

# 18th-century cattle ‘plague’ pits: evidence from 1 Dickens Square, Southwark

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## Introduction

A group of three complete cattle skeletons residing in two 18th-century pits were recovered during excavations by Pre-Construct Archaeology (PCA) at 1 Dickens Square, Southwark (see Fig 1).<sup>1</sup> This evidence can be compared with a much larger collection of cattle skeletons discovered at the British Museum also dating to the 18th century.<sup>2</sup> Here it was argued that

these animals had succumbed to disease, the quantity of carcasses and various other attributes strongly indicative of evidence for cattle plague.

Alongside the remains of another potentially diseased carcass from the previous MOLA excavations at this site,<sup>3</sup> the Dickens Square skeletons provide further information concerning the effects of virulent disease on the cattle herds located within the environs

of the nation’s capital city. This is the first of two reports dealing with the Dickens Square cattle skeletons; the second will describe evidence pertinent to the possible ‘type(s)’ of cattle represented at this site.<sup>4</sup>

## Description of the skeletons

The cattle remains and their relative state of completeness are shown in Figs 2, 3 and 4 (note that Skeleton 3

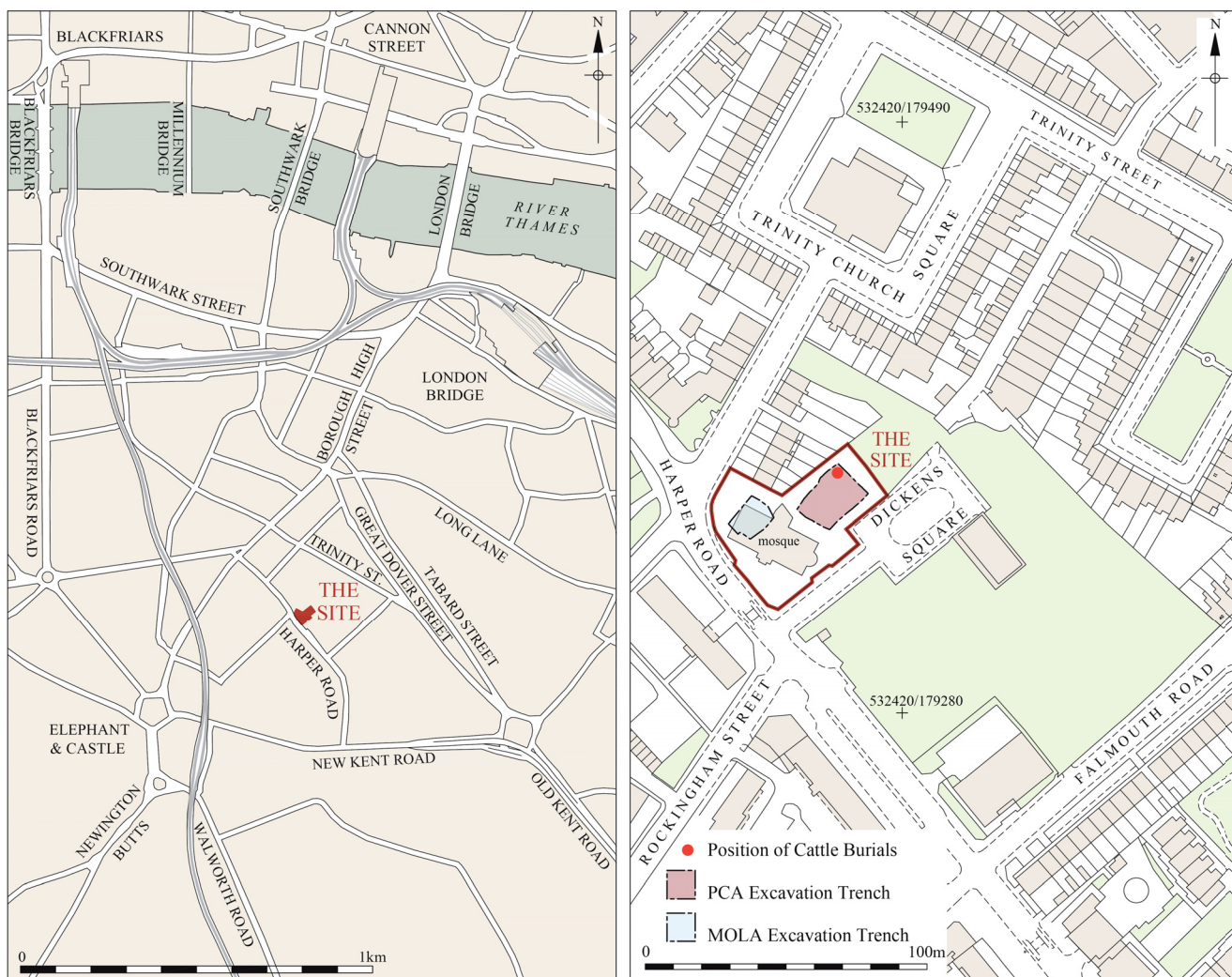


Fig 1: site location (left) and area of excavation (right), with the area of a previous MOLA excavation superimposed (over the mosque) noting the position of the cattle burials (the red circle)



**Fig 2: detail of the excavated cattle burials**

was largely located beyond the western baulk). Judicious undercutting of the section edge revealed the eventual skeletal representations as described in Table 1. This also highlights evidence concerning other aspects of all three articulations. There are a number of similarities, including their age and possibly their sex (see below) and they demonstrate approximately similar shoulder heights, though Skeleton 3 is a little shorter.

The shared incidence of a probable congenital trait referring to a malformation of the sacrum may well be a condition called wrytail – this consists of ‘a distortion of the tail-head, the base of the tail being set at an angle to the backbone instead of in line with it’.<sup>5</sup> Possible confusion concerning the sex of Skeleton 3 relates to the rather ambiguous shape of the pelvis

adjacent to the ilial acetabulum (the joint to which the femur head attaches);<sup>6</sup> although as the smallest of the three animals, it could be proposed that this skeleton also represents a female. Differences demonstrated by the shape and size of the horncores as well as of the posterior profiles of the skulls will be discussed in terms of possible cattle ‘types’ within the second report.<sup>7</sup>

**Cattle plagues – the rinderpest outbreaks**

The interpretation of these few skeletons as ‘plague’ victims is largely based on the British Museum evidence, where 41 cattle (37 adults and four young calves) had been buried during the first half of the 18th century within a close group of 13 pits.<sup>8</sup> Both sites featured the remains of complete

skeletons, the good condition of the bones and the absence of gnawing marks suggesting fairly rapid as well as relatively deep burial, with the sex data indicating they were taken from dairy herds.

The close proximity of the pits at each site undoubtedly shows that these animals died or were culled within a relatively short time of each other; and finally, both burial sites were located on farmland, presumably under ownership (or lease) by their respective cowkeepers.<sup>9</sup> It can certainly be assumed that the cause of death was disease and undoubtedly of a particularly virulent sort to account for the number of deaths at the British Museum excavations.

Notably, England, and the South-East in particular, suffered at least three major cattle plagues or pandemics

Skeleton	Parts	Age	Sex	Size (mm)	Pathology	No of bones
1	All	7 yrs approx	F	1272.6	Sacrum bent to left	123
2	All	7 yrs approx	F	1266.1	Sacrum bent to left	120
3	H,V,HL	7 yrs approx	?F/M	1211.2	Sacrum bent to right	23

**Table 1: description of the cattle skeletons**

**Key:** Parts show All as complete; H as head; V as vertebrae; HL as hindleg; Size: shoulder heights are based on the greatest length of the femur<sup>20</sup>





**Fig 3: Skeleton 1 (to the left and partly in the trench wall) and Skeleton 2, with a mid-19th-century well in the background, looking south-east**

through the 18th century, dating to 1714, 1745–57 and again more sporadically between 1769 and 1774.<sup>10</sup> The disease responsible for these pandemics was extremely contagious with a high mortality rate among the infected cattle. An obvious comparison can be made with the 19th and 20th-century rinderpest (essentially the modern name given to cattle plague) pandemics and it would seem likely that these earlier cattle plagues were also associated with this viral infection.<sup>11</sup>

Noting the enormity of the problem facing the bovine population at the onset of the initial outbreak in 1714, the government instigated a plan of action in an attempt to diminish the spread of this disease, this then laying the foundations for subsequent preventative measures concerning infectious diseases of livestock continuing to the present day.

These followed recommendations of the King's Surgeon, Dr Thomas Bates, who proposed that animals should be culled at the first onset of identifiable infection while the remaining herd, fields and cowsheds should be quarantined. Compensation should be payable to the owners as an incentive to comply and all culled animals should be burnt, later modified to be buried 15–20 feet deep, owing to the huge number of cattle being processed.<sup>12</sup> The burning or burial should, of course,

take place on the stock-keeper's land.

Within London and its associated environs, it would appear that these plagues had a very noticeable affect amongst the dairy herds. The 1714 outbreak was originally observed in the Islington dairy herds and the later outbreaks, notwithstanding the application of similar preventative measures, were responsible for further major losses.

Evidence potentially pertaining to the cow burials found at this site is shown by a court case dated to 1750 involving the non-payment of funds bequeathed to 'such unfortunate Farmers and Cowkeepers that had lately sustained any loss by the present or late pestilential distemper that has affected and destroyed many of the Horned Cattle of this Kingdom.' The local importance of this case is demonstrated by the plaintiffs chosen to represent these 'unfortunate...cowkeepers', here including Rayner Clarke of Walworth and John Bruce of Laindon, Essex.<sup>13</sup>

Comparing the historical evidence to the archaeological data, it can be seen that the cattle were clearly buried as whole carcasses following the preventative measures, although subsequent truncation of contemporary land surfaces makes it impossible to determine how deep. It is of interest that several of the British Museum cattle bore cut-marks suggestive of some post-mortem use, showing that

some farmers were less than stringent regarding these regulations. Indeed, reports to the Treasury (dated 6 Nov 1714) show that they had:

...received many complaints where the cowkeepers buried their own cows as all have done for a fortnight past; particularly that several of them have dug them up again for their hides, that others are buried so shallow that their limbs appear above ground and occasion a stench.<sup>14</sup>

The presence of cows at both the British Museum and Dickens Square sites perhaps confirms the aforementioned primary losses, referring to 'dairy herds' and 'cowkeepers', concerning London and its environs.

Additional evidence was also provided by the findings from the previous excavation at this site (see Fig 1). Articulated cattle remains from a garden soil consisted of the major part of an adult individual as well as the head parts of at least two young calves. These could only be roughly dated to the 18th/19th centuries. However, it might reasonably be assumed that these articulations are redeposited and comparable in date and origin with Skeletons 1 to 3. While there is no sexing data, the occurrence of calves strongly suggests a deposit of similar composition to those previously described from the British Museum.<sup>15</sup>

Further evidence has also been recently found at 97–137 Hackney Road, Hoxton, featuring a large pit containing the disarticulated (possibly disturbed) remains of two adult cattle skeletons (with at least one definite cow) as well as a large quantity of lime.<sup>16</sup> Notably, the previously mentioned preventative measures, here concerning the second pandemic, advocated that two bushels of unslaked lime be used per carcass.<sup>17</sup>

It is perhaps surprising given the severity of these 18th-century cattle plagues that the nationwide archaeological evidence is rather slight. The first outbreak was largely confined to the south-east while the second, in particular, affected large swathes of the United Kingdom.<sup>18</sup> Comparative collections, to date, apart from those in London, are limited to the Grand Arcade in Cambridge (early 18th century) and St Giles in North Yorkshire

(mid-18th century). Both of these provided adult cows as well as a proportion of young calves, the latter accounting for three out of nine and two out of seven individuals respectively.<sup>19</sup>

### Final remarks

The information gathered from these few sites instructs archaeologists and historians alike concerning the effects of disease, and in particular these pandemics, on London's cattle. However, further information is undoubtedly required. The recovery of other burials would obviously be welcomed, while the historical effects of such wholesale slaughter on the beef economy should also be considered.

### Acknowledgements

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**Fig 4:** archaeologically truncated view of Skeleton 3, looking north-west. It is represented by the skull and the lumbar/pelvic sections of the vertebral column, while further parts of this skeleton were uncovered by digging into the baulk.

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1. The site was excavated by PCA in 2013–14, following an evaluation in 2011, supervised by Neil Hawkins for Frank Linden on behalf of the Baitul Aziz Mosque; see N Hawkins *Assessment of an Archaeological Excavation at the Baitul Aziz Mosque, 1 Dickens Square, London Borough of Southwark* PCA unpub rep (2014).
2. The British Museum cattle burials and their historical connection with the 18th-century cattle plagues are described by K Rielly 'The animal bone assemblage' and then by R Haslam and V Ridgeway 'The Cattle Burials in Context; both within R Haslam and V Ridgeway *Excavations at the British Museum: An Archaeological and Social History of Bloomsbury* The British Museum Research Publication 210 (2017) 165–8 and 205–11.
3. J Taylor *Mosque and Community Centre, 1 Dickens Square, London EC1, London Borough of Southwark*, MOLA Interim Excavation unpub (2000).
4. K Rielly '18th century innovations in cattle breeding: the evidence from 1 Dickens Square, London Borough of Southwark' *London Archaeol* (forthcoming).
5. F W Atkeson, F Eldridge and H L Ibsen 'Prevalence of "Wrytail" in Cattle' *Journal of Heredity* **35** (1) (1944) 11–14.
6. C Grigson 'Sex and age determination of some bones and teeth of domestic cattle: a review of the literature' in B Wilson, C Grigson and S Payne (eds) *Ageing and sexing animal bones from archaeological sites*, BAR Brit ser 109 (1982) 7–24.
7. *Op cit* fn 4.
8. *Op cit* fn 2, 205–11.
9. *Ibid*, 165–6, 205 and 209. The farmland location of the 18th-century Dickens Square site is shown on the

John Rocque map of 1746, although this area had become a tenter field later in this century as shown on the R Harwood map of 1792–9.

10. The disease entered England via infected animals from the Continent where parallel pandemics raged between 1709–20, 1742–60 and 1768–86 as mentioned in J Broad 'Cattle Plague in Eighteenth-Century England' *The Agricultural History Soc* **31** (2) (1983) 104–5.
11. See L Wilkinson 'Rinderpest and mainstream infectious disease concepts in the eighteenth century' *Medical History* **28** (2) (1984) 129–150 and see C A Spingale *Cattle Plague A History* (2003).
12. T A Bates 'A Brief Account of the Contagious Disease Which Raged among the Milch Cows Near London, in the Year 1714. And of the Methods That Were Taken for Suppressing It. Communicated to the Royal Society by Thomas Bates Esq: Surgeon to His Majesties Household, and R.S.S.' *Philosophical Transactions of the Royal Society* **30** (1717) 872–85.
13. *Op cit* fn 2, 206–7; TNA C 11/582/1 Attorney General, Clarke and Bruce v Wallis and Butterfield (executors of Willis) (1750).
14. Further reports to the Treasury, dated 6 Nov 1714: 'Received many complaints where the cowkeepers buried their own cows as all have done for a fortnight past; particularly that several of them have dug them up again for their hides, that others are buried so shallow that their limbs appear above ground and occasion a stench.' See *op cit* fn 2, 206.
15. *Op cit* fn 3, 19–20.
16. Also a PCA site excavated in 2017, supervised by Stacey Harris on behalf of Regal Homes Construction

Ltd; see K Rielly 'Appendix 7: Faunal Assessment' in S Harris *97–137 Hackney Road, Hoxton, London E2: Phase 2: An Archaeological Evaluation* PCA unpub rep (2017) 43–6.

17. *Op cit* fn 2, 207–8.
18. *Ibid*, 207.
19. C Cessford & A Dickens *Grand Arcade, Cambridge: the Excavation of a Medieval Suburb East Anglian Archaeol Monogr (in prep)*; S Stallibrass *Post-Medieval cattle burials from St Giles by Brompton Bridge, North Yorkshire*, Ancient Monuments Laboratory Report 94/93 (1993).
20. Shoulder height calculations are taken from A von den Driesch and J Boessneck 'Kritische Anmerkungen zur Widerristhöhenberechnung aus Längenmaßen vor- und frühgeschichtlicher Tierknochen' *Saugetierkundliche Mitteilungen* **22** (1974) 325–48. Age interpretation uses mandibular data from G G Jones and P Sadler 'Age at death in cattle: methods, older cattle and known-age reference material' *Environmental Archaeol* **17** (1) (2012) 11–28, based on the evidence following A Grant 'The use of toothwear as a guide to the age of domestic ungulates' see Armitage in B Wilson, C Grigson and S Payne (eds) *op cit* fn 6, 91–108 and the state of fusion of the vertebrae after E Schmid *Atlas of Animal Bones* (1972). Sex is determined by the shape of the pelvis after C Grigson *op cit* fn 6 and particular dimensions of the distal metacarpus in R N W Thomas 'A statistical evaluation of criteria used in sexing cattle metapodials' *Archaeozoologia* **2** 1.2 (1988) 83–92. Additional information concerning age and sex is based on characteristics of the horncores, see Armitage in B Wilson, C Grigson and S Payne (eds) *op cit* fn 6, 37–54.