



A REVIEW OF THE 53rd LAMAS CONFERENCE OF LONDON ARCHAEOLOGISTS HELD AT THE MUSEUM OF LONDON ON 19 MARCH 2016

Compiled by Bruce Watson

INDUSTRY AND MAGIC: QUARRYING AND SELECTIVE DEPOSITION IN EWELL, SURREY

Alexis Haslam (Pre-Construct Archaeology Ltd)

Redevelopment of the site of Nescot College, some 530m south of the centre of Ewell in 2015 revealed a complex and enigmatic sequence of human activity. The site is situated on the dip slope of the North Downs, where the Upper Cretaceous Chalk outcrops. The earliest human activity consisted of a Late Bronze Age or Early Iron Age linear driveway, to which an enclosure, mainly defined by postholes, was later added. There was a prehistoric circular 9.5m deep sinkhole (created by solution) that was finally infilled during the later 2nd century AD; finds from its backfill included a horse burial. During the late 1st century AD the underlying chalk and flint was extracted on a commercial scale from three large quarry pits. It is probable that this material was shipped to Londinium via barge down the nearby Hogsmill River and the Thames for use as building stone, flooring material or for processing to produce lime. These disused quarries infilled naturally with colluvium or hill wash. One of these quarries consisted of an oval shaft some 4.5m deep (Fig 1). The backfills of

these quarries contained a skeletal assemblage including a prone adult male and the remains of at least 53 disarticulated individuals, while the faunal assemblage included elements of 67 dogs, seven pigs and four horses. Associated finds included a copper-alloy brooch, a gaming counter, a spindle whorl, a bone handled iron knife, plus coins and ceramics dating to AD 87–100. While the coins and other usable objects can be interpreted as votive offerings, the animal and disarticulated human remains are puzzling. In Roman Britain inhumation or cremation were the usual methods of interment, but other practices took place, including disposal in the Thames. However, the impression is that these corpses had previously undergone some other practice, perhaps external exposure which explains why they were only partly articulated when they were subsequently disposed of. Unusual forms of burial within the Roman world, such as prone burials or disposing of people down wells, are often interpreted as ‘bad deaths’ of individuals who for some reason were denied the normal rites, and in this case even burial within a conventional cemetery.

Quarrying resumed on site during AD 250–300 and ended by AD 313–46, judging by the latest coins recovered from the backfill of these features. There was one Saxon female



Fig 1. The early Roman shaft quarry at Ewell, view looking east (Strephon Duckering; © PCA)

inhumation burial accompanied by a knife and a series B sceatta (dated to AD 675–710).

21 LIME STREET, CITY OF LONDON, REVISITED

Lesley Dunwoodie (Museum of London Archaeology)

This property, which occupies a transect across the eastern range of the second phase of the Roman Basilica, is archaeologically very sensitive. Therefore, in 2002–3 a series of new foundation trenches were excavated, in advance of a proposed redevelopment, instead of an open-area investigation. However, this scheme never happened, so during 2014 in advance of a revised proposal another series of trenches was excavated.

Roman activity on site started during the mid-1st century AD and the earliest two phases of clay and timber buildings were pre-Boudican. The site was redeveloped again by c.AD 70 and there was further evidence of successive phases of levelling dumps and clay and timber buildings. One of these late 1st-

century AD buildings contained a collapsed sheet of painted wall plaster (2.5m by 1.5m). It depicted an ornate fresco consisting of a red panelled background with a narrow vertical panel with a black background depicting tiers of pairs of deer and birds, possibly parakeets (Fig 2). Although at first sight the fresco appears to be skilfully produced the position of the composition within the vertical panel is asymmetrical as the artist appears to have run out of space (Fig 3), perhaps because he was using a template. Possibly this fresco adorned the reception room of a high-status private house situated to the east of the first phase of the Basilica (c.AD 80–100). When the second phase of the Basilica was constructed during c.AD 100–30, this building was demolished and its remains buried by levelling dumps, preserving the collapsed wall plaster. Evidence of the second phase of the Basilica, which was much larger than its predecessor, consisted of a cross section of its eastern range. The structural remains of the new Basilica consisted of short lengths of substantial north–south aligned masonry foundations delineating the portico and two

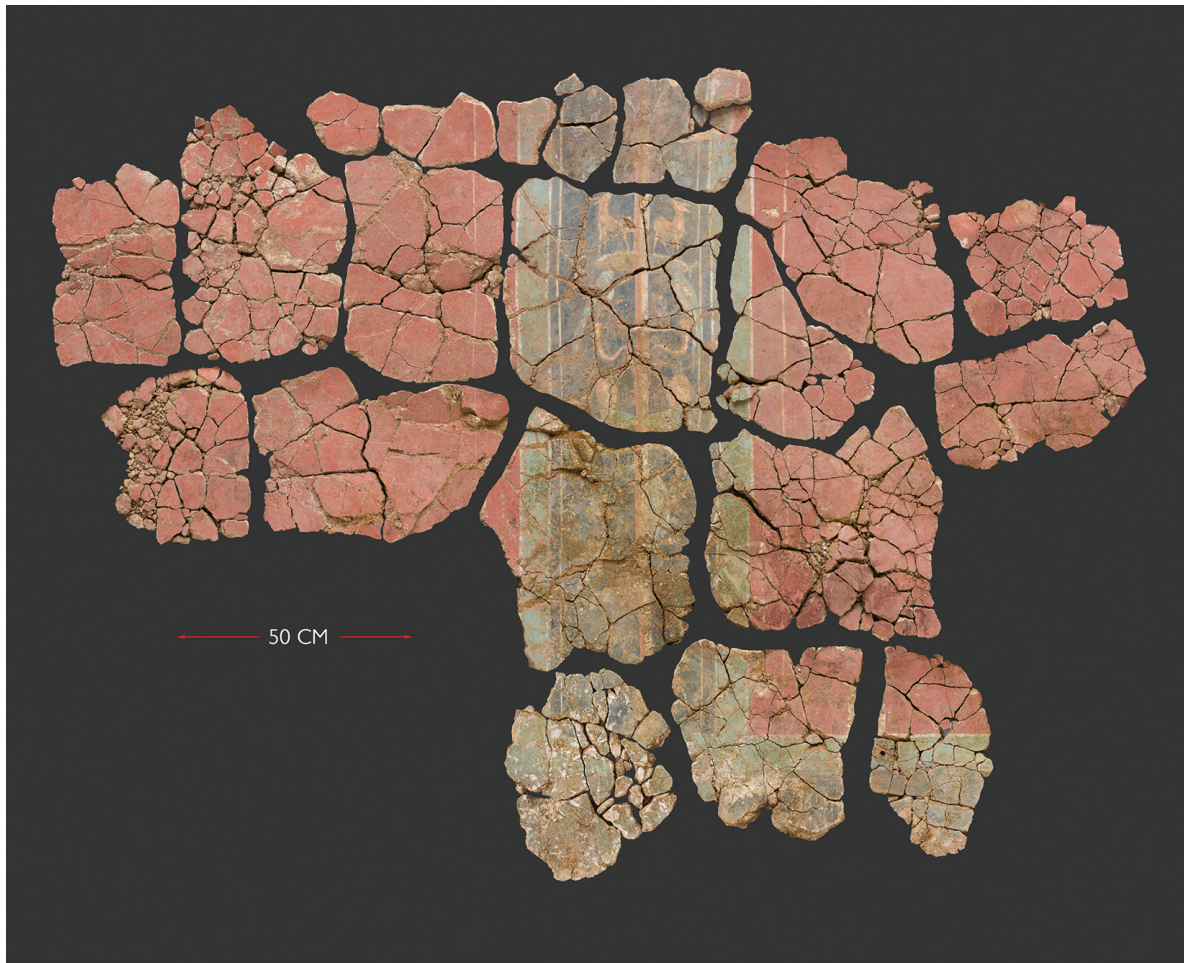


Fig 2. The surviving portion of the Roman fresco (2.5m by 1.5m) from 21 Lime Street (Andy Chopping; © MOLA)

ranges of rooms. There was also evidence of internal walls and some later Roman structural alterations. During the 11th and 12th centuries the Basilica foundations were extensively robbed out. John Stow, the Elizabethan London historian, attributed this street name to either the manufacture or selling of lime, which may recall the fate of the salvaged Roman masonry.



Fig 3. Detail of the Roman fresco showing the symmetrical arrangement of the animals within the vertical panel of the fresco. Notice the asymmetrical position of the central shaft within the composition (not to scale) (Andy Chopping; © MOLA)

**EXCAVATIONS AT PRINCIPAL PLACE,
LONDON BOROUGH OF HACKNEY***Andy Daykin (Museum of London Archaeology)*

In the 1860s the construction of a railway viaduct as part of the new terminus of the North London Railway at Broad Street Station accidentally preserved beneath its arches an archaeological transect across Shoreditch, which redevelopment is now revealing. Initial early Roman activity consisted of the establishment of linear ditches, probably delineating fields or property boundaries. Some of these ditches later delineated part of an extramural Roman cemetery. Fieldwork to date has revealed 30 burials, including four cremations and two deposits of pyre debris (*bustum*). The inhumations displayed a variety of postures and included a decapitated juvenile. The burials were aligned both east to west and north to south. One of the cremations consisted of a female; her ashes were interred in a ceramic jar along with a pig bone. Coin finds confirm that the cemetery remained in use until at least AD 375.

Until the post-medieval period this entire area was apparently fields, but it was partly quarried during the Tudor period. By the late 17th century brick-built terraced, suburban housing had been constructed along Hog Lane. Associated external surfaces were paved with herringbone brickwork or cobbles. To the rear of these properties were cesspits and wells. In 1810 the Gas Light and Coke Company was established in London. It was the first major gas production undertaking in the world and aimed to supply gas, particularly for municipal lighting, across central London. In 1813 the company established a gas works at Curtain Road, Shoreditch. Gas was produced by heating coal in huge ovens known as retorts. Excavations revealed extensive brick-built foundations of the gas works including chimney bases, flues lined with Cowen firebricks, scrubbing tank bases, plus two deep, cast iron and brick-lined wells. Associated finds included a medal celebrating the election of John Russell (later first Earl of Russell) in 1841 as an MP for the City of London. The gas works was demolished in c.1871–2, when the railway viaduct was extended.

**EXCAVATIONS AT BRANDON HOUSE,
SOUTHWARK: THE TUDOR PALACE
AND ROMAN REMAINS***Richard Humphrey (Pre-Construct Archaeology Ltd)*

In c.1516 Charles Brandon, who had been created first Duke of Suffolk in 1514, decided to rebuild his family home 'Brandon House' in Borough High Street, Southwark, renaming it 'Suffolk Place' after his new dukedom. To the east of the existing courtyard he built a new group of buildings arranged around a new courtyard. Previous discoveries on site and from St George's Church (on the opposite side of the street) have confirmed that Brandon's extension was brick-built and adorned with architectural terracottas to proclaim his wealth and social status. The Suffolk Place terracottas are a fascinating combination of Gothic and Renaissance decorative motifs. In terms of Renaissance influence these *ex situ* terracottas are very important as, after Hampton Court (1520–1), they represent the second example of secular usage of this material in England (Smith & Watson 2014).

The 2015 fieldwork confirmed that significant portions of the foundations of the southern and eastern range of Brandon's palace have survived previous redevelopments. There were also traces of brick-paved flooring and a garderobe shaft. Within the eastern range was a brick-lined culvert, which was backfilled with over 300 terracotta fragments, including some complete panels, various previously unseen design motifs and markers' marks. This material was all discarded when the palace was demolished in c.1557–8 (Meddens & Humphrey 2015). Some of the fragments of terracotta string course or cornice bear traces of gold paint, something not seen on the previous discoveries.

Beneath the remains of the Tudor palace was evidence of Roman occupation. This area was prehistoric wetland, so to make it habitable initial early Roman activity consisted of levelling dumps to raise the ground level, before clay and timber buildings were constructed. Roman finds included a folding metal ruler measuring exactly 295mm or a Roman foot (Meddens & Humphrey 2015, 161).



BY THE BANKS OF THE WALBROOK: FROM THE ROMANS TO BEDLAM

Alison Telfer (Museum of London Archaeology)

Between 2011 and 2015 the construction of a new Crossrail ticket hall at Liverpool Street afforded an opportunity to examine part of the deeply buried extramural Roman landscape adjoining the eastern side of a tributary of the Walbrook stream. Fieldwork located the eastern edge of the pre-Roman stream channel. During the 2nd century AD, a pair of wooden gates were reused as part of a platform or walkway to help consolidate this naturally damp area. Subsequently, this area was inundated by an accumulation of flood gravels. These fluvial deposits contained 19 human skulls, plus other human skeletal elements and some nearly complete pots. The impression is that this material represents *ex situ* inhumations and grave goods, which had been eroded out of the upstream Roman cemetery. By the early 2nd century AD, an east–west aligned gravel metalled road spanned the stream channel. The road gravels contained at least 14 hippo-sandals; these iron plates were fixed to the hooves of horses as temporary protection when they moved along metalled roads. The roadside ditches contained more human skulls and other skeletal elements; perhaps this material represents more elements of eroded upstream burials, which had been collected and disposed of within these ditches. Seven *in situ* Roman inhumations were excavated, including one decapitated female. By the 3rd century AD the road was abandoned and the natural accumulation of wetland deposits started.

In 1247 this area became part of the precinct of the new Priory of St Mary Bethlehem. During the 14th century, the priory was converted into a hospital caring for the mentally ill, later popularly known as ‘Bedlam’. In 1569 part of the gardens of the hospital were acquired by the City of London as the first of London’s extramural and non-parochial burial grounds, initially known as the New Churchyard and then later as the Bethlehem or Bedlam burial ground (see below).

LONDON BODIES, SOME RECENT ADVANCES

In recent years a range of new analytical techniques such as extracting the DNA of *Yersinia pestis* from teeth or the advent of portable digital radiographic equipment has permitted existing osteological collections to contribute to exciting new research projects (see below). Of course such analysis is only possible if skeletal assemblages are curated not reburied immediately after initial study. It is worth remembering that in January 2004, the Director of the Museum of London, Jack Lohman, having just secured a grant of £438,250 from the Wellcome Trust to create an online database of the museum’s osteological collection, proposed to rebury the collection after study (Alberge 2004). Fortunately, wisdom prevailed and the Museum of London’s Centre for Human Bioarchaeology was formed.¹ In 2015 the City of London Archaeological Trust awarded the Rosemary Green Grant to the Centre for Human Bioarchaeology to study the impact of industrialisation on the health of Londoners during the post-medieval period (see below).

Bedlam Burials: Bridging the Gap in our Osteological Knowledge

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Initial activity on the site of the new Bedlam burial ground consisted of external dumping to raise the ground level, but a few inhumations had already taken place beforehand, implying the site was quickly utilised. Fieldwork has now revealed some 3,700 burials (including 400 from the 1984–7 fieldwork). The burial ground was intensively used and it can be estimated that there were six to eight inhumations per cubic metre of earth. Many of the earlier interments were simply wrapped in shrouds, but the later ones were generally placed in wooden coffins. There was evidence of multiple interments, some of which may represent mothers and babies. Grave goods were very few, but one late 17th-century burial contained a pewter plate and another a Delftware plate. One infant was found with a glass bead and bone necklace. Nine *ex situ* stone

grave markers were recovered. One legible inscription was for Mary Godfrey, who died in September 1665 and was a victim of the Great Plague. One mass burial pit contained 44 individuals. The majority were interred in wooden coffins and may represent victims of the Great Plague. It is hoped to confirm this by trying to extract the DNA of *Yersinia pestis*, the bacterium which causes three related epidemic diseases known as bubonic, septicaemic and pneumonic plague, from the teeth of these burials. Osteological evidence of poor health included evidence of fractures, rib lesions, sinusitis (evidence of respiratory diseases), dental disease and a relatively high rate of rickets. There was evidence of bone lesions caused by syphilis and spinal degradation produced by tuberculosis. Initial osteological assessment has recorded a low number of subadult burials, but a relatively high proportion of these individuals were adolescents aged 13–17 years. The burial ground closed in 1739 and in 1865 Broad Street Station was constructed on its site.

Teenage Kicks: Puberty and Health in Medieval London

Mary Lewis (Archaeology Department, University of Reading)

What was it like to be a teenager in medieval England? Despite the fact that medieval society often singled out young apprentices and workers for adverse comment, to date their osteological study has been relatively neglected. The skeletal remains of 4,940 medieval adolescents (aged 6–25 years) from 151 sites across England have been analysed by studying published and unpublished skeletal reports, plus online databases. The aim of this research was to determine whether adolescents could be identified in the archaeological record and if so, at what age they started work and what impact their occupations had on their health (Shapland *et al* 2015). The age limit of 25 years was chosen as many medieval apprentices did not complete their training until they were in their twenties and many people did not marry until they were a similar age. One key cemetery site in this data set was St Mary Spital (Connell *et al* 2012).

The study revealed that urban male adolescents had a high rate of fractures to their hands, feet, ribs, legs and skulls. While many of these injuries were probably caused by falls at work, some could have been sustained by interpersonal violence or taking part in sports like football. Female urban adolescents generally showed more evidence of strain on their hands, feet, knees and spines, probably due to strenuous domestic service. They also showed evidence of a higher rate of respiratory diseases than the boys. It is clear that the onset of puberty in medieval teenagers generally took place three to four years later than in their modern counterparts. This delay was probably caused by a combination of poor diet, disease and physical hardship. Some of the deceased in their early twenties had still not completed their physical development due to chronic ill-health (Lewis forthcoming).

Radiographic Perspectives on the History of our Health

Jelena Bekvalac (Centre for Human Bioarchaeology, Museum of London)

Radiography or the technique of using electromagnetic radiation (especially X-rays) to view the internal structure of our opaque bodies has been used by physicians since 1896, but it is only much more recently that it has been used to study macroscopic palaeopathological traits in osteological assemblages. Now with the advent of direct digital radiography, this non-destructive technique is quick and the equipment portable. So for the first time the internal structures of skulls and bones can be recorded and measured in museum stores instead of hospitals. It is possible to examine internal osteological traits like lesions, and measure bone density including loss or abnormal density by disease. This technique is also being used to study the skeletal remains of the 229 named individuals in the crypt of St Bride's Church, Fleet Street. Analysis to date has revealed that a number of the older women from St Bride's show signs of bone growth inside the frontal portion of the skulls, typical of hyperostosis frontalis interna (HFI), a condition linked with oestrogen exposure and possibly atmospheric pollution.



Digital radiography is being used as part of the impact of industrialisation on Londoners' health project (see above). This ongoing research involves radiographing some 2,500 adult skeletons. It is intended to produce a detailed pathological record of all these adults including the presence of HFI, osteoporosis (brittle bones), joint disease, trauma, cancer and rib lesions. Other aspects of the project will look at life expectancy. This data will then be compared with modern populations.

'Teeming with Disease and Death': Insights into Life and Health in Bethnal Green in the mid-19th Century

Rachel Ives (Anthropology Department, Natural History Museum and AOC Archaeology)

In 2011 excavations at Peel Grove, Bethnal Green examined part of a privately owned burial ground that operated between 1840 and 1855, until it was closed on public health grounds. By the time it closed some 20,000 people had been interred here. The excavation confirmed that the site had been intensively used with evidence of numerous stacks of coffin burials.

A total of 1,033 burials were recovered, of which 396 could be identified by coffin plates, while a further 23 individuals possessed gravestones or wooden grave markers. As all these burials date to after the 1836–7 introduction of civil registration for births, deaths and marriages, the cause of all these deaths should have been documented, providing an opportunity of comparing the physical remains of these 419 individuals with the contemporary record of their causes of death. Research allowed 306 death certificates to be accurately identified (Ives 2015, 150–1). This confirmed that the majority of people were either residents of Bethnal Green or an adjoining parish. Contemporary Bethnal Green was one of the most impoverished parishes in London with poor sanitation, overcrowded or substandard living conditions and polluted water supplies. Evidence of a high incidence of infectious diseases was to be expected. Of the 658 well-preserved juvenile skeletons, 79% of these infants had died before they were three years old. Death certificates confirm that these

infants were dying from convulsions, pneumonia, diarrhoea and atrophy. As a number of these individuals showed evidence of vitamin C and D deficiency many of their deaths were probably connected with nutritional deficiencies, especially rickets. Poor living conditions or atmospheric pollution was apparently causing respiratory diseases, such as tuberculosis, as there was a high incidence of rib lesions in adults; of the 603 studied death certificates, 16% cited tuberculosis as the cause (*ibid*, 152–3, fig 4). Evidence of poor diet was widespread with 215 of the subadults showing signs of rickets. Many individuals both adults and juveniles showed evidence of fractures. While one cranium fracture looks like the result of a violent attack, many of these injuries were probably the result of falls at work or road accidents. There was widespread evidence of very poor dental hygiene and little evidence of dental repairs, though one adult possessed a lead dental plate with porcelain teeth.

'Our Poor, Decayed Seamen': An Osteological Study of the Skeletons of the 100 Royal Navy Pensioners from Greenwich Hospital (1749–1856)

Ceridwen Boston (Linacre College, University of Oxford)

In 1694 the Royal Naval Hospital at Greenwich was founded on the site of the former royal palace as a residential home for elderly and disabled seaman and marines. It closed in 1869 when the number of residents or pensioners had dwindled. During 1999–2000 part of the former hospital cemetery (1749–1857) was excavated revealing 104 male burials. Unsurprisingly, 73% of these individuals were aged 45 years or older, confirming documentary evidence that older veterans moved to the hospital when they were unable to live independently. These men had clearly endured great hardship as they displayed osteological evidence of an average of six fractures. The vast majority of these fractures can be attributed to accidents on ship like falling down ladders or hatchways during stormy weather. Many men showed evidence of broken nasal bones and hand injuries indicative of bare knuckle boxing or brawling. The pensioners' skeletons showed

little evidence of wounds from hand to hand combat, but one individual had suffered a serious sword cut to his face, which had permanently damaged his lower jaw. This injury would have made eating and speaking difficult. Six individuals showed evidence of limb amputations. It is well known that during long sea voyages men often suffered from scurvy (a disease caused by a deficiency of vitamin C); many skulls displayed evidence of coarse pitting and the growth of new bone around the eye sockets which is probably due to scurvy (Boston *et al* 2008). The overall impression is of a group of tough 'old sea dogs' who had survived multiple trauma and disease, proving that life in the 18th- and early 19th-century Royal Navy was very hazardous even if you were never in battle.

NOTE

¹ See <http://archive.museumoflondon.org.uk/centre-for-Human-Bioarchaeology/Database> for details of their collection.

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