine Abbey in 1399 until its dissolution in 1539.⁵ Bermondsey Street itself developed as a thoroughfare from the Abbey to Southwark and London Bridge. The earliest documentary references to Bermondsey Street date to the late 12th or early 13th centuries when it was described as a causeway, suggesting that the surrounding area was probably marshland. The name *Bermondeseystrete* had come into use by 1378.⁶

By the late 14th century the tanning industry was of growing importance. In 1392 butchers in the City of London were ordered to take hides and offal to Bermondsey.⁷ The area had at least two attractions for tanners. It was situated on the periphery of the city, and marginal ground could probably be acquired relatively cheaply. Also, an abundant water supply was guaranteed by the numerous streams which crossed the area. The economy of Bermondsey depended increasingly on the tanning industry; Queen Anne granted the leather-workers a charter in 1703⁸ and the industry dominated much of the area into the 20th century. Tanning is a foul-smelling process, and with other local industries being glue working,

brewing and distilling, the air around Bermondsey Street would have been bad.

Late medieval land-use

The first evidence of human activity on the site consisted of two drainage ditches cut from the surface of the alluvial clays that reflect the low-lying nature of the site. One of them, an east-west ditch, parallel to the Tyers Gate street frontage, contained late medieval pottery in its primary silty fills, which also produced a honing stone. The back-fill material produced very early post-medieval finds (1480-1600) and mussel and cockle shells, probably indicating domestic occupation nearby. The second ditch, perpendicular to the street frontage, appeared contemporary with the first, and was filled with similar material.

Early post-medieval land reclamation and tanning

Soon after the back-filling of the two ditches, or perhaps at the same time, the ground level appears to have been raised by 0.3 m to 0.95 m OD. These clays and silts were presumably dumped, although localised alluvial deposition, possibly resulting from the loss of the ditch system, may have also occurred at this time.

Two circular pits, both *c.* 1 m in diameter, which were probably associated with tanning, had been cut into the new surface (Fig. 2). The sides of one had been supported with timber planking but there was no evidence for a similar lining for the second. The first had been capped with a 0.15 m thick layer of lime-mortar, signifying its disuse, while the second had been back-filled with horn cores representing waste from the tanning industry. No firm dating evidence was recovered from either of these features although a 16th-century date is likely.

Late 16th- or 17th-century construction

The ground level was again raised, this time by 0.5 m to 1.45 m OD. Pottery dates suggest this process, which was probably in preparation for subsequent construction, occurred during the late 16th or early 17th century.

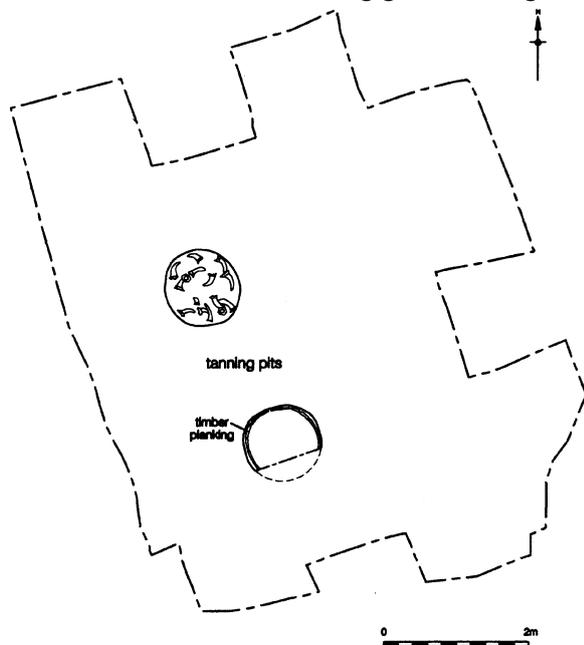


Fig. 2: sixteenth-century pits

The walls of two buildings, constructed in similar styles and from similar materials, were recorded (Fig. 3). The walls were relatively insubstantial, suggesting that the masonry represented the plinths for timber framed buildings. The more complete of them, Building A, occupied the eastern part of the site, the main surviving feature being its external west wall which had been constructed of brick, re-used ragstone, Reigate stone, and tile. The full extent of the building remains unknown, extending beyond the southern and eastern limits of excavation. The southern frontage was presumably located on Tyers Gate, a road in existence by 1746. Three east-west aligned slots, recorded in the underlying dumped material, contained decomposed wood and probably represented the joists for a timber floor which probably lay at approximately 1.6 m OD.

Some of the bricks used in the construction were of a type produced no earlier than the late 17th century, although a large fragment of a post-medieval redware bowl in a form characteristic of the 16th century was also recovered from the fabric of the wall. It is also notable that no clay tobacco pipe was recovered from the dump layers underlying the building or the make-up layers within it. It is therefore possible that the bricks represent a later repair to a 16th-century, or more probably an early-17th-century building.

Building B comprised two walls which may have defined its northern, eastern and southern limits. The walls included brick, roof tile and ragstone and Reigate stone blocks in their construction. This re-used stone almost certainly originates from Bermondsey Abbey. The north-south depth of the building was 4.0 m but its full east-west extent was not exposed. The fragmentary remains of a decayed timber plank floor appeared to represent the earliest internal floor for this building.

Eighteenth-century rebuilding

Both buildings were repaired, and Building B was extensively remodelled, during the course of the 18th century (Fig. 3). The north-west corner of Building A was replaced by a more substantial brick-built foundation; its bricks dated from c. 1730 to the early 19th century. At the north end of the building, the timber floor was replaced by a “knuckle bone floor” made from sheep

metapodials. The shafts of the bones had all been broken and pushed into the ground leaving the distal ends uppermost forming the surface which was recorded at 1.61 m OD (Figs. 3 & 4). Examples of this type of floor are uncommon. The details of the historical background, method of construction and materials used are described in detail below.

Modifications to the north wall of the Building B during this period included the use of the same type of post-1730 bricks. A post-hole cut into the north-east corner of the masonry may also reflect repairs to the back wall at this time.

Building B underwent continued modifications or repairs, probably during the latter half of the 18th century. As part of these repairs, a large pit was dug, removing the earlier back wall, which was back-filled with compacted clay upon which three new brick-built walls were built. The southern wall of Building B was also rebuilt; its foundation used small squared chalk blocks laid onto the original footing while above ground level, the wall was built in brick. Internally the building was re-floored with Flemish tiles, which dated from c. 1730 to the early 19th century, set on a mortar bedding.

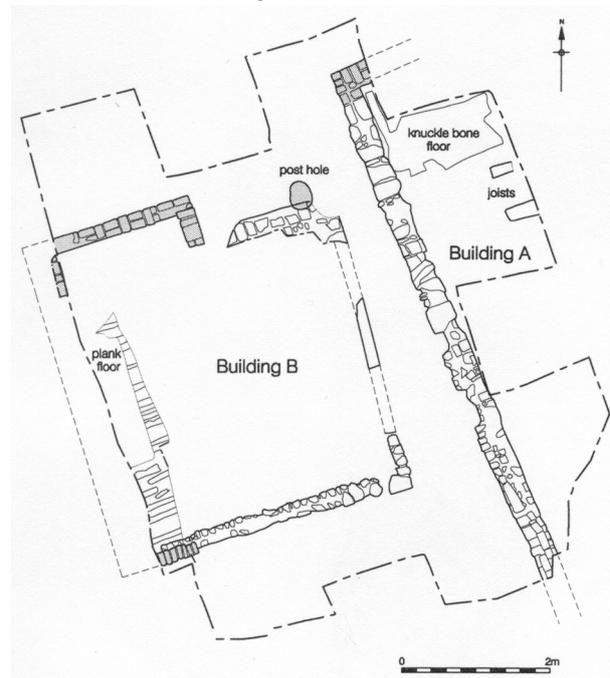


Fig. 3: late 16th/17th buildings with 18th-century modifications shaded

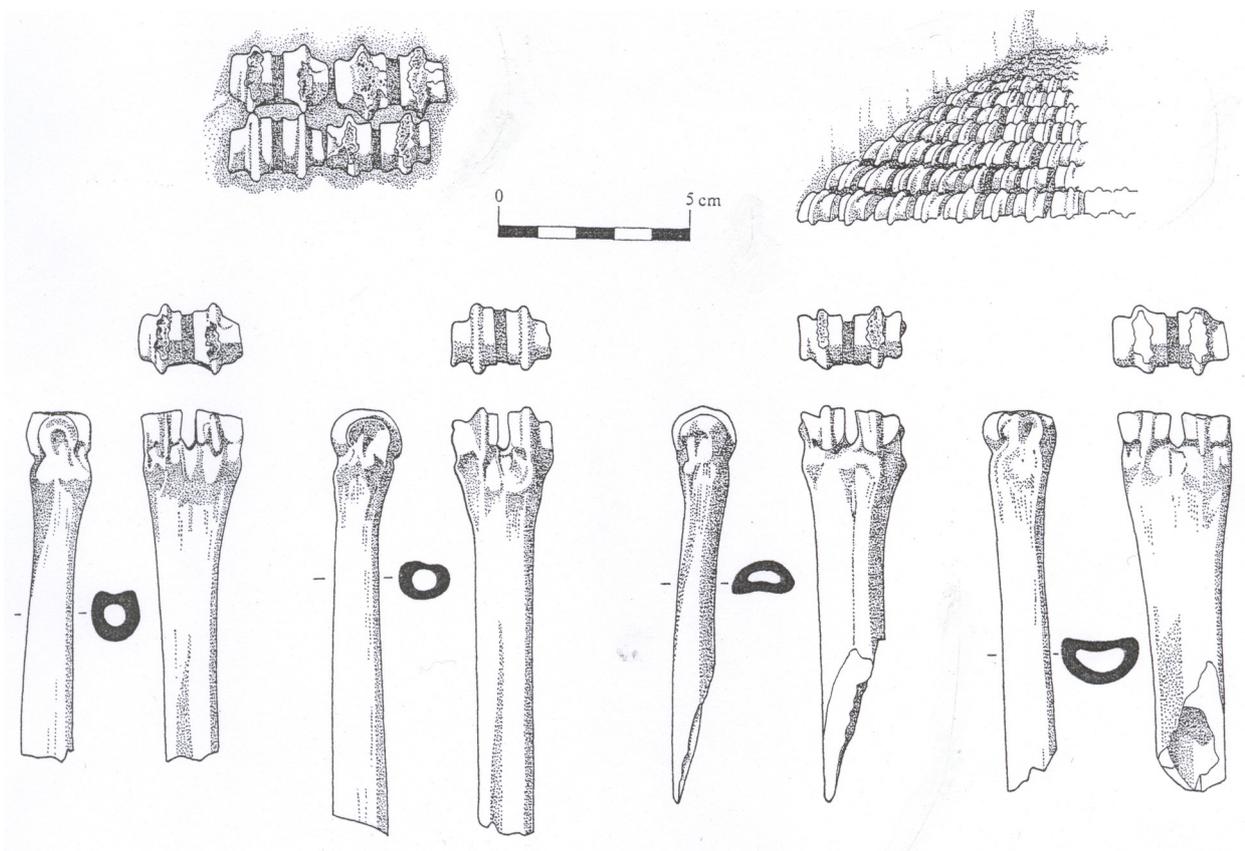


Fig. 4: knuckle bone floor reconstruction, and examples of sheep metapodials used in its construction

External surfaces were laid to the south in compacted gravel, chalk and tile fragments, and to the north in brick, both at *c.* 1.65 m OD. Another surface, at the same level, made from brick and tile fragments and patches of sheep bones constructed in the same manner as the “knuckle bone floor,” created an external surface at the rear of Building A and along part of the alleyway between the two buildings.

The remnants of a new wall overlying the now disused “knuckle bone floor” represented more repairs to the Building A. These probably occurred towards the very end of the 18th century as the bricks date no earlier than *c.* 1784 but none of the finds post-date 1800. Remnants of an internal timber floor appeared to be associated with these modifications.

Nineteenth century

Two large pits (possibly the same feature) were recorded to the rear of Building B, presumably

indicating the continued use of the site for tanning into the 19th century. Further repairs and modifications were also made to both buildings during the 19th century following the deposition of black silty material, possibly suggesting repairs or reconstruction of properties damaged by flooding.

The knuckle bone floor

Due to the apparent homogeneity in bone-element composition of the “knuckle bone floor,” a decision was taken to concentrate the detailed osteometric analysis on a 338 bone sample rather than attempt the time-consuming – and arguably unnecessary – procedure of identifying, cataloguing and measuring the entire excavated bone assemblage of almost 3000 bones. All the bones identified were sheep metapodials, occurring in relatively equal numbers of metacarpals and metatarsals. The majority (89.3%) of the bones examined derive from

mature animals in which the distal epiphyses were fully fused; younger sheep are represented by bones with distal epiphyses in the process of fusing (3.3%) and those unfused (7.4%). No goat was identified within the sample. Only three bones (0.9%) examined are complete, all the rest (99.1%) had their shafts purposely broken. In the Tyers Gate specimens, it is always the proximal end that is “missing”. Full details of analytical techniques and methods employed and the numerical data are not included here but are available from the author, Pre-Construct Archaeology or the site’s permanent archive.

“Length” measurements indicating at least two overlapping size groups for the metacarpals suggested that the sample comprises two separate subsets: a small group that had been broken close to or just below the mid-shaft region, and a larger group made up of bone elements with the shaft broken closer to the proximal end, leaving up to three-quarters of the original shaft length remaining. In contrast, the metatarsals were much more consistent, with the majority exhibiting breakage close to the proximal end, and only a very few broken at mid-shaft.

“Knuckle bone floors” are among the better documented instances in post-medieval Britain where animal bones were used as constructional or decorative material, a practice apparently widespread throughout southern and south eastern England in the late 17th to the early 18th century.⁹ Owners of buildings with simple earthen floors could consolidate and protect them from wear as well as producing a pleasing decorative effect by driving animal bones into the ground surface.

An account of such a floor in a private house in Holywell Street, Oxford, is worth repeating here as it provides an eye-witness description of the mode of construction and finished appearance of a then surviving floor dating from 1701-1702.¹⁰

The floor was in the front room and covered 255 sq. feet (71 sq. m) containing an estimated 24,460 bones. These bones were “halved and embedded, broad end upwards, in fine gravel, and when fixed in position, a mixture of thin lime and finer gravel appears to have been floated over the whole to give solidity and keep the surface light in colour. Whether hob-nails and street dirt, or rough sand and rubbing-stone were used to smooth the surface could not be decided. In one

place, left of the hearth, the projections of the bones were left untouched. The borders, letters and figures of the design were of calves’ bones, or those of smaller oxen; the dividing lines were smaller, and the filling in was of mutton bones or of lamb, and a few deer. In the initials the R is most probably the surname of the occupier, and W and E the Christian names of the husband and wife. The dates 1701 and 1702, are easily recognised.”

Although the source of the bones is not identified in this account, it may have been the slaughterhouse once located behind this house.¹¹ The Oxfordshire and other similar floors were commonly called “knuckle bone floors” after the bones most frequently used in their construction: metapodial bones of sheep and cattle. Today we generally associate the term “knuckle bone” with the astragalus (*vide*: the game of “knuckle bones”) but in the 17th and 18th centuries this referred to the metapodial bones.¹²

The bones used in the floor could have come directly from a butcher’s slaughteryard (representing unwanted waste debris from primary butchering of sheep carcasses). It is however more plausible that in Bermondsey they originated from a leatherworker’s premises (more specifically a whittawyer – who treated the skins of sheep, goats, pigs, deer, horses and hounds using alum, oil and vegetable extracts; the heavier trade of tanning cattle hides using oak bark was carried out only by tanners).¹³ Given the well established association between foot bones of sheep and leather-working crafts in the medieval and post-medieval periods (in which the skins of sheep supplied to leather-workers from slaughteryards had their horns and feet still attached) archaeological deposits comprising disproportionate quantities of sheep metapodials and phalanges are therefore recognised as refuse products from leather-working – see for example the assemblage of sheep metapodials discovered in an early 18th-century pit at Walmgate, York.¹⁴

It should be mentioned however that the metapodials from the York site were all complete whilst those from the Tyers Gate floor were (with only a few exceptions) in an incomplete/ broken condition (lacking the proximal end). It may be suggested therefore that the Tyers Gate bones had gone through a further process following their

detachment from their skins (by the leatherworker) before their eventual use as raw material in the construction of the knuckle bone floor. A clue as to what this process may have been is provided in the contemporary account by Parkinson¹⁵ in the context of the “shank bones of sheep” (more accurately, the metapodials) used in the construction of retaining borders of garden flowerbeds, which he says had first been “well cleansed and boyled, to take out the fat from them”. The Tyers Gate bones may therefore have been purposely chopped or broken into “halves” to facilitate extraction of the grease contained in their marrow cavities. Given the very large quantities of bones represented at Tyers Gate, it seems highly unlikely they derived from a domestic source (i.e. household refuse – from the boiling of sheep’s feet to make a meat broth) – rather, they must have derived from a process carried out on a commercial scale, as would be the case in a leatherworker’s premises where sheep feet were boiled in quantity in vats in order to supply the “neatsfoot oil” needed for leather dressing.¹⁶

Discussion

The excavation has revealed evidence for the development of the site from the late medieval period through to the 19th century. Marsh drainage from at least the 15th century enabled the area to be occupied during the 16th century by the expanding tanning industry, and the site appears to have been occupied by tawyers. The excavation area itself was later occupied by two buildings, one of which fronted onto Tyers Gate. The earliest map to show the road is Rocque’s map of 1746, but it may have existed for sometime before this, merely being omitted from earlier maps,¹⁷ as the earliest elements of these buildings may indicate a late-16th-century date for their construction.

Letter

I see that in footnote 1 of Chris Pickard’s article *Excavations at 25-34 Cockspur Street and 6-8 Spring Gardens* in *London Archaeologist* 10, no. 2, he explains the name Cockspur Street as originating in the making of spurs for cock fighting. I too have heard that story, but I wonder if there is any hard evidence for it? The way the street forks

This development may represent the expansion of domestic housing from the main Bermondsey Street frontage, established by the end of the medieval period, into undeveloped areas to the east and west reflecting the growing pressure of London’s expanding population. Although the function of the buildings is difficult to establish, the layout of the Building A fronting onto Tyers Gate seems typical of a townhouse with a narrow frontage exploited by extending the building as far to the rear as possible. The more fragmentary western building, which did not front onto Tyers Gate, may have been built for commercial or industrial use rather than domestic occupation. Both buildings were perhaps associated with tanners’ or tawyers’ yards located to the rear. Possible evidence for the continued involvement with this industry during the 18th century was found in the form of a knuckle bone floor, although this material was presumably also readily available to those residents of Bermondsey not involved in the industry.

Pottery and clay tobacco pipes recovered from the site assisted with the broad dating of the building sequence, although the quantities recovered were relatively small, fragmentary and comprised largely of either residual material or had wide date ranges. However, the finds were generally typical of domestic occupation during the periods represented and not dissimilar to larger assemblages recovered from other excavations in the vicinity.

The importance of sheep in the local economy during the 18th and 19th centuries may be reflected in nearby street names such as Lamb Street to the south. This road appears as Lamb Alley on Horwood’s 1792-99 map, having been shown on Rocque’s 1746 map as Swan Alley. Horwood’s map also shows a ‘wool staplers’ (wool seller) to the north of the site, a trade

off Pall Mall is somewhat like the shape of the spur on a cock’s leg. Here in Norfolk we have a road name, Cut Throat Lane, which was used in the 18th century for roads that cut off a sharp bend; but it has given rise to various myths about highwaymen.

*Edwin J Rose
99 Eastgate Street
North Elmham
Dereham, Norfolk NR20 5HE*

conducted by two of the four properties on the north side of Tyers Gateway in 1841, the other two properties being occupied by leather dressers.¹⁸ The importance of wool is also suggested by the public house on Bermondsey Street, which had been known as the *Woolpack* since at least 1841, until it was recently renamed.

This general development is typical of the area and several nearby sites have revealed similar finds; notably at Tanner Street where a high proportion of sheep metapodials have been attributed to tawyers' waste dating back to the 16th century. At Tanners Street, the introduction of larger pits in the 18th century has been attributed to a change from tawing to tanning,¹⁹ a trend that may have occurred at Tyers Gate by the 19th century. Recent excavations along Bermondsey Street have also revealed sequences of contemporary buildings fronting onto the

street,²⁰ sometimes with tanning pits being found behind these buildings.

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