

EXCAVATIONS AT THE FORMER ALLIED BREWERY, 148–180 ST JOHN STREET, LONDON EC1

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SUMMARY

During 1995 the Museum of London Archaeology Service undertook fieldwork at the site of the former Allied Brewery at 148–180 St John Street, London EC1. The work was funded by Allied Domecq plc. The river terrace gravel was overlain to the north-east of the site by brickearth. St John Street is known from 1170. The site is bisected by the former boundary between ‘The Nun’s Field’ and ‘Saint John’s Meadow’ (also known as ‘Whitewell Beach Meadow’). The former was under the ownership of the nunnery of St Mary Clerkenwell from at least 1197 until 1545, and was by 1603 known as Woods Close. Saint John’s Meadow is known from 1165–82. Between 1376 and 1377 the ownership of the field was conveyed to the newly-founded Carthusian monastery of Charterhouse. The Charterhouse estate passed to Edward North in 1545. Within Saint John’s Meadow features dating from the 14th century were recorded. In the Nun’s Field was a series of quarry pits, backfilled by the mid to late 14th century. To the west was the truncated base of the linear boundary ditch to the Nun’s Field. A timber barrel well within the Nun’s Field had been backfilled during the 16th century and subsequently sealed by a plough soil dated to 1500–1600. The boundary ditch between Saint John’s Meadow and the Nun’s Field and adjacent quarry pits were backfilled after the mid 16th century. The site had become fully built up by 1687. The fieldwork has confirmed documentary and other archaeological evidence that to the south-west of the site St John Street was formerly at a lower level (up to 5.50m below that of today) from at least the 14th century. Examination of the archaeological,

documentary, and cartographic record has demonstrated that the Black Death cemetery known as Pardon Churchyard (acquired by Charterhouse in 1370) was located to the south of the site.

INTRODUCTION

Between January and February 1995 the Museum of London Archaeology Service (MoLAS) undertook a field evaluation of the site at 148–180 St John Street, London EC1 in the London Borough of Islington. The site code was SJO95. The Ordnance Survey reference for the site is TQ 8220 3175. Seven test trenches (A–G) and two test pits (TPA, TPB) were excavated to assess the nature, date, extent and condition of any archaeological remains (Fig 1).

Features and stratified material dating from the 14th century were recorded. Further trenches and test pits were excavated in June 1995 (Trench H, Test Pits C, D, and E) to assess the level of archaeological survival in areas where excavation was proposed. Test Pit E revealed truncated natural gravels and no archaeological deposit. Trench H revealed plough soils which required no further investigation. Test Pits C and D revealed archaeological survival which required further investigation.

A third phase of archaeological excavation was proposed in the areas around Test Pits C and D. Subsequently Trenches K1, K2 and K3 were excavated in that area. Trench J was excavated

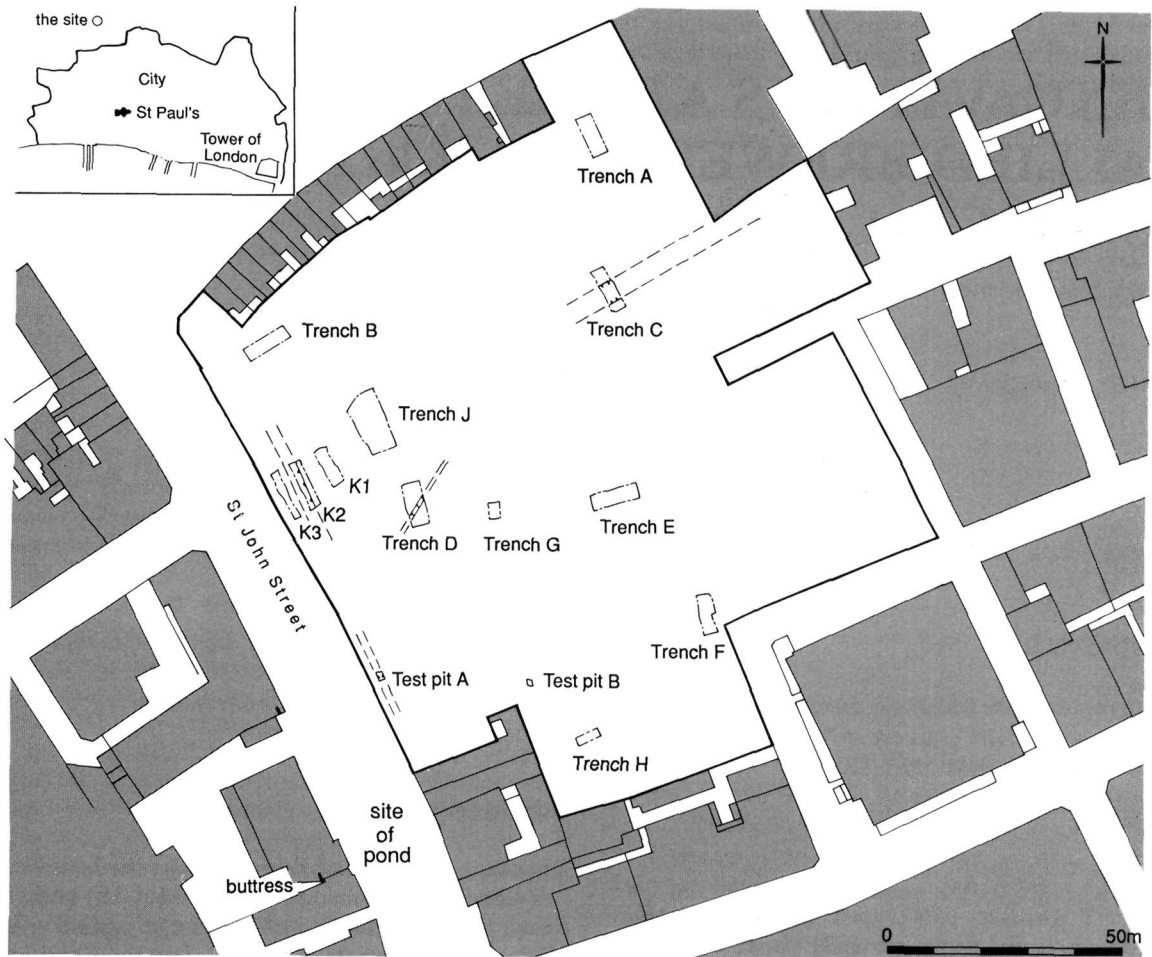


Fig 1. Site outline with inset of site location. Trench K2: truncated base of north-south field boundary to the Nun's Field; Trench C: a boundary ditch between Whitewell Beach Meadow and the Nun's Field, backfilled 1550–1650; Test Pit A: a boundary ditch at the west edge backfilled by the mid 14th century

to further investigate the extent of features recorded during the evaluation in Trench C. Excavation of Trenches J, K1, K2 and K3 took place during September and October 1995.

GEOLOGY, TOPOGRAPHY AND PREVIOUS ARCHAEOLOGICAL OBSERVATIONS

The site is located in the south of Islington on ground at *c.*2.0m OD which slopes down towards the south-east of the borough. The London Clay is capped by Pleistocene river terrace gravels (Waite & Archer 1992, 3). The site is located close to the western edge of the Corbets Tey

Gravel (Gibbard 1995, 41) which has a surface level of up to 18.50m OD (Tyler 1995, 6).

The gravel may be sealed by brickearth in some areas. This fine silt was laid as the ice melted at the end of the last glaciation. Although recorded at this site, it is not considered usual for brickearth to be present in this part of the borough (Waite & Archer 1992, 4). The surface of the brickearth was recorded at levels of up to 16.43m OD during an archaeological watching brief at 1–7 Dallington Street, some 100m to the east of the site, undertaken during April 1997 (Miles 1997, 13).

Gibbard has demonstrated that the surface of the Corbets Tey Gravel has been dissected by younger stream valleys and has indicated that

such a channel, aligned north-south, survives 350m directly to the south of the site, at the west side of the south end of St John Street (Gibbard 1995, 48 fig 19 boreholes 349/350). The east side of the channel marks the west edge of the Corbets Tey Gravel, and the west side of the channel is the edge of the Fleet Valley Gravel. The channel has a base level of *c.*10.40m OD, with a surviving top level of *c.*15.70m OD. The full east-west width of the channel is *c.*170m. The additional extent of the channel is not known.

In 1903 the widening of St John Street was archaeologically observed by E. Hudson as part of a programme of monitoring building works in the area of St John's Priory, Clerkenwell. These observations form part of the entries in notes of 1914 for an unpublished book, *St John's Priory, Architectural and General History*, by Hudson.¹

In these notes references are made to foundations and features recorded during the road widening.² The area of observation was at the south-east corner of 145–157 St John Street (*c.*32m south of Test Pit A, on the west side of St John Street). The foundation observed was part of a buttress along the eastern wall of the priory of St John. It was founded in clay at *c.*12.45m OD, with a truncated top level of *c.*13.77m OD. Ground level associated with the buttress was interpreted to be at *c.*13m OD, some 5.50m below current street level. A feature interpreted as a pond was recorded to the north of the foundation (see Fig 1).

This archaeological and geological evidence for the different ground level in antiquity is complemented by a reference to the water supply of St John's being piped along a 'valley' to the east of the priory in the 15th-century priory cartulary: 'And in AD 1424...the water descends through a valley opposite le Wrestlyngplace [Clerkenwell Green] along a stone gutter then not very well made...'.³ The valley to the east of the priory was close to the current route of St John Street.

Taken together, Gibbard's work on the geology of the area, Hudson's archaeological observations and the references in the cartulary indicate that the topography during the medieval period was dissimilar to that of today. There is a compelling argument that during the medieval period the area to the west of, and to the south of, the site was at a lower level to that of the surrounding land.

The topography will have impacted upon the alignment of St John Street, known to have been in use from at least 1170 (Pinks 1880, 293–4).

The early street may not have been aligned straight up the face of a slope with a sharp gradient. To make the gradient of the street less sharp it may have been aligned along the edge of the slope.

With the exception of Trench A the uppermost geological deposit in the area of the site was truncated orange river terrace gravel, with a maximum surface level of 16.83m OD. To the south-west of the site in Test Pit A, surface level was 14.60m OD. The latter was beneath archaeological deposits, and did not represent truncation by a basement.

The supposition regarding the differences between the current and historic topography to the south and west of the site is borne out by the difference between the surface level of the gravel in Test Pit A and the remainder of the site.

To the north-east of the site in Trench A brickearth (surface level 16.67m OD) overlay the gravel. The brickearth had built up on the surface of the slope down to the east in this area of the site.

Roman

Grimes has suggested that St John Street may be of Roman origin (Grimes 1968, 43). The road which originated at either Newgate or Aldersgate, continued through West Smithfield along St John Street, to Kings Cross, eventually reaching Highgate Hill. Although redeposited Roman finds were recovered from the site, no evidence was found to confirm this proposition.

Saxon

There is no evidence that the site was anything other than open land during this period and later (see Fig 2 which dates from the early/mid 1430s). No finds dating to this period were recovered from the site.

Medieval

Islington is mentioned, as both 'Isendone' and 'Iseldone', in Domesday Book of 1086 (Morris 1975, 128a, 129c, 130d).

To the west of the site was the priory of the Order of the Hospital of St John of Jerusalem, and to its north-west the nunnery of St Mary de

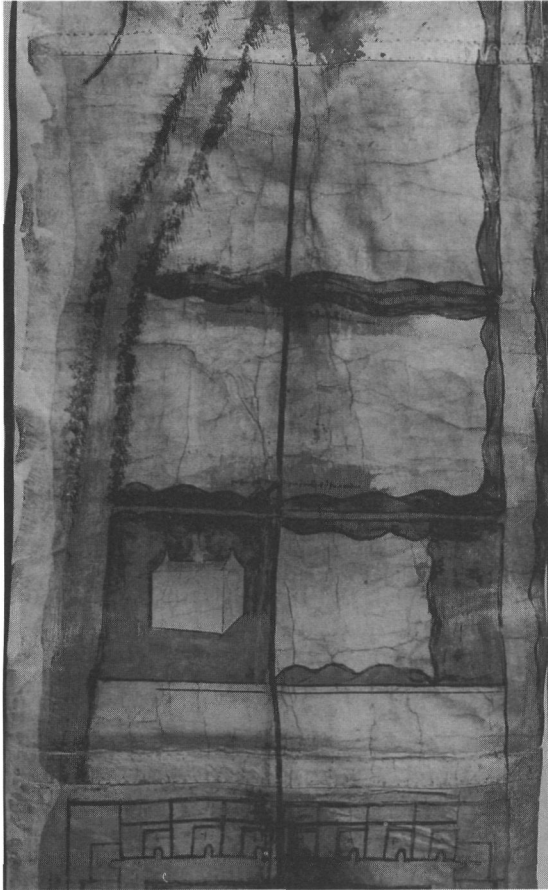


Fig 2. Plan of the water supply to Charterhouse, compiled during the early/mid 1430s, with final annotation dated to 1512

fonte clericorum, or Clerkenwell (Fig 3). They were both founded in about 1144 by Jordan de Bricet and his wife Muriel de Munteni. The River Fleet, or Holborn, lay to the west of these monastic houses, along the line of modern day Farringdon Road. To the east of the religious houses was St John Street, and east of that a road along the line of Goswell Road which left the City at Aldersgate.

St John Street was certainly formed by 1170 when it is referred to in a charter of confirmation as 'that street which goeth from the bar of Smithfield towards Yseldon' (Pinks 1880, 293–4). It was further referred to in 1364 and 1380 (*ibid*, 294).

THE NUN'S FIELD, 1197 TO AFTER 1687

Early maps of the area indicate that the site was bisected by a field boundary, with the northern

field named as 'The Nun's Field', clearly a reference to ownership by the nunnery of St Mary Clerkenwell. The field to the south of the boundary was named 'Whitewell Beach' or 'St John's Meadow'.

The principal donors of land to the nunnery were Emma de Munteni, her husband Reginald de Ginges and Lecia Munteni and her husband Henry Foliot, who between them granted land to the north and west of St John Street. The detail of these grants is drawn from a fine of 1197 when Lecia confirmed the holdings to the nunnery (see Dyson in Sloane (in prep) period M2). By 1197 the nunnery had ownership of a long field of up to 14.5 acres between 'Whitebeck' or 'Whitewellbeech' to the south, and 'Farncroft', or 'Farcroft', to the north. This lay on the eastern side of St John Street (*ibid*). Part of the long field is within the site area, annotated as 'The Nun's Field' to the north of the boundary ditch on the 1430s plan (Fig 2).

Subsequent to the dissolution in 1539 the great field of the late nunnery was sold to Lord Chancellor Wriothesley in June 1545 (*ibid*, period P2). This corresponds to the 'Nun's (or Long) Field'.

In 1603 James I crossed 'Wood's Close' on the way to Charterhouse (Cromwell 1828, 269–270). This was the former Nun's Field, shown as 'Wood's Close Garden Ground' on Richard Dayne's map of 1654/5 (Fig 4).⁴ Fig 5 represents a transposition of Dayne's map onto the modern street plan. The William Mar plan of 1687 (Fig 6) depicts the southern part of Wood's Close within the site limits, with the remainder of the site built up.⁵

Quarry pits

In Trench K1 four successive phases of truncated quarry pits were recorded. They were truncated at levels between 14.99m OD and 15.26m OD. The excavation of these pits is illustrated in Fig 7.

The first phase consisted of two cuts. Pottery in the backfill included unabraded fragments of a London-type ware jug dated to 1240–1350. The backfilling must have taken place shortly after the breakage of this vessel. The backfill deposits of the three succeeding phases were dated overall to 1050–1300. The second phase (four cuts) included sherds of London Coarse

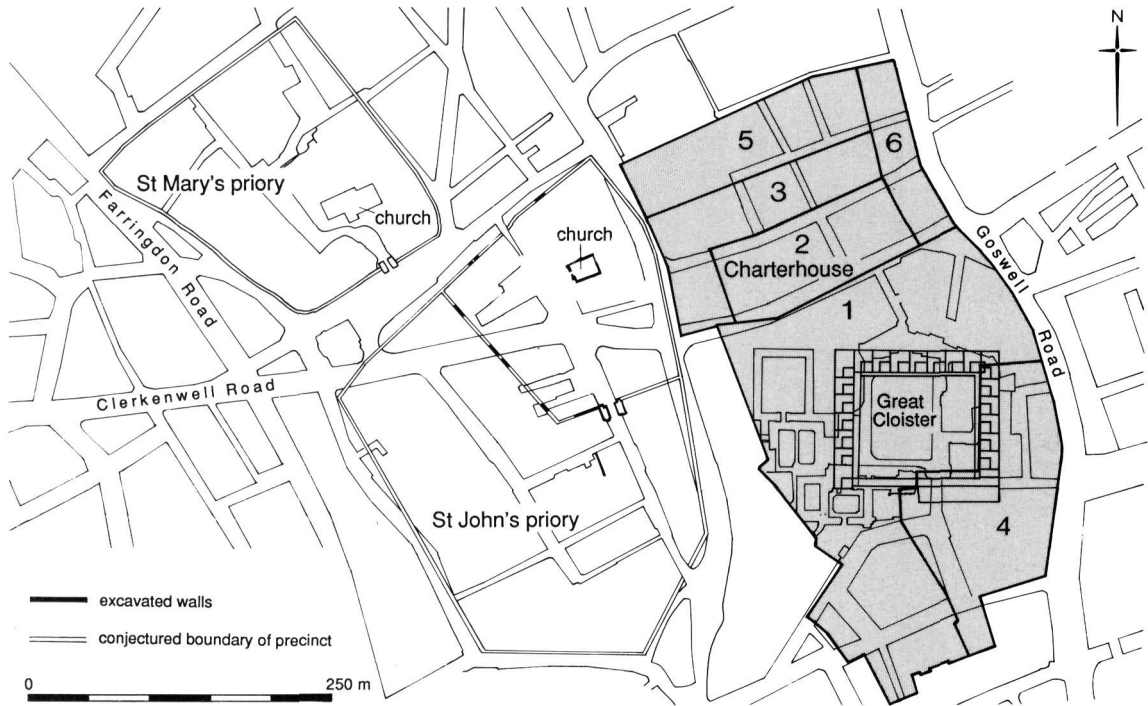


Fig 3. Monastic Clerkenwell in the medieval period with land acquired by Charterhouse numbered (based on Knowles and Grimes 1954, 19). 1. Spital Croft or New Church Haw. The 13 acres and rod of land used as graveyard. Acquired 15th November 1370; 2. The land identified as Pardon Churchyard. The three acre graveyard. Acquired 15th November 1370; 3. Land belonging to St John's Priory; Saint John's Meadow (Whitewell Beach). Acquired 1376; 4. Land belonging to St John's Priory; Saint John's Meadow (Whitewell Beach). Acquired 1377; 5. Land belonging to St John's Priory. Acquired 1384; 6. Land belonging to the Abbot of Westminster. Acquired 1391

ware jugs and abraded cooking pots and South Herts grey ware cooking pots. The third phase (four cuts) included Early Medieval sandy ware cooking pots, and Early Medieval shelly ware cooking pots. These sherds must have been residual. The fourth phase (four cuts) included a burnt fragment of Early Medieval chalky ware cooking pot, residual in the backfill material.

The first, third and fourth phase of quarry pits produced no environmental remains apart from poorly preserved bones, which suggested that these fills may have been redeposited. The pottery from the earliest phase was less abraded than that from the later phases, and was deposited at the time of backfilling with the remainder residual within the backfill material. A further undated backfilled quarry pit was recorded in Trench K2.

A large quarry pit was recorded in Trench J, with a north-south width of at least 3.50m. Base level was at 14.52m OD and it survived to a

level of 16.00m OD. The base level of this pit was c.0.50m higher than the base level of the quarry pits in Trench K1. This may reflect a higher ground level in this area of the site in antiquity.

This pit retained primary fills (surface level 15.00m OD) which had accumulated before backfilling during the period when the pit was open. There was no pottery in this primary fill. Invertebrate remains recovered from the primary fill indicated the presence of a standing, possibly temporary, body of water. Bones included the usual mammalian domesticates, a few fish bones and a single chicken bone from a male bird.

The quarry pit was subsequently backfilled. The backfill extended to the full surviving height of the cut, 16.00m OD. No pottery was found in the backfill. Fragments of pegtile with nail holes and glaze possibly dating before the late 15th century were recovered. Bones included cattle, sheep/goat, pig, horse, chicken and two owl



Fig 4. Dayne's map of the Clerkenwell estate of Charterhouse, 1654/5

bones (possibly tawny). Features which postdated this backfill were dated to 1380–1500.

To the south of the quarry pit a soil layer which directly overlay the floodplain gravel (top level 15.79m OD, base below 15.01m OD) was dated to 1240–1350. Pottery included fragments of London-type ware jugs and South Herts grey ware cooking pots.

Well

The backfill of the quarry pit in Trench J was cut through in preparation for the insertion of a well. This was lined with a reused cask 1m wide, made from radially cleft oak staves. The headpiece of the cask had been removed. Base level of the well was 14.29m OD, and the timber

survived to a level of 15.24m OD. Traces of the decayed roundwood hoops were apparent in the deposit surrounding the cask. Unfortunately the timber was not dendrochronologically datable. The cask itself was not datable by typology, as cooperage technology did not change until the advent of machine technology in early 19th century (Kilby 1971, 65).

The disuse of the well was marked by its backfilling. Pottery recovered from the backfill was dated overall to 1380–1500. This included London-type ware jug and cooking pots, South Herts grey ware cooking pots, Coarse Border ware cooking pots and jugs. Bones in the backfill were almost entirely those of the major mammalian domesticates with a few bird (probably chicken) and fish bone (including a dermal denticle of a thornback ray).

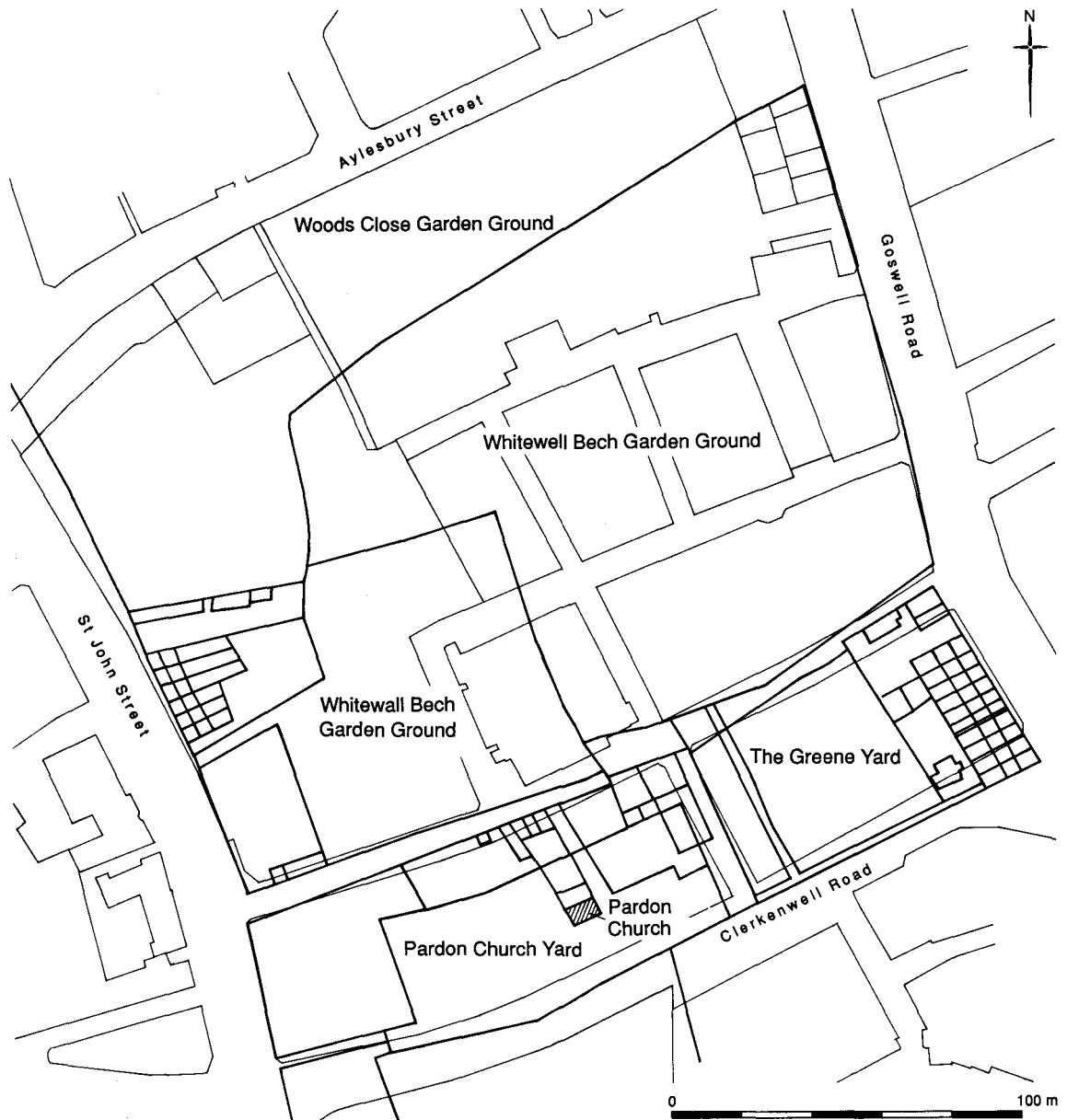


Fig 5. Dayne's map superimposed onto the modern street plan with field names annotated from Dayne's map

Boundary ditch

The truncated base of a north-south linear ditch or field boundary was recorded in Trench K2. This had been backfilled with a material similar to that of the quarry pits in Trench K1. Base level was 14.84m OD and it was truncated at 15.35m OD. The backfill included no finds or environmental evidence. This ditch would appear

to be close to, or on the alignment of, the western boundary to the Nun's Field (Fig 1).

Plough soil

Sealing the backfilled well and the sub-soil in Trench J was a plough soil dated to 1500–1600 (truncated top level 16.65m OD). As well as the

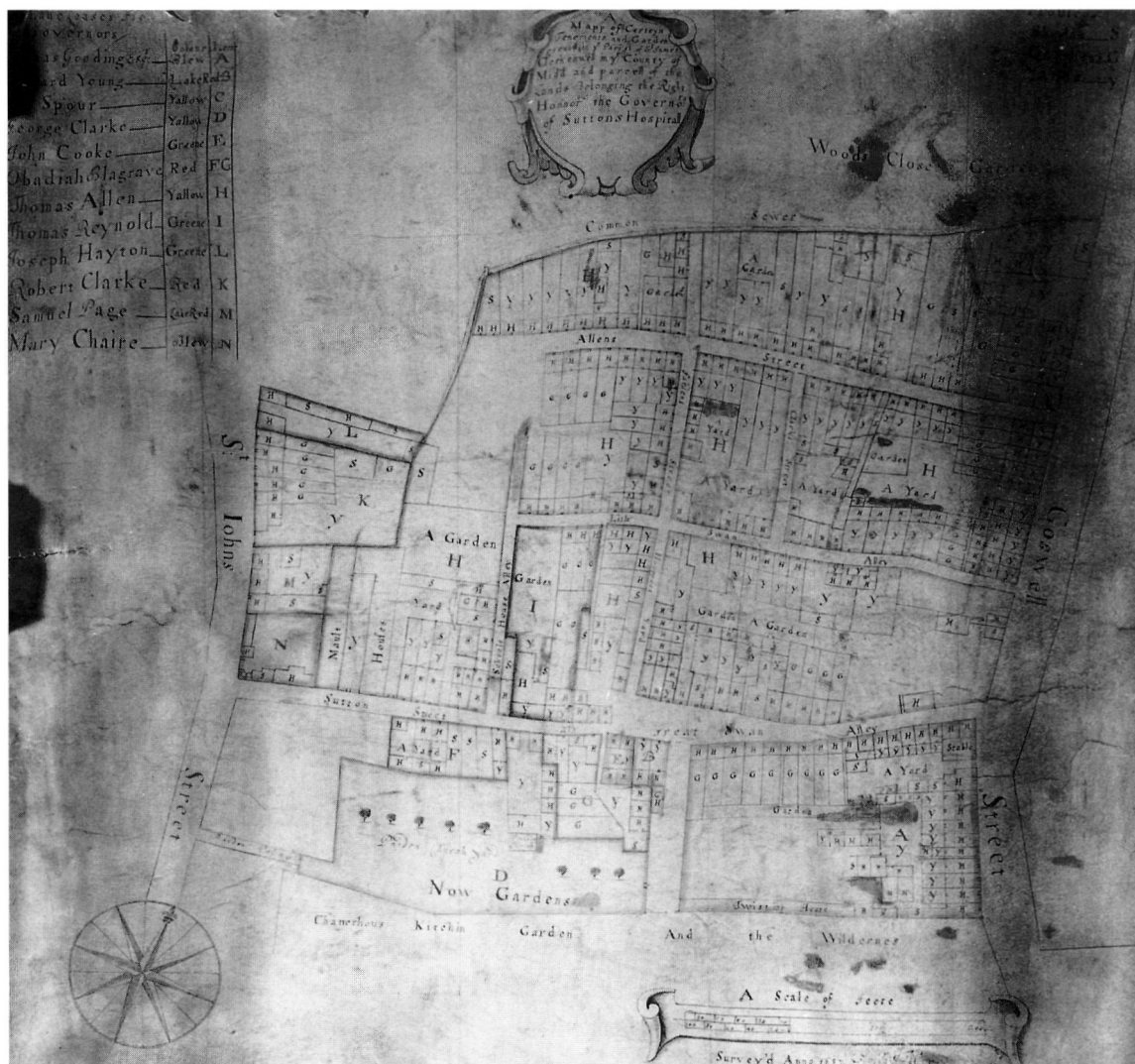


Fig 6. 'Plan of the Clerkenwell Estate' of Charterhouse by William Mar, 1687

usual domesticates (cattle, sheep/goat, pig) bones of dog and fallow deer were recovered.

The only deposition recorded in Trench A was a plough soil, dated by pottery to 1600–1700.⁶ Finds recovered from this included fragments of yellow glazed Border ware pipkin and bowl, red Border ware pipkin and bowl and English tinglazed ware charger and bowls.

Conclusion

The Nun's Field was held by the nunnery of St Mary by 1197. Quarry pits had been

excavated in the field, and eighteen were recorded during this excavation. Pottery dated their backfilling to 1240–1350. This had been undertaken to consolidate the ground surface. The most reasonable expectation is for the quarry pits in the field to have been dug during the period after the mid 12th century (the date of the foundation of the nunnery of St Mary), possibly for construction work, maybe on the nunnery or St John Street. The pits were then backfilled by the mid to late 14th century. The western boundary ditch of the Nun's Field had also been backfilled, probably during this period.



Fig 7. Excavation of quarry pits in Trench K1. Trench K2 in background

The backfilling of a well in the Nun's Field was dated 1380–1500 by pottery and subsequently sealed by plough soil dated to the 16th/17th centuries. A change in the style of land management would be expected in this area from the mid 16th century as an effect of the dissolution of the nunnery of St Mary in 1539. Backfilling was probably undertaken in relation to the sale of the field to Lord Chancellor Wriothesley in June 1545. By 1603 the field was known as Wood's Close. The field is shown as built up on the Ogilby and Morgan map of 1677.

ST JOHN'S MEADOW 1165/82–1654/1687

A portion of the site is located to the south of a field boundary, within 'Whitewell Beach' or 'St John's Meadow' (its location is shown on Fig 5).

'Whitewell Beach Meadow' is referred to in the late 12th century; by 1165–82, a lane led from Witewellebech through to the nuns' garden on the Holborn (River Fleet) (Sloane in prep,

section 4.6). It is known that Whitewell Beach Meadow was also known as St John's Meadow; 'Seynt John Medue... called White Welle Beche Medue'.⁷ This identifies the field as property of the priory of the Order of the Hospital of St John of Jerusalem which was founded in about 1144.

Between 1376 and 1377 the field passed into the ownership of the newly-founded Carthusian monastery of Charterhouse. Knowles and Grimes (1954, 19) detail the sequence and patterns of growth of the land owned by Charterhouse. This can be summarised with reference to their plan, the information from which is reproduced in Fig 3.⁸ This places the south part of the site within the outer precincts of Charterhouse monastery.

The Bishop of London, Michael de Northburg, had suggested to Sir Walter Manny that a Carthusian monastery be founded on the site of the Black Death cemetery at Spital Croft (Fig 3, 1). The Bishop left £2,000 in his will, made four months before his death in September 1361, to found the monastery (St John Hope 1925, 294).

Nine years later the arrangements were made by Manny and Prior Dom Luscombe of the Carthusian monastery at Hinton, Somerset.

In 1370 the General Chapter at La Grande Chartreuse confirmed the foundation, making Luscombe the Rector. The house was dedicated to the Salutation of the Mother of God and was a foundation for 24 Carthusian monks, although by the Dissolution it may have had as many as 30 (Davies 1921, 102–3). Stow quoted a charter dated 28th March 1371 which noted ‘we have acquired thirteen acres and a rood of land without the bar of West Smithfield...in a place called le Spittle Croft but now called le Newe Church Hawe...’ (Stow 1603, vol ii, 82).

After the Dissolution in 1537 the Charterhouse was sold in 1545 to Edward North who sold the estate on to the Duke of Northumberland in 1553. The Duke was subsequently executed and North regained the property before reselling it in 1565 to Thomas Howard the 4th Duke of Norfolk. Howard was executed in 1572 (Schofield 1995, 171–2). In 1611 the Charterhouse was bought by Thomas Sutton, who had previously provided for a charity with the purpose of establishing the hospital for poor brothers and the Charterhouse school. The charity dates from 1611, the year of Sutton’s death, and the governors first met in 1613.

The Clerkenwell estate of Charterhouse is depicted on Dayne’s map of 1654/5 (Fig 4) and can be seen on Fig 5. The map shows ‘Whitewell Beach Garden Ground’ as largely undeveloped, with only the frontage onto St John Street as built up. The Ogilby and Morgan map of 1676 shows the development as spreading back from St John Street across the field into ‘Gardners Gardens’ (a renaming of Whitewell Beach Meadow). In the 1687 plan by William Mar (Fig 6) the area is fully built up with the modern street plan recognisable. The late 17th-century development of formerly open land was a consequence of the Great Fire of 1666.

An archaeological watching brief undertaken by MoLAS in April 1997 at 1–7 Dallington Street, within the former Whitewell Beach Meadow, produced evidence for an agricultural soil horizon overlying the geological deposit (Miles 1997, 16). Fragments of medieval tile were recovered from this deposit.

Boundary ditch – reuse

In the south-west of the site in Test Pit A a linear cut feature aligned roughly north-south was

recorded (Figs 1, 8). Base level was 13.58m OD. Overall the backfill was dated to the mid 12th to late 13th centuries by finds which included South Herts greyware cooking pot and flanged roofing tile in fabric 2273, a distinctive sandy fabric dating from the mid 12th to late 12th/early 13th centuries.

The backfill was sealed by a horizontal gravel metalling with a surface level of 14.37m OD. This was dated to 1270–1350 by fragments of Mill Green ware jug. Water flea eggs were recovered from the metalling, an indication of the sporadic presence of water as these crustacea lay their eggs in water in the months leading up to winter. A deposit which partially extended across the east edge of the metalling was also dated overall to 1270–1350 by Mill Green and London-type ware jugs and sherds of Kingston-type ware which included cooking pots and jugs. The backfill, metalling and deposit overlying the metalling produced fragments of sheep/goat and cattle bone.

Plough soil (1300–1350)

Sealing the surface was a plough soil (truncated at 14.83m OD) which included pottery dated overall to 1300–1350 (Fig 8). Finds included fragments of a Kingston-type ware cooking pot, jug also a South Herts grey ware jug. The botanical remains recovered (occasional charred bread wheat and rye grains and fig seeds) did not add to the interpretation of the layer. Bones

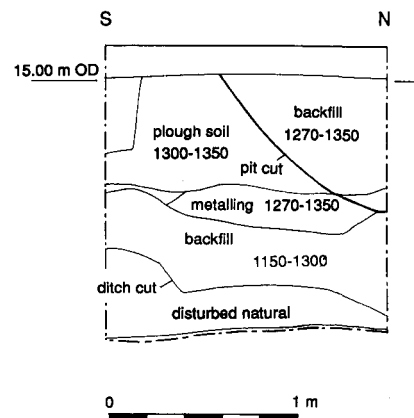


Fig 8. Test Pit A elevation through backfilled ditch at west edge of Whitewell Beach Meadow, with metalling dated 1270–1350

recovered included pig, horse, and a relatively large number of fish bones.

A pit cutting through the plough soil (base level 14.28m OD) was recorded with a backfill dated to 1270–1350 (Fig 8). Pottery included Mill Green and Kingston-type ware jugs, and a London-type ware baluster jug. Again, the botanical evidence (bread wheat and rye grain and grape seeds) did not add to the interpretation of the deposit.

Plough soil (1600–1750)

In other areas of St John's Meadow plough soil dated overall to 1600–1750 overlay the natural deposit.⁹ In Trench F a dump sealing the plough soil pottery included fragments of red border ware bowls and chamber pots. In Trench H the plough soil included fragments of Montelupo tin glazed *tazza* and a fragment of a German beaker made of clear glass, fluted, and with applied horizontal ribs, dated to 1600–50.

Conclusion

Whitewell Beach Meadow was established by the late 12th century, and was probably set out shortly after the mid 12th century-foundation of the Priory of St John Of Jerusalem, which held the land. A boundary ditch at the west edge of Whitewell Beach Meadow was infilled by the mid 14th century, with its alignment reused as a pathway, with a surface level some 4m below modern street level. The pathway fell out of use, and by a later date in the 14th century, plough soil extended across the former boundary, which was defunct. The recording of a rubbish pit in this area further demonstrates the loss of the boundary.

A change of land-management style would be expected in this field after 1370, when it came into the ownership of Charterhouse. The boundary ditch itself would date from the period when the field pattern was set out, at least 1165–82, probably at the time of the foundation of the Priory of St John, c.1144. Subsequent boundaries may have been cut into the newly lain soils, but were truncated when the modern standing buildings were constructed.

Towards the centre of Whitewell Beach Meadow, plough soil which dated to the 17th–18th centuries was recorded. These dates

indicate agricultural activity undertaken after the dissolution of Charterhouse in 1537 and the passing of the field into private ownership. The field then passed into the ownership of Charterhouse school from 1611. By the late 17th century the field area had become fully built up.

THE BOUNDARY BETWEEN THE NUN'S FIELD AND ST JOHN'S MEADOW

By the early 17th century Charterhouse had begun to manage the properties on the lands which had been acquired by the monastery at its foundation in the 14th century. The extent of these properties is depicted on 'Map of Whitewell Beach and Pardon Churchyard showing the property belonging to Charterhouse'.¹⁰ This is dated 10 March, 1654/5 and was drawn by Richard Dayne (Fig 4). The limit to the holding is shown as a curved boundary to the south from east to west across the area of the site. The information from this plan has been superimposed onto the modern street plan (Fig 5) which details the field systems in the area, and locates the property boundaries. A stone plaque set into the present east facing wall of Compton Passage defines the limit of the Charterhouse holding with the words; 'This Is The Property Of The Charterhouse'.

The field boundaries shown on Figs 4 and 5 are in different positions to those indicated by Knowles and Grimes (Fig 3). Fig 5 is based on historic maps, rather than documentary evidence, and the current street lines and property boundaries are congruent with those of Dayne's map of 1654/5.

The same property boundary lines are shown on the 1687 'Plan of Clerkenwell Estate' (of Charterhouse) by William Mar (Fig 6).¹¹ The curved boundary between the former Whitewell Beach Meadow and Woods Close is entitled 'common sewer', no doubt an open feature.

A further representation of the same property boundary is on the 1739 map 'Plan of property belonging to Charterhouse on the north side of Wilderness (Clerkenwell Road) formerly known as Pardon Churchyard, Copthall and Whitewell Beach' by William Wyeth (not illustrated).¹²

As the curved boundary line is perpetuated on at least four maps it is possible that the shape of Whitewell Beach Meadow is misrepresented on the 1430s plan, which may have focused on the

detail of the water supply, rather than the intricacies of property boundaries.

Boundary ditch

In Trench C an east-west ditch was recorded with a base level of 15.37m OD (Figs 1, 9). It was truncated at 16.83m OD. The north-south width of the ditch was 4.30m.

The deposit interpreted as the primary fill of the ditch (top level 16.03m OD) included seeds of plants of waste places and disturbed ground and several possible hedgerow plants. The presence of water flea eggs and seeds of the aquatic, celery-leaved crowfoot indicated a standing, possibly temporary, body of water. Beetle fragments were also recovered. No pottery was found in this deposit.

The backfill which sealed the primary fill (and which survived to the full level of the ditch at 16.83m OD) was dated to 1550–1650. Finds included multiple fragments of a Werra ware dish. Bone recovered included a few frog/toad bones amongst a number of cattle/sheep-size fragments.

The backfill of a quarry pit immediately adjacent to the south side of this ditch included pottery dated overall to 1550–1750. Base level was 16.16m OD.

Trench J was excavated to the west of Trench C to further explore the extent of the ditch. However, it was found that the feature had not continued along a straight line, and had missed Trench J entirely. Therefore the ditch was that known as the common sewer.

Conclusion

This ditch was the boundary between Whitewell Beach Meadow and the Nun's Field, and marked the northern limit of the land owned by Charterhouse. Excavation demonstrated that the ditch did not continue directly west from Trench C, and followed the alignment shown on the 17th-century map. It had clearly been open for some time, and the level of the ground surface was raised after backfilling, and subsequent truncation removed evidence of the boundary.

A property boundary in this location between the two fields was probably in place from the late 12th-century, though the earliest archaeological evidence is the backfilling of the ditch in 1550–1650.

PARDON CHURCHYARD 1348–1834

The site was close to two medieval parcels of land, within the fields to the north of St Bartholomew's priory, which in 1348/9 were set aside for the burial of victims from the Black Death (Knowles & Grimes 1954, 17–18). Knowles and Grimes have suggested the locations of each parcel of land (Fig 3, 1 and 2).

The first parcel of land, known as the Spital Croft, was leased from St Bartholomew's by Sir Walter Manny. This land lies approximately under present day Charterhouse Square and the Charterhouse itself (*ibid*, 5). Spital Croft means Hospital Field, a reference to its former ownership by St Bartholomews (Taylor 1912, 16).

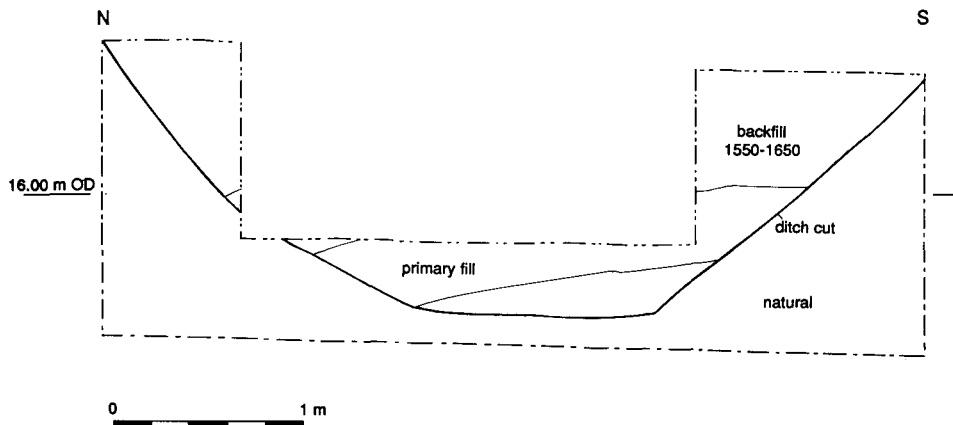


Fig 9. Trench C elevation through boundary ditch between Whitewell Beach Meadow and the Nun's Field, backfilled 1550–1650

The second plot was purchased by Ralph de Stratford, Bishop of London from 1340 to 1354, from the priory of St John. He purchased three acres of land which lay 'between the lands of the Abbot of Westminster and the lands of the priory of St John of Jerusalem' (Davies 1921, 4). The land was to the north of modern day Clerkenwell Road and to the east of St John Street (Fig 3, 2). Upon this was built the Pardon Chapel, constructed within the Pardon Churchyard which remained in use until after the Dissolution.

The location of Pardon Churchyard and Pardon Chapel is shown on the modern transposition (Fig 5) of Dayne's map of 1654/5. The 1687 William Mar plan also shows these features in the same position (Fig 6). Area no.2 on the Knowles and Grimes plan (Fig 3) is the same as that indicated as Pardon Churchyard on Figs 4, 5, 6.

Stow (1603, vol ii, 81) gives an account of the use of the Pardon Churchyard. A piece of ground called 'No Mans Land' was bought and '...enclosed with a wall of Brick and dedicated for the burial of the dead, builded thereupon a proper Chapel, which is now enlarged and made a dwelling house, and this burying plot is become a fair Garden, retaining the old name of Pardon Churchyard' (Stow vol ii, 81). 'Sir Walter Manny...purchased thirteen Acres and a rode of ground adjoining...No Man's Land ...in this plot of ground there was in that year (1349) more than 50,000 persons buried, as I have read in the charters of Edward the third ...and it is to be noted that above 100,000 bodies of Christian people had in that Churchyard been buried...' (Stow vol ii 81–2). It would appear that 50,000, or even 100,000, burials is something of an exaggeration as the population of the city of London was in the order of 100,000 in the period prior to the Black Death.¹³

Stow goes on to say 'the three acres of land (*ie* the land purchased by Ralph de Stratford) lying without the walls on the north part...remained till our time by, the name Pardon Churchyard, and served for burying of such as desperately ended their lives, or were executed for Felonies, who were fetched thither usually in a close cart...and this was called the Fraerie cart, which belonged to Saint Johns' (Stow 1603, ii, 82).

The three acre plot noted by Stow was the original Pardon Churchyard, located to the north of and outside the walls of Charterhouse, to the north of Clerkenwell Road. The northern limit of this land is marked by the present day

Compton Street (St John Hope 1925, 19). This corresponds with the location of Pardon Churchyard as defined by Knowles and Grimes (Fig 3, 2) and the Mar plan (Fig 6).

An archaeological watching brief undertaken by MoLAS during March 1995 at 44–49 Great Sutton Street did not provide evidence for the presence of Black Death burials to the north of the street (Thomas 1995, 11). This would appear to confirm that the Pardon Churchyard is the area indicated on the Dayne map (Fig 4), to the south of Great Sutton Street.

In 1739 Maitland (1739, 764) stated that the quoins of the chapel were still extant. Pinks (1880, 371) states that human bones were recovered in the area of the chapel during building works in 1820 and 1834. It therefore seems unlikely that the Black Death cemetery at Pardon Churchyard extended north of Great Sutton Street to encroach upon the site.

THE WHITE CONDUIT 1431–1654

The White Conduit, the medieval water supply to Charterhouse, is known to have traversed land between St John Street and Goswell Road. It was thought that this feature may have been present on the site, but no evidence was found during the archaeological work. A brief discussion of the nature and course of the water supply is presented here.

In 1431 a water supply was brought into the cloister of Charterhouse from springs to the north. The water flowed through lead and elmwood pipes (St John Hope 1902, 297). A copy of the map of the route (with final annotations dated to 1512) (Fig 2) shows the water brought to a conduit in the centre of the Great Cloister.

The springs which supplied the water were located at Overmead in the manor of Barnsbury (*ibid*, 296), to north-west of the present day Angel, Islington area. The map (Fig 2) depicts the route taken by the pipe across the land to the north of Charterhouse. In the area of the site the conduit traverses land owned by St John's Priory between two roads; St John Street to the west and Goswell Road to the east (*ibid*, 297). The route followed by the conduit is to the west of the centre line between St John Street and Goswell Road, possibly across the site.

The conduit runs through the 'Nun's field' and then crosses a ditch into 'Seynt John

Medue... called White Welle beche medue'. To the south of this meadow is a further ditch and a tank ('spurgell') to the west of the pipe. After this ditch the pipe crosses land shown as having a church or chapel within it. This is the Pardon Chapel. Apart from the chapel the land is not built up and can be assumed to have been undeveloped prior to the construction of the Pardon Churchyard and any attendant features. The ditches are depicted as linear, aligned roughly east-west. It must be noted that the emphasis of this plan was placed on the conduit rather than detail of the land.

In 1654 the White Conduit pipes were cleaned as the water supply proved so minimal (Tomlins 1858, 165). The governors of Charterhouse abandoned the conduit in favour of water from the New River in 1767. Construction of the New River had begun in 1607 and it was in use by 1613.

None of the trenches excavated on site revealed evidence for the conduit. It is unlikely that it would have been removed by truncation as features from similar date ranges did survive to be recorded. Possibly the route followed was to the east of the site, along the line of Malta Street and Berry Street.

POST MEDIEVAL: THE BUILD UP OF THE SITE

The plan of the water supply to Charterhouse (Fig 2; compiled in the 1430s) does not show development along St John Street in the area of the site implying that settlement during this period was to the south of the site (closer to Charterhouse). In 1525 117 contributors to a subsidy were listed as living along St John Street between Charterhouse and the priory of St John (Taylor 1912, 38). Eleven of those listed were servants of Charterhouse.

The Agas map of c.1559 (not illustrated) depicts the area in some detail. Unfortunately the map was drawn on separate sheets, and the site is located at the join (and gap) between two sheets. The east side of St John Street is built up and property boundaries in the area are clearly visible. Otherwise the site does not appear built up.

The former Nun's Field was known as 'Wood's Close' by 1603 and was presumably still open land (Cromwell 1828, 269–270). By the time of

Ogilby and Morgan's map in 1676 the site area within Wood's Close had become built up.

By 1677 development had spread back from St John Street into 'Gardners Gardens' (a renaming of Whitewell Beach Meadow). By 1687 the site area within the former St John's Meadow was fully built up. Later maps (beginning with the Mar plan of 1687) depict the site as built up with a street pattern virtually the same as that of today.

A brewery was founded on the site by 1739 (King 1951, 3), possibly during the 1720s (Poole 1984, 52), by Rivers Dickinson. The Rocque map of 1745 shows the Horseshoe Brewhouse within the site. In 1751 the building was renamed the Cannon Brewery (King 1951, 1), and Rivers Dickinson had moved to 192 St John Street (Faulkner 1988). Presently standing on the site are some of the buildings from the Cannon Brewery which was substantially rebuilt in 1893 (King 1951, 10). In 1929 the ownership of the brewery had passed to Taylor Walker, subsequently a member of the Allied Breweries Group (*ibid*, 22).

The results of the fieldwork

In Trench D a brick lined rectangular cesspit and its fills were recorded. The bricks used in the lining were of a post Great Fire type. The base level 15.66m OD was truncated at a level of 16.74m OD. The primary fill survived with a top level of 15.87m OD.

Fifteen very small fragments of apparently mineralised textile were recovered from the primary fill. These fragments were too small for useful analysis but appeared to have come from at least two different cloths, with one weave being much coarser than the other.

A complete flask-like glass bottle, 128mm high and pale green in colour, was recovered from the primary fill (Fig 10). This was examined by Geoff Egan who contributed the following analysis. It has a tall, narrow neck with a wide body slightly flattened to an oval shape and tapering towards the neck. The body has ribbing spiralling around it. The flask was apparently made in two pieces with the neck clumsily luted to the body. Flasks of this type are relatively common in the Netherlands where they are thought to have been made in Germany or the French/Belgian border region in the late 15th century and the first half of the 16th century. In

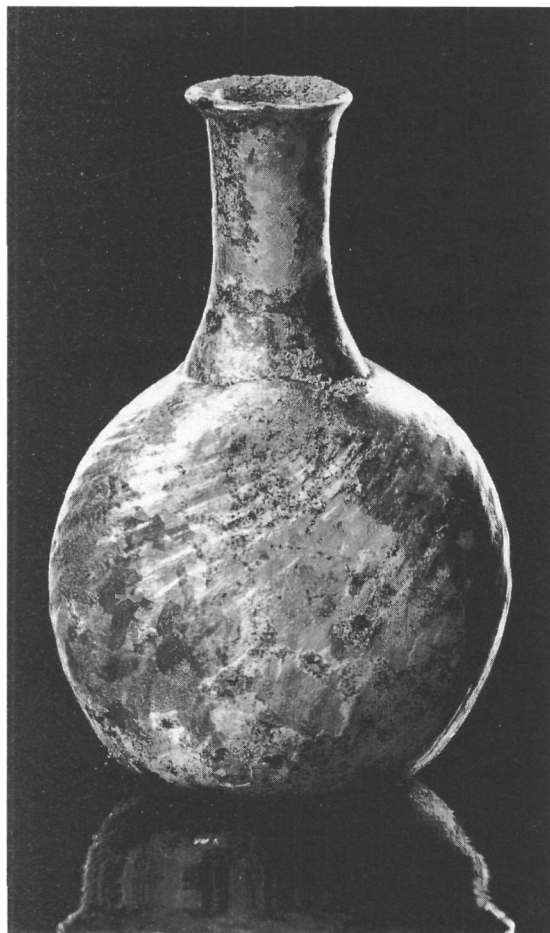


Fig 10. Flask, made in Germany or the French/Belgian border region in the late 15th century and the first half of the 16th century. Used in the Netherlands for perfume, medicine or holy water

the Netherlands these flasks are generally believed to have held perfume, medicines, or possibly holy water. Although their contents may have been valuable the flasks themselves seem to have been fairly disposable objects. In this country these flasks are much rarer, and no close parallels are known here for a flask constructed in quite this manner.

The primary fill of the cesspit also included the usual unidentifiable mammalian domesticated bones, a few small rodent fragments, a reasonable number of fish bones and a cat skull. A high number of mineralised remains, which consisted predominantly of fruit seeds were also recovered. The remainder of the botanical assemblage did not add to the interpretation of the feature, and

included mainly the seeds of weeds of waste places and disturbed ground.

Other areas of the site revealed post 17th-century activity at the top of the stratigraphic sequence. These features included post holes in Trench D, levelling layers and dumps Trenches E, F, and G. In Trench B, only modern demolition rubble was observed.

THE ENVIRONMENTAL EVIDENCE

John Giorgi

Introduction

During excavations at the site environmental soil samples were collected for the recovery of biological data, including plant, animal and invertebrate remains. This report is concerned with the analysis of the botanical material and the information that it may provide towards our understanding of the local environment of the different areas of the site and how this may have changed over time. Evidence for human/economic activities in the area is also considered.

A total of 18 samples were collected, 13 from Trenches D, J, K1 and K2 in the Nun's Field and four from Test Pit A in St John's Meadow. One sample was also collected from Trench C, on the boundary between the two fields. The samples were taken from the fills and backfills of quarry pits (10), ditches (3), other pits (3), and layers (2), with the features ranging in date from the 11th to the 17th century.

The size of individual samples was between 10 and 20 litres; these were processed in their entirety by a combination of flotation and wet-sieving in a Siraf tank, using sieve sizes of 0.25mm and 1mm for the recovery of the floating organic remains (flot) and residue respectively. The residues were dried and sorted for large and small mammal, amphibian, fish and bird bones, plus any botanical material which had not floated. The identification of the plant remains and any other biological material from the flots was carried out using a binocular microscope.

Plant remains were recovered from 14 of the 18 samples. Preservation of plant remains by waterlogging was generally good, with an abundance of waterlogged seeds in many samples and a moderate to high species diversity. These represented both wild plants and potential

economic species. Fragments of wood, stem, root, unidentifiable plant tissue and mosses were recovered from most samples. Charred remains consisted of low numbers of cereal grains in five samples, and small fragments and flecks of charcoal in all samples. Mineralised seeds were found in three samples although virtually all this material, mainly from fruits, was from the primary fill of a 16th-century cesspit in Trench D. The results are shown in Table 1 and will be discussed by area.

The Nun's Field

Twelve samples were collected from trenches in the Nun's Field from deposits contemporary with the ownership of the field by St Mary's.

Quarry pits

Three samples were collected from the large quarry pit in Trench J; from two primary fills which accumulated while it was left open and from the backfill of the quarry pit. The backfilling was dated to the 13th to 14th centuries.

All the samples produced a large number of seeds with similar plant assemblages with respect to the habitats that the species represented. The majority of the seeds were from plants of waste places and disturbed ground. For example, stinging nettle (*Urtica dioica*), white horehound (*Marrubium vulgare*) and goosefoots/oraches (*Chenopodium/Atriplex* spp.), were present throughout the sequence. Two other plants, fool's parsley (*Aethusa cynapium*) and sun spurge (*Euphorbia helioscopia*), typical weeds of cultivated ground, were also well represented in all four features. The presence of these and other characteristic arable weeds, eg corn spurrey (*Spergula arvensis*), might suggest that crops were being grown or cleaned nearby. A damp/wet environment is suggested by the presence of wetland plants throughout the sequence, eg celery-leaved crow-foot (*Ranunculus sceleratus*), 'buttercups' (*Ranunculus acris/repens/bulbosus*), sedges (*Carex* spp.), and rushes (*Juncus* spp.). Cladoceran (ephippia) resting eggs were found in the samples from the two primary fills of the large quarry pit in Trench J, which suggests standing bodies of water in the quarry pit; these crustacea lay their eggs in water in the months leading up to winter.

There was little evidence for food and other economic plants; occasional charred bread wheat (*Triticum aestivum* s.l.) and barley (*Hordeum sativum*) grains and waterlogged fig (*Ficus carica*) and grape (*Vitis vinifera*) seeds were recovered from the two primary fills of the large quarry pit in Trench J. Some of the elder (*Sambucus nigra*), blackberry/raspberry (*Rubus fruticosus/idaeus*) and strawberry (*Fragaria vesca*) seeds may also represent the residues of consumed food.

The backfills to seven other quarry pits were sampled in Trenches J, K1 and K2. Only three of these samples produced very small botanical assemblages, of which only one was from a datable feature, the backfill of the second of four successive phases of quarry pits in Trench K2 dated to 1240–1350. This sample contained a mineralised oat grain (*Avena* sp.), blackberry/raspberry and greater celadine (*Chelidonium majus*) seeds, the latter a plant of banks, hedgerows and walls. Little interpretation can be made on the basis of this small quantity of material.

Well

One sample was taken from the backfill of a well dug into the backfill of the large quarry pit in Trench J. The backfill of the well was dated to between 1380 and 1500. A mineralised oat grain and hemp (*Cannabis sativa*) seeds were found in the backfill of the well.

St John's Meadow

Four samples were analysed from Test Pit A; the first from the mid 12th to late 13th century backfill of a boundary ditch; the second from a late 13th to mid 14th century deposit overlying the metalling which sealed the ditch infill; the third from an early to mid 14th century plough soil; and the fourth from the late 13th to mid 14th century fill of a rubbish pit which truncated the plough soil.

A comparison of the different plant assemblages suggests no significant change in the character of the local environment over the time span of the samples. Thus, common plants of waste places and disturbed (including arable) ground were well represented throughout the sequence, with a similar range of species to those recovered in samples from the Nun's Field; eg stinging nettle, knotgrass (*Polygonum aviculare*), stinking mayweed

Table 1. (Cont.)

Species	Common name	Habitat context sample no.	1	2	2	3	3	4	5	6	34	119	7	8	120	9	111	136	120	14	16	157	163	17	170	18
<i>Achillea cynanchium</i> L.	fool's parsley	A	+																							
<i>Conium maculatum</i> L.	hemlock	CEG																								
<i>Torilis</i> spp.	hedge-parsley	ACD																								
cf. <i>Bryonia dioica</i> Jacq.	bryony	CG																								
<i>Euphorbia helioscopia</i> L.	sun spurge	AGI																								
<i>Polygonum aviculare</i> agg.	knotgrass	ABG																								
<i>Fallopia convolvulus</i> (L.) A. Love	black bindweed	ABF																								
<i>Polygonum</i> spp.	—	ABCDEF	+																							
<i>Rumex</i> spp.	docks	ABCDEF																								
<i>Urtica urens</i> L.	small nettle	AB																								
<i>U. dioica</i> L.	stinging nettle	BCDEFGH																								
<i>Cannabis sativa</i> L.	hemp	BGHI																								
<i>Ficus carica</i> L.	fig	FGI																								
<i>Solanum</i> spp.	nighshade	BD																								
<i>Lycopus europaeus</i> L.	gipsy-wort	EH																								
<i>Lamium</i> spp.	dead-nettle	ABC																								
<i>Lamium purpureum</i>	red dead nettle	AB																								
<i>Nepeta cataria</i> L.	cat-mint	AB																								
<i>Marrubium vulgare</i> L.	white horehound	C																								
Labiatae indet.	—	—																								
<i>Sambucus nigra</i> L.	elder	BCFGH																								
<i>Anthemis cotula</i> L.	stinking mayweed	ABGH																								
<i>Arctium</i> spp.	burdock	BCD																								
<i>Carduus/Chrysium</i> spp.	thistles	ABDEG																								
<i>Lapsana communis</i> L.	nipplewort	BCF																								
<i>Sonchus oleraceus</i> L.	milk-/sow-thistle	AB																								
<i>Sonchus</i> spp.	milk-/sow-thistle	ABE																								
<i>Juncus</i> spp.	rush	ADEH																								
<i>Carex</i> spp.	sedges	CDEH																								
Gramineae indet.	—	ABCDEFHI																								
Indeterminate	—	—																								
Indeterminate	stems	—																								
Indeterminate	wood fragments	—																								
Bryophyta indet.	moss	—																								

KEY to habitat codes: A = Weeds of cultivated land; B = Ruderals — weeds of waste places and disturbed ground; C = Plants of woods, scrubs and hedgerows; D = Open environment (fairly undisturbed); E = Plants of damp/wet environments; F = Edible plants; G = Medicinal and poisonous plants; H = Commercial/industrial use; I = Cultivated plants. Frequency: + = 1–10; ++ = 11–50; +++ = 51–100; ++++ = 101–500; +++++ = 500 plus plant items.

(*Anthemis cotula*), white horehound,ampions/
stitchworts (*Silene/Stellaria* spp.), thistles (*Carduus/
Cirsium* spp.) and goosefoots/oraches.

Archaeobotanical evidence for small trees and shrubs included seeds of blackberry/raspberry, elder, and plum/bullace (*Prunus domestica* s.l.). These are all potential food plants and may simply represent the deposition of food waste rather than being a reflection of the local flora. A small range of other plants, characteristic of wetland habitats, was also represented in the samples, eg celery-leaved crowfoot, 'buttercups' and gipsy wort (*Lycopus europaeus*). Freshwater molluscs in the samples from the mid 12th to late 13th-century backfill of a boundary ditch and, together with cladoceran, in the late 13th to mid 14th-century fill of a pit, suggesting standing, or possibly slow-moving water in the ditch.

Evidence for food debris was represented by a few charred cereal grains of bread wheat and rye (*Secale cereale*) in the early to mid 14th-century plough soil, the mid 12th to late 13th-century ditch backfill, and the late 13th to mid 14th-century fill of a rubbish pit. Other food residues include fig and grape seeds (from the plough soil and rubbish pitfill respectively), and some of the seeds from the fruits listed above, eg plum/bullace, elder, and blackberry/raspberry.

Boundary ditch between the Nun's Field and St John's Meadow

A sample from the primary fill of the boundary ditch in Trench C (dated to before the mid 16th to mid 17th centuries) contained seeds from plants of waste places and disturbed ground, eg nettles, white horehound, chickweed and oraches, and also wetland habitats, eg 'buttercups' and celery-leaved crowfoot. There was little evidence to suggest the presence of a hedge except for seeds of elder and bryony (*Bryonia dioica*), the latter a plant of hedgerows, scrub and copses. Cladoceran indicate standing or slow moving water. The only definite food remains were fig seeds.

Post medieval: the build up of the site

One sample was recovered from the primary fill of the post 16th-century cesspit in Trench D. This sample contained a large number of

mineralised plant remains, which consisted predominantly of fruit seeds, although examples of calcified grains of oat were also recovered. The mineralised fruits included seeds of grape, fig, apple/pear (*Malus/Pyrus* spp.), elder and various berries, which could not be identified due to their poor state of preservation. Mineralised remains in cesspits provide strong evidence for the human consumption of foodstuffs (Green 1979). The remainder of the botanical assemblage consisted mainly of seeds of plants of waste places and disturbed ground, eg stinging nettle, goosefoots, and chickweed (*Stellaria media*). Occasional seeds of catmint (*Nepeta cataria*), a hedgerow plant, and sedges, were also identified.

Other biological evidence for the presence of faecal deposits included large numbers of mineralised puparia, although the feature also appears to have been used for the disposal of other food and domestic refuse, with the presence of large quantities of bone, and occasional brick/tile and glass/slag fragments.

Discussion

The environment

The plant remains from the different areas of the site do not show any significant variation in the range of habitats that are represented and suggest little change in the character of the local environment between the 12th and 16th centuries. Weed seeds of waste places and disturbed (including arable) ground are particularly numerous although many of these species are high seed-producing plants. Some of the weed seeds in the Nun's Field are characteristic arable weeds. This could suggest that either crops were being grown close by or that activities associated with crop-cleaning were taking place, with the features being used for disposing of the residues of such activities. Indeed, historical evidence corroborates the archaeobotanical evidence; in 1301 the monastery complained to the King (Edward I) of the damage to cereals by spectators attending wrestling and plays in the fields of Clerkenwell (Hassall 1949, 260N). The evidence for a small range of marshland and aquatic plants indicates damp conditions, while freshwater molluscs and cladoceran in some of the samples suggest standing or slow moving water in some features.

Diet

Archaeobotanical evidence for the use of plant foods is limited to occasional charred cereal grains, and mineralised and waterlogged fruit seeds.

The cereals

The cereals represented in the samples – bread wheat, barley, rye, and oat – are typical grains of both the medieval and post medieval period and are the most common species in samples from sites of both periods in London and throughout the country. In previous excavations in the precinct of St Mary de Fonte (Davis in prep a), and at St John's Priory (Davis in prep b), samples produced a similar range of cereal types. The grains in these samples may have become accidentally charred while being dried before storage or hardened in an oven prior to milling.

Cereal grains were used for bread, biscuit-making, cakes, pastry and in pottages, with bread wheat being the preferred grain for making good quality bread; for example, wheaten flour was mainly used for bread at Westminster Abbey (Harvey 1993, 59). Rye bread or maslin bread, made from a mix of rye and wheat flour, was eaten mainly by poorer people. Oats and barley were the main cereal grains for feeding livestock in the London area, while barley was the principal grain used for malting in the brewing industry. Bread and ale were the main staples in the medieval monastic diet. For example, at Westminster Abbey, bread and ale made up 60% of the daily consumption of foods, rising to 78% during Lent (*ibid.*, 56–7).

Fruits

The range of fruits identified in the samples was not particularly high with plum/bullace, fig, grape, elder, and blackberry/raspberry present in both monastic and post Dissolution samples. Most of the fruits were recovered from the post 16th-century cesspit.

The small seeded fruits – grape, fig, elder and blackberry/raspberry—are ubiquitous as archaeobotanical finds on medieval and post medieval sites in London because of the high number of excavated cesspits and rubbish pits.

Some of the fruits, for instance, the grapes, figs, and plums, may have been grown in the gardens attached to the two monastic institutions, while the fruit of elder, blackberry/raspberry and strawberry could have been collected from the wild. Figs and grapes were also imported as dried fruit from southern Europe; customs records for London between 1480 and 1481 show their import as dried fruits from Spain, Portugal and Italy (Cobb 1990).

All the fruits found in the samples were used in various ways as food and drink during the medieval and post medieval period (Wilson 1976). Fresh fruit was seldom consumed in the medieval and early post medieval period, as it was considered to be unhealthy (Weinsten 1990, 82); indeed, dried fruit (raisins, currants, figs and prunes) played a relatively important part in monastic diets during Lent (Harvey 1993, 56).

Leafy vegetables

The leaves of some of the wild plants, now considered to be weeds, and represented in a number of the samples from all periods of the site, may have been exploited for food from time to time, collected from gardens/wild habitats, and used in pottage or eaten as green vegetables. This includes the leaves of nettles, fat hen (*Chenopodium album*), goosefoots/oraches, docks (*Rumex* sp.), corn spurrey, mallows (*Malva* spp.), and some of the *Brassica/Sinapis* species. However, it is virtually impossible to establish whether or not these seeds represent the residues of such plants used as food.

Other possible food/economic plants

Several seeds of hemp were found in the backfill of the well in the Nun's Field. This plant was grown for its fibres as part of the textile industry, although it also grows as a weed of waste places. Some of the remaining plants represented in the samples may have been grown and used as flavourings, *eg* cat mint, or used as medicinal plants, *eg* white horehound and hemlock. The sedges and rushes may also have been collected and used as flooring or thatching materials. Again, however, these seeds may simply be the residues of the plants growing wild and never used.

Conclusions

The archaeobotanical remains from the site suggest little change in the environmental character of the area over time, with the presence of a range of wild plants and shrubs indicating a disturbed habitat, probably as a consequence of human activities nearby. The plant remains in the Nun's Field (and possibly in St John's Meadow) suggest that crops were being grown in the vicinity, corroborated by the historical evidence in the case of the former.

Plants with definite economic uses are poorly represented, in the form of a few cereal grains and a small number of fruits. This reflects the nature of the features from which the samples were collected, with the notable exception of the post 16th-century cesspit. Documentary records show a high consumption of food by the monastic order at St John's, with expenditure on cereals of wheat, barley and oats (Pinks 1880, 210), all of which were present in the monastic samples from both fields. It is not possible on the limited archaeobotanical evidence available to establish the relative importance of the different foodstuffs and certainly with regard to the historical evidence, it neither reveals the role of cereals relative to fruits, nor reflects an upper-class diet characteristic of monastic life during the medieval period (Harvey 1993, 34).

THE ANIMAL BONES

Kevin Rielly

Introduction

Bones were recovered from most areas of the site by a combination of hand retrieval and bulk sampling. The former method produced a grand total of 5 kg of bone (120 fragments), while a total of 10 samples (out of 18 samples taken) each provided less than 30 fragments, and five less than 10 fragments. Overall the condition of these bones is good, with the exception of those arising from the majority of the quarry pits.

All the bone-bearing contexts are relatively well dated (generally within one to two centuries) covering a period between the 12th and 18th centuries. A breakdown of these contexts, by period, is given in Table 2. These periods can essentially be divided into pre and post dissolution *ie* during and following the use of the nearby religious houses of St Mary and St John.

Table 2. Species representation – number of fragments

	Dating (centuries AD) +				
	12–14	14/15	16	17	17/18
Cattle	4	14	7	23	
Sheep/goat	*	4*	13	3	
Pig	*	3*	4	*	
Horse		1*		1	
Fallow deer			1	1	
Dog			1	1	
Cat					*
Chicken		*	2*	1*	
Owl (?Tawny)			2		
Frog/toad			*		
Small rodent					*
Fish	*	**		*	*
Cattle-size	1	15	14	3	
Sheep-size	*	1	9	4	
Cattle/ sheep-size	*	**	*	*	*

+ for contexts used within these date ranges see text.

* less than 10 fragments, ** 10 to 20 fragments.

The Nun's Field

Quarry pits

A large proportion of the pre Dissolution bone assemblage was recovered from the backfills of a series of quarry pits situated within the Nun's Field. In one of these pits (Trench J) there was found a series of primary fills dating between the 12th–14th centuries. Two samples were taken from these fills (see 12–14th-century sieved bones in Table 2). The small quantity of bones retrieved from these samples were largely contributed by the usual mammalian domesticates with a few fish bones and a single chicken bone from a male bird. A small proportion of this assemblage (sheep/goat and pig) could be aged, as shown in Table 3.

The quarry pit backfills provided 31 bone fragments, 23 of which arose from a single pit (in Trench J), with each of the remaining six pits producing between one to three fragments only. Poorly preserved bones were found in each of the latter pits, suggesting that these fills may have been redeposited. A single sample was taken from the Trench J pitfill, which provided a reasonable number of bones. The species identified from this pit (combining the hand recovered and sieved material) include all those shown in the 14th/15th-century assemblage in Table 2. Fish bones were relatively well represented in the sample, as were unidentifiable cattle/sheep-sized fragments. An unusual find

Table 3. Age of cattle, sheep/goat and pig

Species	Date*	Age
Cattle	14–15	2 >juvenile
	16	1 >juvenile, 1 mature
	17	2 mature, 1 adult
Sheep/goat	12–14	1 adult
	14–15	1 >juvenile, 1 mature, 1 adult
	16	1 juvenile, 4 >juvenile, 3 mature, 2 adult
	17	1 >juvenile, 1 immature
Pig	12–14	1 immature
	14–15	1 foetal/neonate, 1 immature
	16	2 >juvenile, 1 mature

* as Table 2

Age: foetal/neonate: earliest epiphyses unfused (eg proximal metapodial) and teeth unworn; juvenile: unfused early fusing epiphyses (eg distal humerus) and mandibular M2 unworn; >juvenile: fusion of latter epiphyses and M2 in wear; immature: unfused distal tibia and distal metapodials, and M3 unworn; mature: latter two epiphyses fused and M3 in early wear; adult: late fusing epiphyses (eg proximal femur) fused and M3 in advanced wear. For epiphysis and teeth age progression see Silver 1969.

are the two bones representing a middle-sized owl (possibly tawny owl). A chicken bone and a sheep/goat fragment were measurable (both from the Trench J pitfill). Both animals are clearly within the medieval size ranges for these species.

Each of the major species from the 14th/15th-century deposits is represented by a wide distribution of parts, looking either at the assemblage as a whole or at individual context assemblages. The presence of both processing and food waste suggests either a mixing of waste from various sources or from a single source which organised the butchery of whole animals (deadstock or livestock). There is certainly evidence of butchery, with examples, on cattle bones, of carcass (or carcass section) splitting and jointing. The ageing evidence from these pitfills and essentially from this period is rather poor (see Table 3), but it would appear that sheep/goat is represented by a variety of ages, indicating a mixed exploitation pattern (meat and secondary products). The presence of foetal/neonate pig bones (recovered from the pitfill sample) strongly suggests local breeding.

Well

A well shaft was cut through the previously described Trench J quarry pit backfill, and was itself subsequently backfilled. The well backfill

was dated to 1380–1500. A sample taken from the backfill revealed a reasonable assemblage composed almost entirely of the major mammalian domesticates (largely unidentifiable) with a few bird (probably chicken) and fish bones (including a dermal denticle of a thornback ray).

Plough soil (1500–1600)

The ploughsoil, sealing the backfilled well, provided the major part of the 16th-century assemblage shown in Table 2 (46 out of 54 bone fragments). As well as the ubiquitous mammalian and bird domesticates, this assemblage also produced dog and fallow deer. A wide distribution of skeletal parts is shown by each of the major domesticates. Several cattle and sheep/goat bones show butchery marks. The various chop and knife marks are probably the result of the following butchery events: dressing (cattle only), splitting (of the carcass), jointing and defleshing. In addition one of the fallow deer bones clearly displays a jointing mark. Age and size data are again very limited, although it would appear that sheep/goat is represented by a wide variety of ages and, where measurable, is within the size range of animals for this period.

St John's Meadow

Boundary ditch re-use

Bones were found in the backfill, metalling (forming a path) and partial covering of a ditch, which probably formed the western edge of St John's Meadow. The hand recovered bones from the three phases of this ditch amounted to four, two and two fragments respectively. A sample was taken from the layer which partially covered the metalling, dated to 1270–1350. Just two species were represented amongst the small number of hand recovered fragments *ie* cattle and sheep/goat, while the sample produced pig, horse and a relatively large number of fish bones. The single horse bone from this sample, a metatarsal, displays a cut mark which may have occurred during skinning.

Plough soil (1300–1350)

The fill of a pit was dated to the same period as the plough soil into which it cut. This pit was

found in Test Pit A with a fill dated to the late 13th to mid 14th centuries, and contained a small number of cattle and cattle-size fragments (the hand collected assemblage for this period in Table 2).

Plough Soil (1600–1750)

The 17th-century bones listed in Table 2 were derived from two extensive plough soils situated in Trench A (30 bones) and Trench F (seven bones). The former assemblage is dominated by cattle bones, all of which are either head or lower limb parts removed shortly after slaughter, rather than during butchery.

Species additional to the major mammalian domesticates include horse, fallow deer and dog, each of which are represented by single bones. In addition a few fishbones were found in the single sample taken. The horse and dog are represented by whole limb bones, allowing for the calculation of shoulder heights (using von den Driesch & Boessneck 1974 and Harcourt 1974 respectively). The horse stood at 1.38m or about thirteen and a half hands, while the dog was 0.40m at the shoulder. Both of these heights are well within the size ranges for these animals (based on MoLAS archive material, and in particular, for horse size, using Clark 1995, 170).

Boundary ditch between St John's Meadow and the Nun's Field

Small quantities of bones were also found in two features between St John's Meadow and the Nun's Field, these being the backfill of another boundary ditch and that of a gravel extraction pit. Each deposit provided just two bone fragments, with one identifiable piece (sheep/goat) and three unidentifiable (cattle/sheep-size). A sample from the ditch backfill produced a few frog/toad bones amongst a number of cattle/sheep-size fragments.

Post medieval: the build up of the site

The bones from the fill of the post 16th-century cesspit in Trench D were provided by a single sample. This produced the usual unidentifiable mammalian domesticate bones, a few small rodent fragments (all postcranial and therefore

unidentifiable to species), a reasonable number of fish bones and a cat skull.

Conclusions

The interpretation of this data must depend to a great extent on the depositional history of the bone bearing contexts. The very sparse distribution of the bones may suggest a certain level of disturbance. Most of the bones were found in backfilled features or ploughsoils *ie* context types which are either created from any available deposits (the backfills) or are open to some disturbance (the ploughsoils). It can be supposed that the bones are redeposited. Alternatively there is the possibility that some of the features, in particular the larger quarry pitfill in the Nun's Field, may have been used for minor dumping of waste materials (the primary and backfills). Conversely the other quarry backfill assemblages in this area are clearly very disturbed. A point worth mentioning is that the dating is generally concise, implying that, if disturbed, these assemblages were taken from roughly contemporary deposits.

With disturbance comes a series of unknown variables *eg* a possible bias towards the larger, less friable, bone fragments (note the good representation of cattle bones in the 17th-century ploughsoil horizons). These limit the overall worth of the site assemblage. Bones can, however, certainly be used to estimate the general importance, within the periods described, of certain animal groups *eg* the mammalian domesticates, and to suggest, to a limited extent, how these animals were used.

The majority of the pre Dissolution assemblage came from the Nun's Field, and it could perhaps be assumed that these bones represent waste from the nunnery of St Mary's. There are close similarities between this assemblage and the contemporary bone collection from St Mary's (Pipe 1996), with the dominance of the major mammalian domesticates. At both sites these were clearly represented by whole carcasses, suggesting the provision of deadstock (or possibly livestock) to the nunnery. Certain monastic houses would have had a slaughterman amongst their lay staff or otherwise dead stock could have been provided by the local butcher (Harvey 1993, 52). It may be that St Mary's, like Westminster Abbey (*ibid*), possessed its own pig farm, as indicated by the neonate bones found

in one of the quarry pit backfills. It is perhaps significant that such young animals were not found at the St Mary's site. There is no evidence for the skinning of these animals, but certainly there is abundant evidence for the dressing and jointing of their carcasses. Of interest here is the noted skinning cut to a horse lower limb bone found in the quarry pit sample. It could perhaps be envisaged that the horses used by the nunnery were fully exploited, even so far as removing and selling their skins.

A relatively small proportion of domestic birds are also present at both sites, as is a reasonable abundance of fish (for St Mary's see Sloane in prep). In the medieval diet, particularly in monastic life, fish formed a considerable part of the meat intake (*ibid*, 47, 52). Unfortunately, possibly due to the likely disturbance, very few of the fishbones at this site are identifiable to species. Somewhat different to the St Mary's assemblage, is the absence in the medieval levels of any high status animals. This may be related to the small size of the assemblage.

It would seem likely that the majority of the domestic animals present had been used for their meat. A proportion of these animals were clearly bred for this purpose while others were culled following the exploitation of some secondary product. This is shown by the presence of juvenile/immature and mature/adult animals

respectively (see above and Table 3). The larger domestic assemblages (particularly cattle and sheep/goat) from St Mary's display a similar age pattern.

The importance of the major domesticates continued into the later levels at this site. These bones may have been dumped from the nearby secular estates *eg* as existed at Charterhouse following the dissolution, and later (mid 17th-century onwards) by the extensive residences in this area. Throughout this period a proportion of the bone waste must have been deposited from high-status households, as shown by the presence of fallow deer. Of some interest is the good representation of cattle primary waste in one of the 17th-century ploughsoils. Clearly this waste must have derived from a local abattoir or butcher. As with the medieval domestic assemblages there is both a wealth of butchery (denoting the use of these animals for their meat) and a wide age distribution, indicating the use of mixed exploitation strategies.

In each period, the size of the domestic animals conforms to the size range of the typically small medieval stock. There is no evidence for the improved breeds which can be seen in Britain from the 18th century onwards (Henson 1982), clearly suggesting the continuing use in London of the old breeds/types well into the later post medieval period.

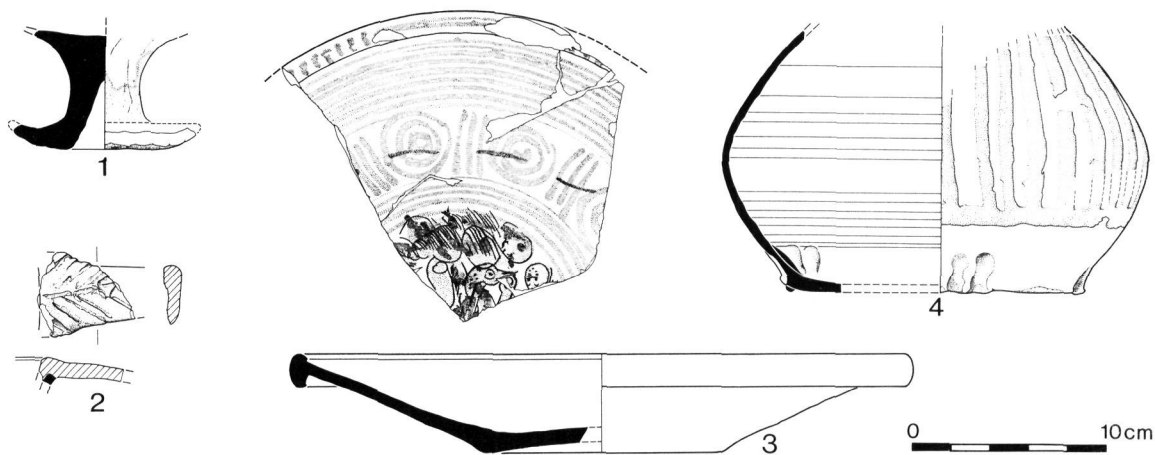


Fig 11. Pottery. 1. London-type ware, bottom of a squat jug, with thumbled base and white slipped decoration in North French style, dated 1240-1350; 2. Fragment of strap handle from a Saintonge jug with incised herringbone decoration and overall green glaze, dated 1280-1350; 3. Slipped Redware dish with zoomorphic decoration in pale green slip with splashes of green and yellow glaze made in Werra-type ware, dated 1550-1650; 4. Part of the bottom of a Whiteware pedestal dish with patchy copper glaze and off-white fabric, abraded in colour with buff margins. Source unknown, but not local. This was found with other pottery dated 1300-50

THE POTTERY

Richenda Goffin

The pottery from the site included a good example of London-type ware, consisting of the bottom of a squat jug, with thumbled base and white slipped decoration in North French style. The vessel which was recovered from a quarry pit backfill within the Nun's Field (Trench K1) is dated 1240–1350 (Fig 11 No.1).

Unusual items included a fragment from the strap handle of a Saintonge jug with incised herringbone decoration and overall green glaze, dated 1280–1350. This was residual within an agricultural soil in the Nun's Field, dated overall to 1500–1600 (Trench J). Whiteware jugs such as these were imported from south-west France after the acquisition of Gascony by the English and are associated with the development of the wine trade between the two countries from the 13th century (Fig 11 No.2).

Also recovered, from the backfill of the boundary ditch between the Nun's Field and St John's Meadow (Trench C), were fragments of a slipped Redware dish with zoomorphic decoration in pale green slip with splashes of green and yellow glaze made in Werra-type ware, dated 1550–1650. The vessel was imported from Germany and was produced in one of the kiln sites along the River Werra (Fig 11 No.3).

Part of the bottom of a Whiteware pedestal dish was recovered from a plough soil in St John's Meadow (Test Pit A). A patchy copper glaze survived both externally and on the inside of the dish (Fig 11 No.4). The fabric is abraded and off-white in colour with buff margins, source unknown, but not local. This was found with other pottery dated 1300–50.

NOTES

¹ Museum of the Order Of St John, Accession Number K40/1/2.

² 75.

³ Folio 8 [10], 22–24.

⁴ GLRO Acc 1876/MP1/169.

⁵ GLRO Acc 1876/MP1/170.

⁶ Truncated at 17.92m OD, base level 16.67m OD.

⁷ Annotation on 1512 Charterhouse water supply plan.

⁸ 1) Spitlecroft or New Church Haw. The 13 acres and rod of land used as graveyard. Acquired 15th November 1370; 2) The land identified as Pardon Churchyard. The three acre graveyard. Acquired

15th November 370; 3) Land belonging to St John's Priory; Saint John's Meadow (White Well Beach). Acquired 1376; 4) Land belonging to St John's Priory, Saint John's Meadow (White Well Beach). Acquired 1377; 5) Land belonging to St John's Priory. Acquired 1384; 6) Land belonging to the abbot of Westminster. Acquired 1391.

⁹ Trench F; truncated at 16.30m OD base level 15.65m OD, Trench H; truncated at 16.00m OD, base level 14.60m OD.

¹⁰ GLRO Acc 1876/MP1/169.

¹¹ GLRO Acc 1876/MP1/170.

¹² GLRO Acc 1876/MP1/173 A-B.

¹³ This estimate is for 1300 for the intra-mural city and its suburbs (see Schofield 1995, 26).

ACKNOWLEDGEMENTS

The MoLAS work on this project has been generously and wholly funded by Allied Domecq PLC. Their representative was Brian Stroud of LSP Project Management. Support for the archaeological work was by contractors from The Henry Group. Thanks are extended to all the MoLAS staff who worked on the site, during the evaluation, and the subsequent excavation: Mark Bagwell, Howard Burkhill, Stuart Gibson, Ian Grainger, Nick Holder, Sue Hurman, Jenny Mitcham, Brian Yule.

Paul Falcini, the MoLAS Project Manager, was supportive and ensured that this project reached fruition. Barney Sloane should be thanked for his help and patience in pointing the author in the direction of multiple sources drawn upon in this document.

The photographs of the 17th-century maps used in this report were supplied by Catherine Steeves and Colin Thom of the RCHM. These plans have been central to understanding the nature of the property boundaries in the area of the site. Thanks are also due to Stephen Porter at the RCHM for his comments on the text.

The following MoLAS staff contributed to this document: Ryzard Bartkowiak (timber), Ian Betts (building materials), Anne Davis (environmental assessment), Geoff Egan (the glass flask), John Giorgi (environmental evidence), Richenda Goffin (pottery), Damian Goodburn (timber), Alison Nailer (registered finds), Alan Pipe (animal bone), Kevin Rielly (animal bone), Terry Smith (building materials). The text was edited by John Schofield. The level of understanding of this site could not have been so comprehensive without their input.

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