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EXCAVATIONS AT PARKER HOUSE, PARKER STREET, LONDON BOROUGH OF CAMDEN
FINDS AND ENVIRONMENTAL REPORTS

By Luke Barber, Isa Benedetti-Whitton, Trista Clifford, David Dunkin, Hayley Forsyth-Magee, Emily Johnson, Elke Raemen and Mariangela Vitolo

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Notes:

Tables and figures included in this pdf are numbered sequentially and without reference to the published article where they may also appear.

The reports included here are largely as written by the specialists themselves, and have undergone only minor editing in order to ensure internal consistency.

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SUMMARY

In 2016 and 2017 Archaeology South-East undertook a series of investigations at Parker House, Parker Street, London Borough of Camden in advance of the redevelopment of the site for housing.

The site lies within the Middle Saxon settlement of Lundenwic and the earliest features found on site date to this period. The activity primarily comprised gravel quarrying within an area demarcated by ditches and spans the later 8th and early 9th centuries AD, a period generally acknowledged as a time when Lundenwic was in decline. The earliest quarry pits were generally shallow and possibly within an enclosure. The later quarry pits, which were deeper and more extensive, were located within a probable rectilinear enclosure formed by two perpendicular ditches, one of which probably formed part of a defensive boundary surrounding Lundenwic in its latter years. The final phases of Saxon activity were characterised by refuse deposition. Industrial activity was evidenced by the presence of a probable mortar mixing pit.

The site then appears to have reverted to farmland until the 17th century when further gravel extraction and refuse dumping occurred. This took place as the local street network was being built and the gravel extracted may have been used in their construction. By 1682 the site was bisected by St Thomas's Street, which was lined with terraced housing. The fragmentary remains of these houses and their back yards containing associated features were investigated. By 1893 these houses had been demolished, the street closed and Parker House constructed on the site.

1 POST-ROMAN POTTERY

Luke Barber

Introduction

The archaeological work recovered 826 sherds of post-Roman pottery, weighing 34,486g, from 60 individually numbered contexts. The overall assemblage is of variable condition with a great range of sherd sizes. Although the general trend is toward medium-sized sherds (i.e. up to 60mm across) larger sherds are also present (i.e. to *c*. 150mm) as well as two near complete vessels and several more that are largely reconstructable. The average sherd sizes by period are shown in Table 1. Most of the pottery is in a fresh condition though this is variable between periods. The most weathered material appears to derive from the medieval and late post-medieval periods, perhaps as a result of both some reworking and a slightly acidic burial environment. However, on the whole most sherds do not appear to have been subjected to extensive reworking.

The overall site assemblage is characterised in Table 1 in order to give broad quantities by period. The exact division between certain periods is approximate as some of the MoLA fabric groups, used in this report, cross the actual dates allocated. This is most notable with the Early to Late post-medieval period, particularly for the redwares from both London and the Surrey-Hampshire Border ware industries (codes PMR and RBOR respectively). As such these have been kept separate on Table 1 though it is certain the vast majority predate c. 1750.

Full quantification (number of sherds/weight/estimated number of vessels) by fabric, using the MoLA fabric series (2014), has been undertaken on pro forma for archive with the information being input into an Excel database. The current report aims to give a brief overview of the whole assemblage but with particular emphasis on the Mid Saxon material and the more interesting post-medieval groups.

Period	No./weight	Average sherd size	Number of fabric groups
Mid-Saxon Later C7th – mid 9th	120/8568g	71.4g	3
Saxo-Norman Late 9th-early C13th	2/44g	22g	2
High Medieval Early C13th – mid C14th	5/47g	9.4g	3
Late Medieval Mid C14th – mid 16th	1/124g	124g	1
Early post-medieval Mid C16th – mid 18th	386/16,156 g	41.9g	29
Early to Late post-medieval Later C16th – 19th	180/8406g	46.7g	2 (both redwares)
Late post-medieval Mid C18th – mid C20th	132/1141g	8.6g	10

Table 1. Characterisation of pottery assemblage by period (No./weight in grams); totals include all residual/intrusive and unstratified material

Periods and Fabrics

Overall the date range of the pottery from the site spans the mid/later 8th to 19th centuries though there are peaks of activity in the Mid Saxon and early post-medieval periods.

Mid Saxon: Later 7th – mid 9th centuries

This period produced a significant assemblage of pottery, the vast majority of which is in notably fresh condition. There are numerous large, frequently conjoining, sherds and a couple of vessels are near complete when reconstructed (e.g. ditch [2016], fill [2015], Period 2.2, G27 and another from Period 2.2 quarry pit [2143], fill [2145], G25). Although the study of Middle Saxon pottery from London was late in starting, it has seen intense study since the late 1980s. The initial fabric series established (Blackmore 1988b; 1989) has seen some later refinements and additions (Blackmore 2003, 2012; Jarrett 2004a) ultimately providing a good understanding of the wares and their chronologies though, as ever, there will always be more to learn. The fabric descriptions in these publications suffice and do not need repeating here, particularly considering the very restricted range of types from the current excavations.

The Mid Saxon assemblage is summarised by period in Table 2. It is quite notable in that it contains only Ipswich ware, albeit in the ware's three different fabric variations.

Fabric	**Period 2.1**	**Period 2.2**	**Period 2.3**	**Unstratified or residual**
Ipswich coarse (IPSC)	-	11/424g (Jar x1; ? x1)	-	-
Ipswich medium (IPSM)	-	2/96g (Large jar x1)	5/72g (Jars x2; ? x1)	2/48g (Jar x1)
Ipswich fine (IPSF)	2/90g (Jar x1)	58/6376g (Jars x2; large jars x3; ? x3	29/970g (Jars x6; large jars x2; ? x3)	11/492g (? x1)
Totals	**2/90g**	**71/6896g**	**34/1042g**	**13/540g**

Table 2. Summary of the Mid Saxon assemblage (? = not diagnostic to form)

The complete absence of any chaff-tempered wares is startling. These are common in 8th- century deposits in *Lundenwic* and overlap with the arrival of Ipswich ware. At the Royal Opera House, even though they were becoming less common they still made up 38% of the Period 5 (c. AD 730–770) assemblage of which Ipswich wares made up 22% (Blackmore 2003). Ipswich ware at that site peaked in dominance in Period 6 (dated c. AD 770–850) at 64% of the Mid Saxon assemblage with a decrease to 53% in Period 8 (dated c. AD 850–900). Ipswich ware has been noted to be more dominant in some 9th- century groups (Jarrett 2004a) but these are not always statistically viable. This may be an issue with the current assemblage, which, at 120 sherds, is not large. However, the complete absence of chaff-tempered wares, even as residual pieces, suggests that activity on the current site is unlikely to have started until late in the 8th century. The absence of other wares is still notable and it is possible the site had a direct relationship with the trade in Ipswich vessels.

Although all three fabric grades are present the most common is clearly IPSF. This is the case in all of the sub-periods (Table 2) and is slightly unusual in that most assemblages have a more even spread

of the Ipswich fabrics (Jarrett 2004a). The IPSM fabric was the most common at The London School of Economics site (Barber in prep) where many of the vessels were of a darker grey than the typical mid (blue) grey examples that totally dominate the current assemblage. The range of recognised forms is also very limited and consists of small/medium jars and large jars. These are well known types for Ipswich ware (Blinkhorn 2012 Forms 1 and 5 respectively). Rims, where present, are of simple slightly everted types, often with a squared finish. A few of the smaller jars in the current assemblage have external sooting showing they were probably used in cooking. The larger jars have no sooting and can be considered as storage/transporting containers. Many of the vessels have the typical horizontal furrowing on their exterior upper portions and there are at least a couple of vessels with piercing on their rims but no signs of decoration were noted – something that would confirm the absence of pitchers.

As can be seen from Table 2, the features of Period 2.1 produced virtually no pottery – the only two sherds coming from a G34 quarry pit (SG64). The Period 2.2 deposits contained the majority of the Mid Saxon pottery (72/6910g) and represent the main period of activity. The recut boundary ditch (G28) produced 45 sherds (4924g) from at least four different vessels including the large part of a large jar with regular small oval textile imprints around its shoulder (Fig 1, P1). Fill [2014] of the same group produced sherds of a smaller jar that conjoined with sherds from the Period 2.3 upper fills [2012] and [2013] showing some mixing during final infilling or subsequent excavation (Fig 1, P2). Such disturbance can be seen elsewhere: large parts from a small jar being recovered from Period 2.2 quarry pit [2143] (SG63, G25) and overlaying dump layer [2196] (SG85, G30) (Fig 1, P3). The fresh condition of these sherds, together with their large size, demonstrate that any disturbance was a one-off event. The Period 2.3 deposits, although providing a significant assemblage (Table 2) contained essentially the same material suggesting the period to be chronologically close to 2.2. The absence of shell-tempered wares from these contexts suggests they were deposited before the shelly wares became common in the early/mid 9th century.

Catalogue (Fig 1.)

P1. Substantial parts of a large jar with simple slightly everted rim (36/4702g). Mid blue-grey throughout. Some horizontal furrowing on upper body and small oval areas (c. 32 x 9mm) showing weave imprints from cloth spaced around shoulder. IPSF. Ditch [2016], fill [2015] (SG9, G28, Period 2.2).

P2. Jar with near upright slightly thickened rim. Mid blue-grey throughout. Slight external furrowing with sooting on external shoulder. IPSF. Ditch [2016], fill [2014] (SG9, G28, Period 2.2) (2/38g) *and* Ditch [2016], fills [2012] and [2013] (SG11, G27, Period 2.3) (6/178g).

P3. Essentially complete jar with simple slightly everted rim. Mid/dark-grey throughout. Some horizontal furrowing on upper body. IPSF. Pit [2143], fill [2145] (SG63, G25, Period 2.2) (1/766g) *and* dump layer [2196] (SG85, G30, Period 2.2) (8/352g).

P4. Jar with near upright slightly thickened rim with pre-firing perforation. Light/mid grey with mid/dark grey exterior surface. Horizontal furrowing on upper body. IPSC. Dump layer [2196] (SG85, G30, Period 2.2) (10/414g).

Saxo-Norman: Late 9th - early 13th

Only two sherds of this general period were recovered. A probable Late Saxon shelly ware sherd was found residual in Period 3.1 quarry pit [2074] (SG33, G20) (32g) and a better fired 14g shelly ware sherd from an oxidised cooking pot was recovered from Period 2.3 pit [2134] (SG58, G44). The finish of this piece suggests it to be an intrusive sherd of the 11th-/12th- century EMSH fabric but an earlier date is possible. Whatever the case activity in this period appears to have been negligible.

High medieval: early C13th – mid 14th

The excavations produced just four sherds from this period, all of which are clearly residual in Period 3.1 deposits. They consist of sherds of London ware, Kingston-type ware and South Hertfordshire greyware. Collectively they hint at some very limited activity between the 13th and 14th centuries.

Late Medieval: Mid 14th to 15th centuries

A strap handle fragment from a late 15th- to mid 16th- century pitcher in early London area post-medieval redware (PMRE) is the only sherd from this period (residual in Period 3.1 pit [2046], SG21, G20).

Early post-medieval: Mid 16th to mid 18th centuries

This period produced by far the largest single assemblage from the site (Table 1). Although many sherds can only be ascribed a general mid 16th- to 17th- century date range, where more closely datable types are present they tend to indicate an emphasis on the period c. 1625/50-1700, with only a few pieces definitely from the first half of the 18th century.

The Period 3.1 assemblage consists of 138 sherds (3443g) of which seven are clearly residual pieces. The G21 quarry pits produced a small assemblage containing Border wares, tin-glazed wares and Frechen stoneware. Most of the assemblage was recovered from the homogenous refuse deposit (G20: 120/2953g) that included further white Border ware, Frechen stoneware and tin-glazed wares together with a wide range of London, Surrey-Hampshire border and Essex-type redwares (including part of a Metropolitan slipware dish). Wares from further afield include some Staffordshire-type combed slipware, Midlands Purple, Werra ware and Westerwald stoneware. Overall the forms represented show a typical domestic spread of storage, cooking, serving and sanitary types. There is little differentiation between the make-up of the Period 3.1 and 3.2 assemblages and it is almost certain there is mixing between the two and the possibility of Period 3.2 waste being used to infill period 3.1 features and/or the danger of material being imported to the site for backfilling during Period 3.1.

The Period 3.2 assemblage is notably larger (552/22,075g) and, although the wares are quite similar, there are many larger fresher sherds in it and the material has obviously seen less reworking. The vast majority can be placed in the later 17th century, with far fewer pieces of the 18th century. The soakaways (G4) show very different infilling dates – SG59 containing 11 sherds, including one of North Devon Gravel tempered ware, appears to have been infilled between c. 1675 and 1750 whereas the 152 sherds from SG94 show it to have been finally infilled in the middle of the 19th century (see below). The brick-lined cess pits associated with this period also produced different assemblages: that of G49 of B2 containing just eight sherds including Border ware, tin-glazed ware, Midland Orange, London-area post-medieval redware, Frechen stoneware and Staffordshire combed slipware. The four cess pits associated with Building 1 contained some much larger assemblages, mainly of the late 17th to early 18th century, though SG43, containing creamware and pearlware, was clearly finally infilled at the end of the 18th century.

Cess pit SG76 stands out from the others in containing a much larger and fresher ceramic group. With the exception of the probably intrusive mid/later 18th- century STRSB sherd the group appears to be a clean one of the late 17th century. This material provides a useful representative group for Building 1 in this period and is fully summarised in Table 3. From the range of vessels present it is clear that the pit, although receiving a notable quantity of sanitary wares was also receiving vessels associated with storage, preparation and consumption of food and drink. Judging by the completeness of some of the pieces these probably originated from the adjacent property.

Fabric	No of sherds (%)	Weight of sherds (%)	ENV
Surrey-Hampshire white border ware with brown glaze **BORDB**	2 (1.4%)	206g (1.6%)	Bowl x1; chamber pot x1
Surrey-Hampshire white border ware with green glaze **BORDG**	10 (7.1%)	1214g (9.5%)	Drinking jug x1; chamber pot x1
Surrey-Hampshire white border ware with clear glaze **BORDY**	27 (19.1%)	3514g (27.5%)	Bowl x1; dish x1; pipkins x2; candlestick x1; chamber pot x1
Frechen stoneware **FREC**	2 (1.4%)	260g (2.0%)	Bottles x2
Midlands orange ware **MORAN**	1 (0.7%)	260g ((2.0%)	Butter pot x1
Midlands purple ware **MPUR**	8 (5.7%)	1110g (8.7%)	Butter pot x1
Essex-type post-medieval fine redware **PMFR**	2 (1.4%)	182g (1.4%)	? x2
London-area post-medieval redware **PMR**	43 (30.5%)	3058g (23.9%)	Bowl x1; jar x1; pipkins x2; porringer x1: ? x1
Surrey-Hampshire border redware **RBOR**	9 (6.4%)	1260g (9.9%)	Pipkin x1; porringer x1; chamber pot x1; ? x1
Surrey-Hampshire border redware with green glaze **RBORG**	5 (3.5%)	508g (4.0%)	?Jars x2
Staffordshire-type red slipped black glazed ware **STRSB**	1 (0.7%)	2g (0.02%)	Plate x1
London tin-glazed ware (external lead glaze) **TGW A**	2 (1.4%)	52g (0.4%)	Bowl x1
London tin-glazed ware (plain white lead glaze) **TGW C**	16 (11.3%)	266g (2.1%)	Bowl x1; ointment jar x1; shallow cup x1

London tin-glazed ware (white with blue/polychrome decoration) **TGW D**	13 (9.2%)	812g (6.4%)	Plates x2; chargers x2; bowl x1; drug jar x1; lobed dish x1
Totals	**141**	**12,704g**	**39** (Bottles x2; Bowls x6; butter pots x2; chargers x2; chamber pots x4; candlestick x1; cup x1; dishes x2; drinking jug x1; jars x3; ?jars x2; pipkins x5; plates x3; porringers x2; ? x3)

Table 3. Context [2174], period 3.2 pit [2176] (SG76, G52): summary of pottery assemblage (? – undiagnostic of form)

The group includes a significant quantity of Border ware, most of which can be closely paralleled in the standard typology (Pearce 1992). BORDB is, as usual, the least common, but includes a deep bowl (cf. Pearce 1992, No. 78). BORDG is better represented and includes a near complete Type 2 chamber pot (cf. Pearce 1992, No. 334), 125mm tall with a rim diameter of c. 200mm. The vessel has a degraded glaze, especially on its interior, which may have rendered it porous and thus only fit for discard. BORDY is the most common type. This includes a large part of a small (c. 180mm diameter) flanged dish (e.g. Pearce 1992, No 3) and two externally flanged tripod pipkins (e.g. Pearce No.154). One of the pipkins is small, at 130mm tall with a 120mm diameter rim, the other large, measuring 230mm tall with a rim diameter of 168mm. The latter is essentially complete though one of the feet has broken off (though is present). There is also a near complete 93mm tall candlestick with a 70mm diameter base and 34mm diameter rim (Fig 1, P5). Although its closet parallel is No. 348 (Pearce 1992) the current example has a finer tapering base and a solid lower stem section. The BORDY type 2 chamber pot is fragmented but essentially complete, measuring 148mm tall with a 190mm diameter rim. The vessel, which is notably fine, shows no signs of wear/degrading and was probably a fairly new vessel when broken.

The redwares also include a range of different vessels, some of which are again represented by large sherds, sometimes making up complete profiles. There is a Type 2 RBOR chamber pot with 220mm diameter rim, a double handled bowl in PMR some 155mm tall with a rim diameter of 280mm that can be paralleled at Deptford (Jarrett 2004b, 103, No. 8) and a PMR tripod pipkin with simple spout and strap handle (c. 220mm diameter rim and 190mm tall) similar to an example from Southwark (Orton 1988, 304, No. 1225).

The tin-glazed wares include a reasonable range of forms (Table 3) including small to large ointment/drug jars, two competently decorated chargers sporting blue, purple and/or yellow lines as well as a couple of less usual forms. These include part of a 220mm diameter lobed dish with simple blue line decoration and part of a shallow cup (Fig 1, P6). This can be closely matched to a decorated example, also with two curled handles, dated to the mid/later 17th century (Britton, 134, No. 94). Such vessels suggest the inhabitants could afford more than just the very utilitarian forms.

If one takes the whole early post-medieval assemblage (including the EPM/LPM group from Table 1, which is also essentially of this period) the 566 sherds (24,562g) consist of 151 (6388g) from a London source, 345 (14,238g) from an Essex or Hampshire-Surrey border source, 27 (2010g) from other (mainly Staffordshire) English sources and 43 (1926g) from imported sources.

Of the imported material Frechen stonewares totally dominate (34/1470g: 79.1% of imports by sherd count). These were recovered from both Period 3.1 and 3.2 deposits. There is also the base of a Hessian-type crucible for non-ferrous metal-working (36g) from Period 3.2 cess pit [2098] (SG44, G52), three sherds (98g) from two different Westerwald jugs decorated with moulding and cobalt

blue (Period 3.1 SG21, G20 and Period 3.2 SG27, G52) together with a single sherd from a Werra ware dish (Period 3.1 quarry pit [2033], SG17, G20). The latest imports for the period, probably belonging to the first half of the 18th century, are two sherds from Chinese porcelain plates (Period 3.2 cess pit [2095] SG43, G52 and probably residual in soakaway [2223], SG94, G4). Although the Werra vessel was recovered from a deposit that predates the houses the Chinese porcelain is associated with them and hints that the occupants could afford a few more expensive items of ceramics. This is also suggested by the presence of a tin-glazed ware (TGW C) salt (cf Orton 1988, 312, No. 1290) from Period 3.2 refuse pit [2128] (SG56, G22).

Catalogue (Fig 1.)

P5. Near complete small candlestick in BORDY. Pit [2176], fill [2174] (SG76, G52, Period 3.2).

P6. Shallow cup with curled handles in TGW C. Pit [2176], fill [2174] (SG76, G52, Period 3.2).

Late Post-medieval: Mid-18th- to mid-20th centuries

Although of reasonable size the majority of the late post-medieval assemblage was recovered from a single feature: soakaway [2223], (fills [2219], [2220] and [2221], SG94, G4) accounting for 152 sherds (2373g), though 35 of these, weighing 1332g, are clearly residual early post-medieval pieces. The group contains a mixture of presumably old/residual creamware and pearlware alongside a series of blue and green transfer-printed wares, a number of the former with Flow Blue style decoration. This group presumably represents the final infilling of the last soakaway pit around the middle of the 19th century. There is nothing in the group to suggest anything other than a low status household at this time. Full details of the late post-medieval assemblage are held in the archive.

2 CERAMIC BUILDING MATERIAL

Isa Benedetti-Whitton

Overview

The ceramic building material assemblage comprised 253 fragments weighing 74,958g from 45 contexts and five standing structures. A small assemblage of Roman roof tile and brick was found residually within Saxon features.

The post-medieval assemblage comprised brick, floor and roof tile in both pre-fire and post-fire fabrics. The brick included both pre and post-fire types (MOLA 3032 and 3033) which were frequently recovered from the same features; this included the reuse of pre-fire fabrics within later walls.

The roof tile was the most numerous CBM type within the assemblage and included peg tile as well as fragments of pantile and a single curved ridge tile. The floor tile was only sparsely represented and included glazed examples of likely 16th century date.

Mortar

The most intriguing feature on site was a large but shallow pit that had been cut through earlier quarry pits on site. No direct parallels in London or the south east could be found for this feature, but extending the search further across Britain did provide not only further evidence for Saxon mortars, but also similar features which when excavated are of similar dimensions to the Parker Street pit, and that also contain evidence for mortar production. Therefore although the mortar was first thought to be Roman, sourced and recycled during the Saxon period, as was the common

practice in terms of Saxon reuse of Roman brick and tile, the emerging evidence would suggest that this pit may in fact been a mortar mixing pit for mortar produced by the Saxon inhabitants of Lundenwic.

Mortar as an isolated find is not inherently dateable. There are certain types of mortar that are distinctive and can been more closely dated for example Roman opus signinum, with its characteristic inclusions of crushed brick and tile is particularly recognisable, and a fine grey mortar containing a range of inclusions such as window glass, animal bone, and charcoal was widely used in London following the great fire of 1666. However, for most of building history mortar has been a mixture of slaked lime with variable quantities of sand, producing a generic white or off-white product that is not possible to date unless it remains attached to a dateable brick or tile form.

The mortar found at Parker Street was soft and grey in colour, and did not appear to contain much sand although occasional flecks of charcoal were apparent. The pit that the mortar lined was fairly large, measuring 3.11m in diameter, and was one of several pits in the excavated area, and like these had the unusual feature of being lined with oyster shell. In the case of G42, the mortar overlay the shell and, unlike the neighbouring pits, there was a linear channel extending to the north, suggesting a material was being syphoned or directed into this feature.

The function of the oyster shell remains unclear, however, archaeological excavations of a series of 12th-13th century mortar pits associated with St John's Abbey in Colchester, Essex, conducted initially in 1973 and then again in 2007, uncovered one containing a large quantity of roasted oyster shells (*Colchester Archaeologist* 2014). Ordinarily chalk was used as the calcium carbonate-rich ingredient in lime mortar, but the readily available nature of oyster shells as a waste product was evidently recognised and exploited in this instance. Unlike the pits at Colchester, those excavated at Parker Street did not provide the same evidence of being roasted in preparation for being used as mortar, but they may have been intended for a similar function.

Elsewhere in Britain, although particularly in northern regions, more concrete evidence has been found for Anglo-Saxon mortar, providing proof that they did in fact produce their own structural bonding material, even if most of the building materials – particularly brick and tile – were recycled from earlier dating structures. At Bamburgh Castle on the coast of Northumberland, excavations conducted in 2006 uncovered a feature that was soon identified as a 'gin gang' or mortar mixer (Kirton and Young 2012, 253). This approximately oval feature was 2-2.4m in diameter, and fairly shallow at less than 0.5m, and based on coins found at the same depth, the pit can be dated to the mid-early 9th century. Hoof prints where present in the mortar surrounding the pit, and a quantity of mortar also survived in the pit along with a large quantity of pebbles. Collectively this led to the identification of the pit as a mortar mixer or 'gin gang', and provides extremely convincing evidence for the Saxon production of mortar.

Even further north, in Scotland, the town of Dunbar was once of the periphery of the Saxon kingdom of Northumbria. Excavations took place at Castle Park in Dunbar from 1987-1991 (Perry, 2000), and amongst the features investigated was an approximately circular feature of almost identical dimension to the Bamburgh example (2.1m in diameter; 0.45m in depth) although this coincidence is most likely a result of the practical considerations relating to a pool of wet mortar rather than evidence that there was a common model for Anglo-Saxon mortar mixers. A thin layer of mortar lined this pit, and then additional mortar deposits and other building debris including clay and cobbles were also collected from the pit fill. The pit is believed to be of no later than 9th century date.

The Bamburgh and Dunbar examples are not the only incidences of known Saxon mortar pits, two more examples are known to have existed at Monkwearmouth and Northampton (Williams et al 1985, 36) as well as on the continent, where they are invariably associated with 'high status' royal or ecclesiastical sites (Perry 2000, 319). This association is so ingrained that at Dunbar, simply the presence of this mortar mixture is deemed enough to provide proof of 'Dunbar's royal status' (ibid).

There is no evidence at Parker Street for any high status buildings or settlement, and given that at Dunbar the only proof for a status building is the implied evidence provided by the presence of a mortar mixer, perhaps the association of mortar mixers with high status buildings should be reconsidered. Whilst the feature at Parker Street cannot be conclusively demonstrated to be a mortar mixer, the characteristics shared between this pit and other examples are clear, and from the cumulative evidence it is apparent that making mortar was not an uncommon practice during the Saxon period, thus making this identification most likely for pit G42.

3 CLAY TOBACCO PIPES

Elke Raemen

Introduction and Methodology

A medium-sized assemblage, comprising 225 clay tobacco pipe fragments (2123g), was recovered from 18 individually numbered contexts, mostly from quarry and cess pits. The majority ranges between c. 1640 and 1740. Cess pit [2060] (fills [2057] and [2058], B1; period 3.2) contained the largest pit.

The pipes were recorded in full on pro forma sheets for archive, following guidelines as set out by Higgins and Davey (2004). Bowls were principally classified according to the London "Chronology of Bowl Types" (prefix AO) by Atkinson and Oswald (1969, 177-180). This was supplemented by the general pipe typology by Oswald (prefix OS; 1975, 39-41) for the 18th-century pipes and by the Bristol typology for one of the possible imports (prefix BRST; Jarrett 2013).

A detailed tabulated register of the entire assemblage has been deposited as part of the archive, both in digital and hard copy format.

Overview of the Assemblage

Included are 103 bowls, 117 stem fragments and five mouthpieces. No attempt has been made to fit pipes together either within or across contexts. Stem fragments mostly date between the mid 17th and mid 18th century. None of the stem fragments are marked or decorated.

All five mouthpieces recovered are simple cut unfinished tips. Four were found in cess pit fill [2058] and date between c. 660 and 1710. The fifth mouthpiece was recovered from robber trench [2190] (fill [2191], OA7; period 3.3) which dates between c. 1660 and 1750.

A total of five mouthpieces were found, all of which consist of simple cut unfinished tips. Those from cess pit fill [2058] date to c. 1660-1710, whereas the mouthpiece from robber trench fill [2191] dates to c. 1660-1750, suggesting the latter is residual.

Most of the 103 bowls are complete or near complete. An overview of the types encountered can be found in Table 4. Bowl type AO16/BRST7, with a good quality burnish and found in quarry pit [2033] (fill [2032], OA4; 3.1), is likely to represent a Bristol or Salisbury/Marlborough area import. None of the bowls are decorated but five more are lightly burnished.

Bowl Type	Count	ED	LD
undiagnostic	4		
AO9	2	1640	1660
BRST7/AO16	1	1640	1690
AO13	1	1660	1680
AO15	2	1660	1680
AO18	19	1660	1680
AO19/20	1	1680	1710
AO20	18	1680	1710
AO20/21	10	1680	1710
AO20/22	1	1680	1710
AO21	12	1680	1710
AO22	8	1680	1710
OS10	21	1700	1740
AO25	1	1700	1770
AO28	2	1820	1860
Total	103		

Table 4. Overview of pipe bowl types

Makers

Maker's marks were found on only two examples, both from pit [2128] (fill [2129], OA5; period 3.2). Bowl S<1> (OS10, 1700-40) contained initials ?RD moulded in relief on the heel sides. This could refer to Robert Dunston, who was working in London around 1729 (Oswald 1975, 135). The second bowl (S<2>) consists of a spur only, probably from a bowl type AO28 (1820-60). It contains maker's initials "RL" moulded in relief on the sides of the spur. The bowl was almost certainly made by Robert Loder, who was located in nearby Drury Lane around c. 1832-56 (Oswald 1975, 140).

4 REGISTERED FINDS

Trista Clifford

Introduction

The excavations produced a moderate registered finds assemblage of 63 objects including items made of ceramic, copper alloy, iron and bone (Table 5). The assemblage is well stratified and overall in fair to good condition although the ironwork is mineralised and heavily corroded. The assemblage is dominated by objects associated with textile production, in particular weaving on the warp weighted loom.

RF No	Context	Material	Object	Weight
1	2013	CERO	LOOMWEIGHT	53
2	2014	CERO	LOOMWEIGHT	85
3	2013	CERO	LOOMWEIGHT	185
4	2012	SILV	COIN	<2
5	2012	CERO	LOOMWEIGHT	157
6	2013	CERO	LOOMWEIGHT	179
7	2013	CERO	LOOMWEIGHT	153
8	2014	CERO	LOOMWEIGHT	130
9	2014	CERO	LOOMWEIGHT	117
10	2014	CERO	LOOMWEIGHT	138
11	2013	CERO	LOOMWEIGHT	230
12	2013	CERO	LOOMWEIGHT	201
13	2015	CERO	LOOMWEIGHT	569
14	2045	STON	PLAQUE	9
15	2036	CERO	LOOMWEIGHT	381
16	U/00S	COPPER	BUTTON	1
17	2087	COPPER	PIN	<2
18	2126	BONA	NEEDLE	2
19	2126	BONA	NEEDLE	2
20	2126	BONA	NEEDLE	2
21	2126	BONA	NEEDLE	1
24	2188	IRON	UNK	113
25	2188	CERO	LOOMWEIGHT	308
26	2204	BONA	WAST	95
27	2204	IRON	KNIFE	90
28	2205	COPPER	NEEDLE	<2
29	2204	GLAS	VESSEL	18
30	2126	COPPER	?SLAG	15
31	2219	COPPER	COIN	10
32	2228	IRON	BUCKLE	39
34	2171	WOOD	UNK	
35	U/00S	COPPER	COIN	2
38	U/00S	COPPER	BUTTON	2
39	2126	BONA	NEEDLE	2
40	2015	CERO	LOOMWEIGHT	40
41	2012	CERO	LOOMWEIGHT	76
42	2038	CERO	LOOMWEIGHT	265
43	2013	CERO	LOOMWEIGHT	138
44	2050	CERO	LOOMWEIGHT	181
45	2012	CERO	LOOMWEIGHT	30
46	2013	IRON	UNK	5
47	2066	IRON	KNIFE	25
48	2062	COPPER	UNK	11

49	2062	COPPER	MOUNT	4
50	2067	IRON	BUCKET	108
51	2067	IRON	HOOK	69
52	2219	IRON	UNK	109
53	2174	COMP	KNIFE	14
54	2012	CERO	LOOMWEIGHT	104
55	2015	CERO	LOOMWEIGHT	30
56	2013	CERO	LOOMWEIGHT	
57	2013	CERO	LOOMWEIGHT	59
58	2013	CERO	LOOMWEIGHT	131
59	2013	CERO	LOOMWEIGHT	55
60	2013	CERO	LOOMWEIGHT	16
61	2013	CERO	LOOMWEIGHT	105
63	2013	CERO	LOOMWEIGHT	102
64	2013	CERO	LOOMWEIGHT	98
65	2013	CERO	LOOMWEIGHT	58
66	2013	CERO	LOOMWEIGHT	62
67	2013	CERO	LOOMWEIGHT	145
68	2182	CERO	LOOMWEIGHT	109

Table 5. List of Registered Finds

Textile production

Textile manufacturing processes at Parker House comprise weaving, evidenced by ceramic loom weights and sewing, represented by needles of bone and copper alloy. Whilst no copper alloy needles have previously been recorded, ceramic loom weights and spatulate -headed bone needles are very common. The assemblage was recovered solely from period 2.2 and 2.3 features; no textile manufacturing objects were recovered from the earliest, period 2.1, features.

Previous excavation in Lundenwic has produced a plethora of evidence for textile production within the wic (see for example Blackmore 1988a; Williams 1989; Goffin 2003; Keily and Blackmore 2012b), with virtually all sites producing objects associated with the preparation of fibres, spinning, weaving and sewing or a combination of these processes and, less commonly, preserved extant fibres and fabric preserved within corrosion products on metal objects, or as impressions on ceramic weights or daub. Walton Rogers (1997) outlines the main processes and Keily and Blackmore (2012a, 156) summarise this evidence from Lundenwic thus far, noting that both wool and flax (linen) were exploited. The faunal evidence suggests that sheep were exploited both for meat and secondary products (wool and milk) at Parker House.

Loom weights

Ring-shaped ceramic weights, utilised on the warp weighted loom to provide tension to the warp threads, were the standard form throughout the Saxon period until the upright loom was superseded by the vertical two- beam loom during the 10th century (Walton Rogers 1997). The Parker House assemblage consists of a minimum of 35 weights (total weight 4991g), the majority of which were recovered from the fills of boundary ditch [2016]. One, RF<13> (Fig 2.) was recovered complete and a further six were between 40-70% complete.

The following data were recorded for each weight on Excel spreadsheet: Weight (g), height, radius and diameter, diameter of perforation (mm) and completeness (%), as well as fabric, form and surface treatment.

Fabric

The weights were all fired, and made from locally available brickearth clays with little variation in inclusions. Fabrics were assessed using a x20 magnification hand lens and compared with existing descriptions (Blackmore (1988a) and Keily and Blackmore (2012b); Table 6).

As previously recorded in London, 1a is the predominant fabric; 18 weights were made from this fabric, many of these were of uncertain form, but intermediate forms were more numerous than bun shaped. A variant of Fabric 1a contains small fragments of oyster shell embedded in or near the surface which are most likely an artefact of manufacture rather than intentional inclusions; there were three instances noted, however all pieces were fragments which may be non-conjoining parts of other weights. Fabric 1b was noted on one occasion in an underfired, bun shaped weight (RF<25>, Fig 2). There are five examples of bun shaped weights in fabric 1c, all of which are smaller in diameter than those in fabric groups 1a, 1b and 3. No definite intermediate weights made in Fabric 1c were recovered.

The presence of any calcareous inclusions were used as the basis of attribution to fabric group 3, which it has been noted exhibits a wide variation in both matrix and inclusion size (Keily and Blackmore 2012b, 222). Fabric 3 is confined to bun shaped weights, although three examples of uncertain form were also recorded. Reduction, blackening and vitrification were noted on several pieces across all fabric groups, which may suggest accidental or secondary burning.

Fabric	Description
1a	Fine micaceous fabric with sparse organics, moderate fine quartz and coarser rose quartz to 3mm, sparse black oxides and large flint inclusions 2mm to 10mm.
1b	A finer version of 1a with sparser quartz and flint
1c	Abundant sand to 4-5mm and sparse flint up to 5mm; rough, abrasive surface
3	Similar matrix to 1a with the addition of sparse calcareous inclusions to 5mm

Table 6. Fabric type series (after Blackmore 1988a and Keily and Blackmore 2012b)

Forms

Classification of loom weight forms traditionally follows that of Hurst (1959, 23–5), who recognised three chronologically distinct types. Annular weights, associated with early Saxon date, have a perforation diameter greater than the radius and the radius is usually less than the height. Intermediate forms can vary (Hurst 1959; Goffin 2003). Three separate variations were noted at the Royal Opera House (Goffin 2003): D sectioned, near annular and tall, of which the 'tall ' variant was noted at Parker House in one instance and the remaining examples are closer to the D sectioned group. This form is associated with a middle Saxon date. Lastly, bun shaped weights, which also incorporate biconical forms (Keily and Blackmore 2012b) have an equal or larger height to radius and a small central perforation, and correspond with the late Saxon period. Since loom weights are handmade objects irregularities in form are fairly frequent, and any one object can display considerable disparity across the section and form therefore classification of the smaller fragments is tentative and some have been recorded as 'uncertain'.

No annular weights of early type were recorded at Parker House, corresponding with the pottery dating to the later 8th century, although elsewhere in Lundenwic annular weights have been recovered from features as late as the 9th century (Keily and Blackmore 2012b). Bun shaped weights are twice as prevalent within the identifiable assemblage as intermediate weights (Table 7).

	Period		
Form	**2.2**	**2.3**	**Total**
Bun	3	7	10
Intermediate	3	2	5
Intermediate or bun	1	4	5
Uncertain	3	12	15
Total	10	25	35

Table 7. Distribution of ceramic loom weight forms by period

Only one complete weight was recovered from Parker House, and a further six between 40-70% present. Four have a measurable diameter with a range between 92.5-119mm, which is at the lower end of the range for these weights in London (Keily and Blackmore 2012b, 223). The smallest of these, RF<5>, is 50% complete and one of five examples of compact bun shaped weights in fabric 1c (Fig 2) with small diameters but varied height. Heights range between 37-69mm, with most measuring between 45-55mm, comparable to those recorded in Keily and Blackmore (ibid) but smaller than the Royal Opera Hose weights. Complete weight RF<13> has a weight of 569g and the estimated weights for the incomplete weights would give a range of c.320g at the lightest (RF<5>) to c.800g at the heaviest (RF<15>; also a bun shaped weight in fabric 1c) with the majority within the 500-700g range. This is comparable to some London sites but slightly higher than Coppergate, York (Walton Rogers 2007, 1753).

Surface markings

Six weights exhibit surface marking. A number appear deliberate and others could be accidentally caused by lifting the weights when still wet or by the presence of now missing large pebble inclusions.

Three weights have oval to circular impressions. RF<25> (Fig 2) and RF<56> (Fig 3) has a fairly deep oval impression on one side which appears to have been made by a thumb. The impression is in a similar location to a deep finger impression on a weight from London (Keily and Blackmore 2012b, fig 140, L<42>) which is likely intentional however the Parker House example could have been accidental. Likewise, RF<13> (Fig 2) has a large oval impression at the mouth of the perforation which is perhaps deliberate but equally could have been made by a pebble or thumb. Another weight, RF<12> (Fig 2) has a probable fingernail gouge in the lower surface.

More deliberate seeming impressions are present on RF<44> (Fig 2) which has two conjoined vertically sided rhombus shaped impressions possibly made with a stamp. Other weights have square impressions which may have been made with a nail head (RF<25>) or irregular 'stab' marks (RF<63>). The most convincing intentional marks are displayed on RF<58> (Fig 3), which has two circular impressions, made with a flat based tools such as a dowel or stick, placed one above the other like a colon, next to at least one (possibly two) slash marks, and a stabbed linear mark on the upper surface of the fragment.

Surface marks have been found on many weights of Saxon date, both in London (Pritchard 1984; Keily and Blackmore 2012b) and elsewhere. Pritchard (ibid) suggests they are brand marks; other explanations include batch marks for a set of weights (Keily and Blackmore 2012b).

Fig 2. Ceramic loom weights: RF<5>, RF<12>, RF<13>, RF<15>, RF<25>, RF<44>

Fig 3. Ceramic loom weights: RF<56>, RF<58>

Needles and pins

The excavations produced a single fine copper alloy needle, similar to examples from Coppergate, York (Walton Rogers 1997, fig 830), from period 2.3 gully [2205]. The needle measures xx mm in length, comparable to the finer copper alloy needles at York (*ibid*; 6633, 6624), and has an elongated eye. A fragment of copper alloy wire from quarry pit [2087] may also be from a needle. There is an iron needle from London (Keily 2012, fig 158) but copper alloy needles are uncommon.

As well as the copper alloy needle, fragments of at least five bone needle like objects were recovered from dump [2126]. The heads are spatulate with the upper corners removed, and central circular eye (RF<18>, RF<19> and RF<20>; Fig 4). Identifying the purpose of these objects is somewhat tricky. The trimming of the head renders it less wide than true spatula headed pins, and can be seen as an attempt to produce the oval eye of bone needles such as those from Kemble Street and Southampton Street (Keily and Blackmore 2012b, 293), and they appear to have been more carefully shaped than the trimmed pins from these sites, which argues for their identification as needles, however under Blackmore's (2003, 306 and 309) classification they would be termed pins. None is complete and so shaft lengths are unknown.

Fig 4. Other registered finds

Craft and industry

Evidence for other crafts is not as extensive as in other parts of the *wic.* Industrial feature [2217] contained an antler tine exhibiting transverse saw or cut marks across the base, while possible copper working residue was retrieved from dump [2126].

Knives

Saxon features also produced two fragmentary iron whittle tanged knives. RF<24>, from refuse pit [2189] is incomplete; the tip and tang are missing (Fig 4). It is curve backed with a straight cutting edge. RF<27> is complete (L155mm) however it is in poor condition and in four fragments. It has a straight back which angles downwards towards the tip, and slopes down slightly toward the tang, while the cutting edge is parallel with the back, sloping up at the choil to meet the tang. The x-ray appears to show an end cap to the tang. This is much more a feature of later, medieval knives and since the knife is in such poor condition, may be an artefact of corrosion. The form of the blade places this knife within Ottaway's (1992, 562-4) 'angle- back' group A (possibly A3).

Coin

Four fragments representing c.25% from a 9th century silver penny of 'inscribed cross' type, minted in Canterbury, were recovered from gully [2012] (RF<4>). Due to the condition of the coin the moneyer is uncertain, however the coin was issued under Æthelberht of Wessex (c.858-862/4, North 620). Inscribed cross coins were also issued under Aethelwulf (Phase 4, c.852-858; North 618) and the archiepiscopal issues of Ceolnoth, Archbishop of Canterbury (Group III c.855-856, North 245). The reign of Aethelberht saw an increase in moneyers producing this type, as well as a debasement of silver quality.

Æthelberht of Wessex (858-865/6) Inscribed Cross, Canterbury,?Maninc, North 620

Obv. [+AEDE]LBEA[RHT REX]

Rev. [+MA]N?I?[NC MO]NETA

Wt. <0.5g

Die Axis 270°

The post-Saxon Registered Finds

A small number of objects were recovered from the 17th – 18th century features and have been catalogued for the archive. Dress accessories include two unstratified copper alloy buttons (RF<16>, RF<38>), a complete iron buckle (RF<32> quarry pit [2228]) and a heart shaped copper alloy belt mount (RF<49> quarry pit [2062]. A wooden knife handle with iron tang protruding from the end, RF<53> was recovered from cess pit [2176] and a fragment from an inscribed slate plaque which reads 'A stam[…] pi[n][..]' from quarry pit [2046] (Fig 4). Objects which could be associated with quarrying activity include a bucket handle fragment (RF<50>) and large iron hook (RF<51>) from quarry pit [2062].

5 MARINE MOLLUSCS

David Dunkin

Introduction

The excavation produced 25 contexts containing marine shell with a total weight of 3496g. The total assemblage by weight is comprised of c. 99%+ oyster remains (*Ostrea edulis*). Two other species were identified: one fragment of carpet shell (*Venerupis decussata*) was recorded in [2191] and dated to period 3.3 and a single infant common cockle shell (*Cerastoderma edule*) in [2204], period 2.3. The largest and most numerous number, 14 in all, of assemblages came from Middle and Late Saxon contexts (periods 2.2/2.3). The remaining 11 contexts of marine shell were from periods 2.1, 3.1-3.3. There were just 5 contexts which contained more than 200g of marine shell by weight. Their total weight is 2.824kg. The overall assemblage is therefore very small.

The trace of common cockle and carpet shell at Parker House can be regarded as residual.

Context Number	Land-use	Period	Feature	Species	Weight
2012	OA3	2.3 (Late Saxon)	Gully	Oyster	259 g
2013*	OA3	2.3	Gully	Oyster	990 g
2014	ENC2	2.2 (Middle Saxon)	Gully	Oyster	367 g
2071*	OA3	2.3	Pit	Oyster	1.008 Kg
2083	OA3	2.3	Pit	Oyster	200 g

Table 8. Five contexts with more than 200g of marine shell * targeted contexts

The Oyster Resource

Contexts [2013] and [2071] (Table 8) were targeted for further analysis due to their larger number of shells and are considered representative of the oyster resource from the site. Context [2013] contains 16 left/lower valves and 20 right/upper valves of oyster. General age range is from <5 years to 8 years+ and the size/age ratio of the valves is variable with minimal worm infestation (eg *Polydora hoplura*). Context [2071] contains 29 left valves and 22 right valves. The age range of this group of shells is c. 3-8 years with a significant number of juvenile/young adult individuals. Virtually no infestation by worm or burrowing sponge (eg *Cliona celata*) was noted in this assemblage. The size of the shells in relation to age is generally small indicating inhibited growth. This suggests they derive from an overcrowded colony. The majority of the shells from [2013] and [2071] indicate an edible sized resource.

The general variability of the oyster shells age and size from the targeted contexts suggests they were harvested from wild colonies. Given the site's proximity to the Thames the nearest oyster beds were probably situated some 25 miles to the east in the Thames estuarine area. Local markets would have been available in London throughout the Saxon period. There is no doubt that the oyster remains from the site represent an intermittent and secondary food resource and that this continued on a very small scale into the later periods.

6 ANIMAL BONE

Emily Johnson

Introduction

The faunal assemblage from the Middle Saxon phases at Parker Street represented an opportunity to analyse diet, animal husbandry and distribution networks in the hinterland of nearby Lundenwic. Three Middle Saxon phases were defined - period 2.1, which was poorly represented at 36 specimens, period 2.2, which was better represented by 1408 specimens and the best-represented period 2.3, with 3602 specimens. Material derived from areas associated with gravel quarrying, enclosure ditches, and open spaces with pits used for refuse deposition.

Taxa

Ovicaprid (sheep or goat) specimens dominated the assemblages, including 283 specimens identified as sheep and just 3 as goat (Table 9; Prummel and Frisch 1986). These specimens represented at least 15 individual ovicaprids from period 2.2 and 29 from period 2.3. Cattle were also well-represented in both periods 2.2 and 2.3 and, despite being eclipsed by ovicaprids in terms of NISP and MNI, this species probably contributed a substantial portion of dietary meat requirements due to their larger size. Pigs were poorly represented compared to the other domestic food animals. Horse bones were occasionally identified in the later phases, including an associated bone group (ABG; Morris 2008; 2011) of fore- and hindlimb metapodia and phalanges in period 2.2 [2054]. Occasional bones of cat and dog were also identified, along with probable dog coprolites and evidence of canid gnawing. A lack of butchery evidence on dog and cat bones may indicate they were not consumed. Bird bones were identified in periods 2.2 and 2.3, including domestic fowl and goose (Cohen and Serjeantson 1996). Possible woodcock/snipe was the sole wild bird species identified, along with other wild fauna including large deer (red or fallow) and anuran taxa. Fish were also identified, particularly in period 2.3 (see report below). The taxa abundance suggests that ovicaprids and cattle made the largest meat contribution to diet, which was supplemented with pigs, domestic fowl and possibly horse. Hunting wild fauna was not often required to supplement diet, although fish contributed increasingly in the latest phase.

Taxa	NISP	Period					
		2.1		*2.2*		*2.3*	
		NISP	**MNI**	**NISP**	**MNI**	**NISP**	**MNI**
Cattle	532	5	1	170	9	357	14
Ovicaprid	568	5	2	149	15	414	29
Sheep	283	0		75		208	
Goat	3	0		1		2	
Goat?	4	0		0		4	
Pig	149	0		35	6	114	9
Horse	47	0		26	1	21	2
Cat	9	0		2	2	7	1
Dog	6	0		1	1	5	1
Dog?	2	0		0		2	1
Large deer	1	0		0		1	
Large mammal	1400	3		452		945	
Medium mammal	1253	6		286		961	
Small mammal	3	0		0		3	
Bird	19	0		2		17	
Domestic fowl	22	0		8	2	14	3
Domestic fowl?	1	0		0		1	
Goose	4	0		0		4	2
Woodcock/snipe?	1	0		1	1	0	
Anuran	17	0		5		12	
Fish	62	0		2		60	
Indeterminate	660	17		193		450	
Total	5046	36		1408		3602	

Table 9. Taxa representation by the Number of Identifiable Specimens (NISP) and the Minimum Number of Individuals (MNI) for fully identifiable specimens. The MNI for ovicaprids is based on combined counts for ovicaprid, sheep and goat bones.

Age-at-death

It was possible to construct kill-off profiles for cattle and ovicaprids from the later Middle Saxon phases. Two neonate bones of ovicaprid and cattle were recovered from later Middle Saxon contexts (Prummel 1988), so it is possible that these animals were being bred locally.

The cattle fusion profiles from both period 2.2 and 2.3 suggested a main slaughter event at 1-3 years for cattle (Fig 5; Sliver 1969). Five ageable cattle mandibles also fell into this age category (two aged 18-30 and three aged 30-36 months [Grant 1982, Halstead 1985]). This suggests culling at prime meat weight. Skeletally mature animals likely represent breeding animals, dairy females or traction animals eventually slaughtered for meat. However, the amount of animals that survived to full fusion adulthood was much lower in the latest Middle Saxon phase (Fig 5). This could suggest a shift in focus to maximise prime meat production.

Fig 5. Slaughter profiles based on cattle epiphyseal fusion from Period 2.2 (left, n = 89) and 2.3 (right, n = 140). Age classes in months after Silver 1969.

Herd structure analysis for ovicaprids also suggests a shift in herd management over time. In period 2.2, some slaughter of animals aged 1-2 years and 2-3 years is suggested by both the fusion and dentition analysis (Fig 6; Silver 1969, Payne 1973). Both culls may represent meat slaughter, with heavy lambs and full meat-weight mutton targeted (Vigne and Helmer 2007). Beyond postcranial fusion there is further but less intensive slaughter, with animals over 4 years probably indicating milk, breeding or wool animals culled when quality of wool diminished and deaths by old age. In period 2.3, there was no evidence for slaughter of heavy lambs, instead meat animals may have been culled at 18-30 months and 3-4 years, where a dramatic drop in survivorship was evident in the dental profile (Fig 7; Silver 1969, Payne 1973). This later slaughter may include animals used for just a few crops of wool. Surviving animals, including one very old sheep aged 8-10 years, may again represent breeding stock, or further animals exploited for secondary products such as milk and wool, although there is less focus on secondary products in this phase. The ovicaprid herd structure analysis suggests that primarily mutton, but also secondary products potentially including wool and milk, were exploited from period 2.3 ovicaprids.

Fig 6. Slaughter profiles for period 2.2 ovicaprids based on dental eruption and attrition (black line, n=8) and epiphyseal fusion (grey bars, n=93). Fusion age classes after Silver 1969, dentition after Payne 1973.

Fig 7 Slaughter profiles for period 2.3 ovicaprids based on dental eruption and attrition (black line, n=31) and epiphyseal fusion (grey bars, n=242). Fusion age classes after Silver 1969, dentition after Payne 1973.

Slaughter patterns for pigs unsurprisingly reflect meat production, with the majority of animals culled at prime meat weight between 12 and 36 months corroborated by two mandibles aged 14-21 months (Hambleton 1998). Very little slaughter under 1 year was detected, and no specimens indicated survival into fusion maturity. This absence of neonatal animals representing accidental death or very young slaughter and older breeding animals may indicate that pigs were not being bred here.

Metrics, sex, pathology

A number of measurable ovicaprid long bones gave ranges of heights at withers. Means of 61.5cm (n=6, range 56.7 – 70.4cm) and 61.7cm (n=28, range of 55.0 – 72.4cm) were calculated using the greatest length of whole bones (von den Driesch 1976; Tiechert 1975), slightly larger than those reported from contemporary Lundenwic sites (Cowie et al. 2012: 138). Separation of sexes using metapodia was not possible due to small sample sizes, yet other sexually dimorphic bones gave an indication of sex representation. Six pelves from period 2.3 were identified as female or probable female (Prummel and Frisch 1986). Sheep horn cores on the other hand were overwhelmingly male, with 20 male or probable male specimens compared to 12 female or probable female and one female/castrate. This overrepresentation of males may suggest an economy where wool was an important secondary product, where males tend to be more equally represented in the sex distribution than other husbandry regimes (Payne 1973). Alternatively, horn cores of large males may have been brought to the site without the postcranium for horn working, explaining the disparity between the cranial and postcranial sex distribution. Two different breeds of sheep could be identified from the horn cores, including one example of a four-horned sheep. Five horn core fragments of sheep (both male and female) and goat had “thumbprint” depressions on the horn core. These depressions are caused by resorption of calcium in completely developed horncores, and likely relate to a combination of factors including malnutrition, repeated pregnancies and lactations,

and/or intensive milking (Albarella 1995). As both male and female horn cores are affected, malnutrition rather than intensive breeding/ milking may be the cause.

Eight cattle metapodia from periods 2.2 and 2.3 were used to calculate an average height at withers of 112.5cm with a range of 98-119.9cm (Fock 1965). Although sample sizes are small, this range is smaller than cattle from Lundenwic (Cowie et al. 2012, 138). Two cattle specimens presented with mild joint disease, identified on the neck of a femur and the proximal articulation of a third phalanx. It is possible that these pathologies relate to the use of cattle as traction animals.

The horse ABG contained measureable metapodia which gave the animal a 'smaller than average' (1280-1360cm) height at withers (Vitt 1952). The metapodia and phalanges had extreme pathological changes to joint surfaces, including osteoarthritis, likely associated with extensive use as a traction animal.

Skeletal part abundance

For cattle and ovicaprids the whole skeleton was represented in the Middle Saxon assemblage, including meat-rich bones of the upper fore- and hind-limb and meat-poor bones such as cranial fragments and metapodia. The latter are usually considered markers of primary butchery, suggesting that these animals were slaughtered and their carcasses processed on site (Crabtree 1989). The meat-rich bones of cattle, ovicaprids and pigs may be the remains of meals consumed nearby and deposited in the same refuse tips as the butchery waste. A good representation of horn cores from cattle and ovicaprids suggests that hornworking was also happening on the site, corroborated by butchery marks. The comparably low representation of phalanges may result from their removal from the carcass as part of the hide, and thus suggest that tanning was not happening in the vicinity, or that refuse from this process was deposited elsewhere. Taphonomic bias may also have affected the representation of these small bones, which are easily destroyed and/or digested by canids.

The much smaller domestic pig assemblage had a slightly different representation of skeletal elements, with a much higher proportion of meat-rich long bones with comparatively low abundances of cranial fragments and extremities, possibly indicating that pigs were butchered elsewhere and cuts of meat on the bone were specifically coming to site rather than being raised here. Horse skeletal part abundance was very different again, with meat-rich bones very underrepresented compared to the extremities, which were overrepresented in part due to the ABG. Along with a lack of butchery, this could suggest that the horse bones deposited at this site were not the remains of food waste.

Carcass Processing

Evidence for carcass processing and cooking practices was recorded in the form of butchery and burning evidence. Butchery marks were identified on 87 fragments of animal bone from the later Middle Saxon phases. Cleavers were used to portion the carcass and trim excess bone, evident in chop marks and splitting of the axial skeleton in both large and medium mammals. Standardised chopping to the base of ovicaprid and cattle horn cores indicates horn working. Marks on the horn core and surrounding skull may result both to separating the horn core from the carcass, and to removal of the keratinous horn itself from the bone core.

Marrow extraction was also facilitated by cleavers, particularly from cattle and large mammal high-yield bones, many of which had characteristic peri-mortem fractures stemming from this practice. Although some evidence of peri-mortem fracture was present on medium mammal bones, the large quantity of whole (i.e. unutilised for marrow) bones indicates that these species were not exploited for marrow in the same way – rather only abundant sources of marrow were targeted. Marrow cavities may have been split both to pot-size larger bones, and to better allow marrow to enrich stews, which was likely the main method of cooking at this time (Cowie et al. 2012, 154).

Cut marks were generally identified on rib fragments, indicating filleting of meat from these elements. Possible hook hanging holes in two ovicaprid scapula may attest to some preservation by salting/smoking (Dobney et al. 1996). The similarity of butchery patterns on different skeletal elements may attest to standardised butchery practices, which in turn could indicate centralised butchery.

A number of burnt bone fragments may attest to cooking and waste disposal practices. Charring, caused by burning at lower temperatures, largely affected partially identified ribs, vertebrae and long bone fragments. This may indicate roasting meat on the bone, which can result in charred bone where not protected by flesh. Many bones of medium mammals qualitatively featured brown discolouration and flaking that possibly indicated roasting. High-temperature burning was also identified on largely indeterminate fragments, and more likely relates to casual or systematic foodwaste disposal (Roberts *et al.* 2002: 489).

Discussion

The species representation from Parker Street suggests that meat from ovicaprids (dominated by sheep) and cattle contributed the most to diet, including prime beef, tender older lamb, mutton, and older animals formerly utilised for their secondary products. Pork from meat-weight animals also had a minor contribution to diet. The meat-age slaughter of all three domestic food animals reflects major trend in Middle Saxon assemblages towards prime meat seen at Lundenwic sites (Cowie et al. 2012, 135). The relative abundance of small domesticate species reflects the later Middle Saxon regional trend for ovicaprids to be more common than pigs, although the larger contribution of pigs to the NISP in the assemblage from the nearby London School of Economics (Forsyth-Magee 2017) and the diversity seen in Lundenwic sites further exemplify the large degree of diversity in middle Saxon economy (Crabtree 1989, 63). Despite the domesticate diversity, the poor representation of wild fauna (save fish) at Parker Street mirrors contemporary sites in Lundenwic (Cowie et al. 2012) and further afield in Suffolk (Crabtree 1989).

Cattle and ovicaprids were likely exploited for their secondary products in addition to meat. For sheep, this may have included wool and milk. Exploitation of both products could be suggested by the herd structure analysis, and the representation of many male animals in the sexually dimorphic horn cores may reflect the more equal representation of the sexes in a wool herd (Payne 1973). Despite the truncation of cattle herd structure caused by a lack of adult mandibles, the animals surviving into fusion maturity were likely exploited for milk and traction. Use of cattle as traction animals is supported by pathological joint disease noted in some cattle material. It is also likely that horses were used as traction animals based on extensive osteoarthritis identified in ABG [2054]. The herd structure analysis for the ruminants can be described as meat-centred, with non-intensive exploitation of secondary products.

The abundance of certain skeletal elements can suggest networks of distribution surrounding Parker Street and the Lundenwic landscape. The presence of neonate bones of cattle and ovicaprids may be evidence that these species were bred onsite, although this is sparse evidence compared to other sites in Lundenwic where a ‘farm’ interpretation has been made (for example, the National Gallery Basement and sites F and R; Cowie et al. 2012, 150). More likely at least some animals represented on the site were bred elsewhere and were brought to the site to provide prime meat. Ruminant species may have been transported to site on the hoof based on the representation of all skeletal elements, where they may have been slaughtered and the carcasses dressed, creating primary butchery waste deposits of cranial material and metapodia. Meat from these butchery events may have also been consumed onsite as meat-rich bones are also represented in the assemblage. Pig meat-rich bones were somewhat overrepresented compared to cranial and foot bones, and thus may have arrived at site already in carcass portions. This interpretation was applied to a similar pattern of skeletal part abundance at Exeter Street (Farid and Brown 1997).

The underrepresentation of phalanges compared to metapodia for all food taxa may be a result of their attachment to hides that were tanned elsewhere. Horn cores may have been transported to site to be worked without the corresponding postcranial skeleton. These factors suggest the redistribution of animals, meat portions and craft materials in a network of contemporary sites around Lundenwic and its hinterland.

As suggested above, the animal bone assemblage from Parker Street likely represents refuse from both industrial (craft) and domestic practices. Specialised horn-working and centralised butchery may be suggested from the skeletal part abundances and the standardised butchery practices associated with carcass dismemberment and horn removal. Consumption may have also been standardised as a result of this butchery, with large mammal high-yield bones split for marrow and possibly boiled in stews, whereas medium mammal marrow-yielding bones may have been roasted with the meat attached and remained unbroken. Non-standardised 'domestic' consumption may be in evidence in the presence of small numbers of domestic birds, which may have been raised in gardens (Cowie et al. 2012, 132).

In conclusion, the animal bone assemblage from the Middle Saxon period at Parker Street represents the deposition of both domestic and industrial waste. The material gives an insight into diet, consumption practices, animal husbandry, trade networks and centralisation at a site on the periphery of Lundenwic. It reflects the mixed social economy found at this urban fringe.

7 FISH BONE

Hayley Forsyth-Magee

Introduction

The excavations at Parker Street London produced a small quantity of fish bone, retrieved from five contexts of Middle Saxon date. Of the three Middle Saxon phases identified at Parker Street, fish bones were recorded in the Later Middle Saxon phase (period 2.2) containing 3 specimens, with the majority present in the Latest Middle Saxon phase (period 2.3) consisting of 60 specimens, predominantly collected from pit fills. Fish remains were only recovered from the sorted residues of processed bulk soil samples.

The fish bones from the Middle Saxon phases (2.2 & 2.3) provides a chance to analyse the diet and fish husbandry regimes of the inhabitants of the hinterland of nearby Lundenwic.

Methodology

Bulk samples were wet-sieved and air-dried and the residues from the bulk sieved samples were then sorted to 2mm. Wherever possible, fish bones have been identified to taxon and skeletal element utilising reference collections and reference resources including Cannon (1987), Wheeler (1978) and Wheeler and Jones (1989). Elements that could not be confidently identified to species due to fragmentation have been classified to family level, with undiagnostic cranial and post-cranial fragments recorded as 'Fish'. Due to bone fragmentation, no measureable bones were recordable. There was also no evidence of taphonomic alterations (butchery, burning, crushing) or pathology found on the fish remains.

The assemblage has been recorded onto an Excel spreadsheet and is available in full within the site archive.

Assemblage

The fish bone assemblage was recovered from five wet-sieved samples (<4>, <14>, <20>, <50>, <56>) and is in a moderate state of preservation. The majority of the fish bone was retrieved from pit and industrial fill features, from Phase 2.3 (Table 10), with smaller quantities of fish recovered from quarry pit and ditch fills.

Feature	Period 2.2	Period 2.3
Ditch	3	
Quarry (Pit)		4
Pit		37
Fill (Industrial)		19

Table 10. Fish NISP (Number of Identifiable Specimens) count by period and feature type

A range of marine, migratory and estuarine fish have been identified from the Parker Street assemblage. The species of fish most commonly represented was eel (*Anguilla anguilla*) (Table 11), with the majority of these bones recovered from pit fills from period 2.3. A small collection of Pleuronectidae bones (Flatfish; Plaice/Flounder and Plaice) were present, followed by Salmonids, herring (*Clupea harengus*) and Gadidae.

Taxa	Period	
	2.2	*2.3*
Anguilla anguilla (Eel)	1	50
Clupea harrengus (Herring)	-	1
Gadidae (Cod family)	-	1
Pleuronectidae (Plaice/Flounder)	2	-
Pleuronectes platessa (Plaice)	-	2
Salmonids	-	2
Fish	-	4
Total	3	60

Table 11. Fish NISP (Number of Identifiable Specimens) count by period

The majority of all taxa present are represented by vertebral elements (Table 12) with very few cranial elements recovered. The environmental samples that produced the fish remains also contained quantities of mammal and bird bones, some with evidence of butchery and burning. This suggests that the deposition of faunal material likely represents that of domestic and industrial waste.

Element Group	Element	Eel	Herring	Gadidae	Flatfish	Plaice	Salmonids	Fish
Cranial	Head frag.	-	-	-	-	-	-	1
Post-cranial	Body frag.	-	-	-	-	-	-	3
Vertebral column	Caudal vertebrae	-	-	-	-	-	-	-
	Precaudal vertebrae	51	1	-	-	2	2	-
	Vertebrae	-	-	1	2	-	-	-

Table 12. Fish skeletal element representation for period 2.2 and 2.3

Discussion

The fish remains from Parker Street indicate an exploitation of migratory species in freshwater as well as inshore, coastal, estuarine and marine fish husbandry. The species present are comparable to the popular species of eel, salmon, cod, flatfish and herring, recovered from other Middle – Late Saxon sites in England, (Holmes 2014), the exploitation of which increased during this time due to population expansion and economic development (Reynolds 2016). There is no evidence for deep-water fishing or large-scale commercial processing of fish within this assemblage, which indicates fish were caught more for local subsistence.

Eel (81%) a migratory species of fish, dominates the assemblage at Parker Street, similar to the assemblage at Maiden Lane and Jubilee Hall (Locker, 1988). The size of eel vertebrae suggests that these fish were caught in local rivers. The River Thames is well within the vicinity of Parker Street, making it the most likely source of eel exploitation. Elvers (young eels) were often caught in large numbers as they travelled upstream, or as maturing adults as they migrated back to the sea during November – January months (Wheeler 1979; Wheeler and Jones 1989). The variation in vertebrae size of the eels at Parker Street suggests that both elvers and maturing adults were exploited, caught in traps such as eel-bucks, in the River Thames (Cowie and Blackmore 2008).

Additional migratory species within the assemblage includes flatfishes (Pleuronectidae; Plaice/Flounder and Plaice) (6%). Flatfishes are found around inshore coastlines and estuaries as juvenile specimens. The flatfish vertebrae at Parker Street are small in size, which suggests they were caught in the Thames estuary and were likely fished using lines (Locker 1988) or fish weir traps (Rielly 2012; Cowie and Blackmore 2008). The larger flatfish specimens would have been fished from inshore and coastal waters.

A small quantity of migratory Salmonids (3%) were also present, similar in quantity to the assemblage from Jubilee Hall (Locker 1988). It is worth noting that salmonid remains are affected by preservation levels more so than other species (Wheeler and Jones, 1989) and this may contribute to the numbers represented. A very small number of marine species consisting of herring (2%) and small gadids (2%) may have been caught during seasonal migrations. Herring were fished locally at this time (Serjeantson and Woolgar 2006) using nets and gadids fished by lines in estuary waters (Rielly 2007; 2012). The small size of the gadidae vertebrae make it unlikely that these remains are the waste from imported salt fish or stockfish (Hagen 1995; Serjeantson and Woolgar 2006; Rielly 2012). The lack of skull fragments suggests that the majority of the fish were decapitated fresh (Wheeler and Jones 1989), before being disposed of, although some specimens may have been preserved by salting, drying or pickling (Rielly 2007; Rielly 2012; Holmes 2014), allowing fish catches to be transported further inland without spoiling.

There does not appear to be any disposal patterns in regards to feature type, the majority of the assemblage was recovered from pit fill [2085] consisting mainly of eel vertebral centra (Tables 10 and 12). Smaller quantities of fish bones were recovered from industrial ([2187] [2204]), quarry ([2086]) and ditch ([2014]) fills.

The species present in the Parker Street assemblage reflects local fishing in the River Thames (Locker 1988). The dominance of eel freshwater catches at Parker Street is comparable with the Middle – Late Saxon assemblages from Maiden Lane and Jubilee Hall (Locker 1988), Shorts Gardens, Drury Lane, Long Acre (Rielly 2012) and nearby Houghton Street (Forsyth-Magee, *in prep*). This suggests that the consumption of eel was the result of the exploitation of an abundant local resource that was available throughout the year (Wheeler and Jones 1989). The fish assemblages from the Royal

Opera House, (Rielly 2003) are more prevalent in large quantities of cyprinid remains, which decline dramatically by the Late Saxon period (Rielly 2012). Of the major species (consisting of eel, clupeid, cyprinid, flatfish and gadidae) gadids are present in the least abundance at a number of Middle-Late Saxon/Lundenwic sites (Rielly 2012), although this is not true of the assemblage from Houghton Street (Ayton & Forsyth-Magee, *in prep*) which has a large quantity of gadid remains. The quantity of gadid remains increases in Late Saxon and medieval assemblages, (Locker 1988; Serjeantson and Woolgar 2006). These patterns of fish husbandry can likely be attributed to local preference, population pressures and Christian dietary laws (Serjeantson and Woolgar 2006; Reilly 2012; Locker 2018).

Conclusions

The fish remains recovered from Parker Street represent that of domestic food waste (kitchen and table waste). The taxa present indicates that the inhabitants consumed a limited variety of fish. Large marine fish were not present in abundance within the assemblage, suggesting that local anglers favoured the exploitation of local coastal, inshore and estuarine waters. The lack of freshwater (excluding eel) and high-status species, suggests that fish were consumed as a dietary supplement.

8 CHARCOAL

Mariangela Vitolo

Introduction and methods

Two samples from the fills of pit [2016] were recommended for charcoal analysis. The fills date to the Mid and Late Saxon period.

Charcoal fragments were fractured along three planes (transverse, tangential longitudinal and radial longitudinal sections) following standardised procedures (Gale and Cutler 2000) and viewed under a stereozoom microscope for initial sorting and an incident light microscope (at 50, 100, 200 and 400x) to facilitate identification. Anatomical features visible in the archaeological specimens were compared with modern reference material held at UCL Institute of Archaeology and with those documented in reference atlases (Hather 2000; Schoch et al. 2004; Schweingruber 1990) in order to provide taxonomic identifications. Where possible identifications have been made to species level, however genera, family or sub-family names are given where anatomical differences between taxa are insufficient to enable satisfactory identification. Nomenclature used follows Stace (1997).

Results and discussion

The following taxa or groups of taxa have been recorded:

Fagaceae	*Quercus* sp., oak (two native deciduous oaks - either *Q. robur* or *Q. petraea*)
	Fagus sylvatica, beech
Aceraceae	*Acer campestre*, field maple
Oleaceae	*Fraxinus excelsior*, ash
Betulaceae	Co*rylus avellana*, hazel

	Corylus/Alnus sp., hazel/alder
Rosaceae	
Subfamily Maloideae	including *Crataegus monogyna*, hawthorn; *Malus* sp., apple; *Sorbus* sp., rowan, whitebeam; *Pyrus* sp., pear;
Araliaceae	*Hedera helix*, ivy
Leguminosae	*Cytisus/Ilex* sp., gorse/broom

Both samples contained a number of unidentifiable fragments. Post-depositional sediment encrustations occurred, particularly on the fragments of beech and ivy. These are due to fluctuations in the ground water level. Vitrification, indicating that the wood anatomy displays a glossy appearance, was also noted frequently. A small number of round wood fragments, likely deriving from twigs or small branches collected from the woodland floor, were recorded. Such fragments could have been used for kindling.

The assemblages are fairly mixed, perhaps because the fills contain an amalgam of waste deriving from different sources. Most of the fuel would have derived from deciduous woodland and was sourced from outside London. Gorse and broom are typical of heathland and were often used for fuel wood in the past (Rotherham 2007). However, some shrubs such as hazel or garden trees from the Maloideae group could have been grown within the city itself. Ivy could have been stripped from buildings in order to provide tinder, although it is also possible that whole old timbers with climbing plants were being burnt. The fragments were however too small to detect any timber used with certainty. It is surprising that no trees of wetland or riparian environments, such as alder, willow or poplar, were recorded within this assemblage as such trees would have grown on the banks of the Thames. The majority of the taxa represented produce sturdy wood that is an excellent fuel and could have been selected for their burning properties.

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