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A Gilt-Bronze Arm from London

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ABSTRACT

The left hand and forearm from a slightly over life-size bronze or copper-alloy arm was excavated during 2001 at 20–30 Gresham Street, within the City of London. It was discarded in a quarry pit, which flooded with groundwater turning it into a pond and was subsequently backfilled c. A.D. 60–70. The arm was presumably part of a public statue, perhaps of an emperor or god, which had been deliberately broken up. The Boudican revolt of A.D. 60/1 is one possible context for the destruction of Roman statuary in London, but the end of Nero's reign, some ten years later, is another period when any statues of this very unpopular emperor could have been broken up. The article includes a catalogue of previous finds of bronze statuary from London (where more fragments of arms and hands have been recovered than anywhere else in Britain), the results of metallurgical examination of the arm, and a discussion of iconoclasm in Roman Britain.

INTRODUCTION

The left hand and forearm from a slightly over life-size bronze or copper-alloy arm was excavated during 2001 at 20–30 Gresham Street, also known as Blossom's Inn, within the City of London EC1, site centre NGR 532403 181286 (FIGS 1–2).[1] It can be assigned to the mid-first century as it was recovered from a feature which was backfilled in *c.* A.D. 60–70,[2] and is an important addition to the evidence for the existence of what must have been a considerable number of life-size bronze statues in Roman London, where more fragments of arms and hands have been recovered than from anywhere else in Britain (see below) — recently a sandaled foot was found within a temple complex in the area of Tabard Street, Southwark.[3] This is not surprising considering that London was the sole capital of the province during the later first and second centuries A.D.[4] At one time or another there must have been public statues of every important ruler in London. Of this multitude of statues the only identifiable relic is the head of Hadrian recovered from the Thames.[5] The existence of multiple statues of some emperors is attested by Suetonius, who stated that there were many statues of Titus (A.D. 79–81) in Britain.[6] A good proportion of these statues are likely to have been displayed in London. In a

1 Amongst conservators 'copper alloy' is the term used, but 'bronze' has a very long art-historical pedigree and will be used here.

2 Fitzpatrick 2002, 327 for a preliminary report.

3 Fitzpatrick 2004, 301; Killock and Brown 2004.

4 Salway 1981, map vii; during the third century the province of *Britannia* was sub-divided.

5 RCHM 1928, 44, pl. 1; Evers 1994, 123–4 no. 55. The head was dredged from the south side of the Thames, just below the site of Old London Bridge, in 1834, Smith 1859, 65, frontispiece.

6 Suetonius, *Divus Titus* 4 (Edwards 2000, 275). Many of these statues will have been of bronze (copper alloy), perhaps gilded.

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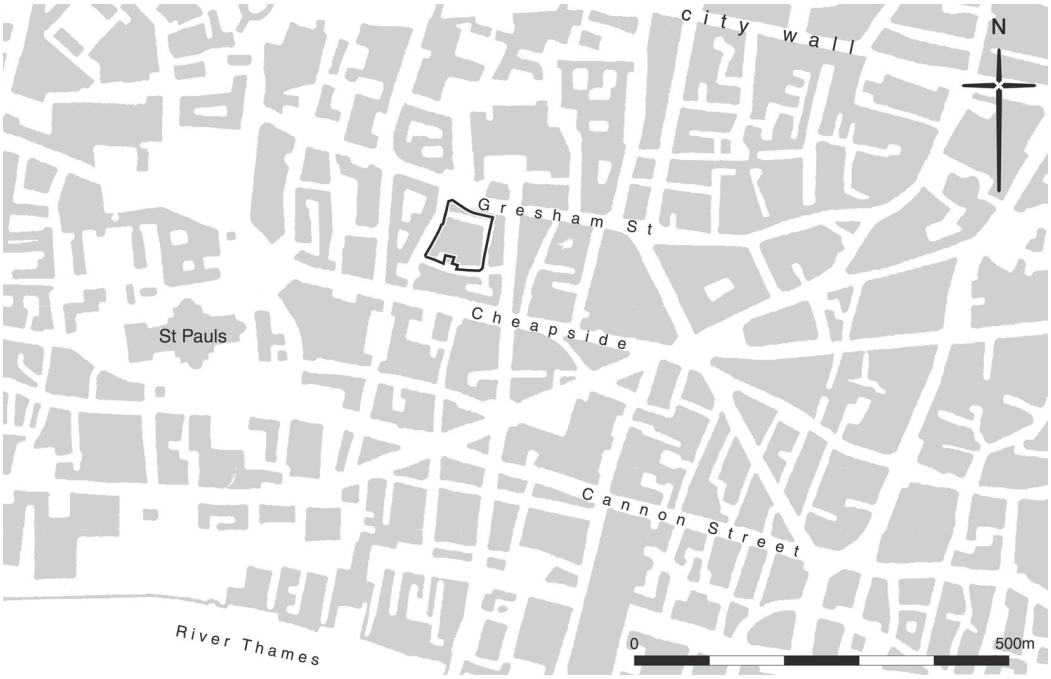


FIG. 1. Site location.

famous *topos* Tacitus informs us that Agricola actively encouraged the construction of public squares and temples, which would inevitably have been adorned with bronze or stone statues of emperors, public benefactors, and a plethora of deities.[7] Over time it is likely that public statues of governors and other notables were erected. The gilt-bronze head of Sulis Minerva from Bath[8] and a gilt-bronze statue of Apollo from Lillebonne in northern Gaul serve as reminders of the type of statue to be found in every sanctuary.[9] The arm-action of the Lillebonne Apollo is different to the Gresham Street forearm, but another life-size Apollo from Zifteh in the Egyptian Delta portrays the lower left arm hanging by the figure's side with fingers in a similar position to the Gresham Street example.[10] Except for the head of Hadrian, the actual subjects of the fragments of the various London statues are a matter of guesswork, aided by an assessment of the archaeological contexts in which they were found and by the nature of the alloy from which they were cast.

Thirty years ago the late Ralph Merrifield, in his discussion of finds of broken Roman statuary from London, proposed that the deposition of such *membra disiecta* might be cult acts, offerings to the gods.[11] The probable motives for the dismemberment of this statue and other contemporary examples from Roman Britain are considered in the discussion section.

7 Tacitus, *Agricola* 21. Agricola was governor of Britain during A.D. 78–84, Mattingly 1970, 22.
8 Cunliffe and Fulford 1982, 9 no. 26, pl. 7.
9 Espérandieu 1911, 184 no. 3084; Espérandieu and Rolland 1959, 24–5 no. 10, pls 3–5.
10 Walters 1899,150 no. 828; Walters 1915, pl. xli.
11 Merrifield 1977, 388.

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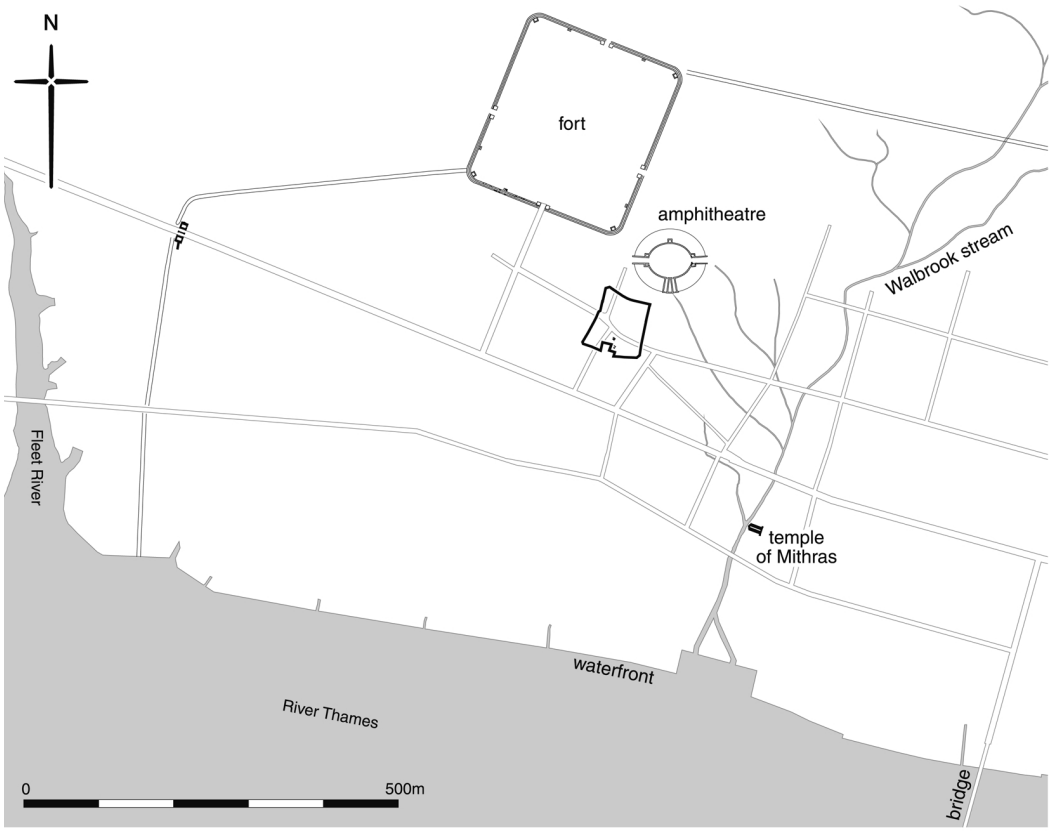


FIG. 2. Plan of the western half of Roman London in the second century A.D. showing the site location.

THE CONTEXT OF THE FIND

The location, topography, and geology of the site have already been described in this journal.[12] The arm was recovered from the top portion of a series of water-lain sediments which accumulated within a large pond (FIG. 3). This feature lay on the north side of a road which was in use by A.D. 70–75, judging by finds from its metalling and flanking ditches. This pond probably originated as a gravel quarry during the mid-first century A.D., which on account of the naturally low-lying nature of the site and the high level of natural groundwater, filled with water for prolonged periods. The systematic extraction of water during the early Roman period was undertaken less than 20 m away by means of two deep, timber-lined wells containing water-lifting devices.[13] Contemporary with the pond was the earlier of the two wells (Well 1, constructed A.D. 63 and abandoned A.D. 69–71) (FIG. 3).

Insect remains from the pond sediments include granary weevils and taxa associated with

12 Blair *et al*. 2006, 5.
13 Blair *et al*. 2006.

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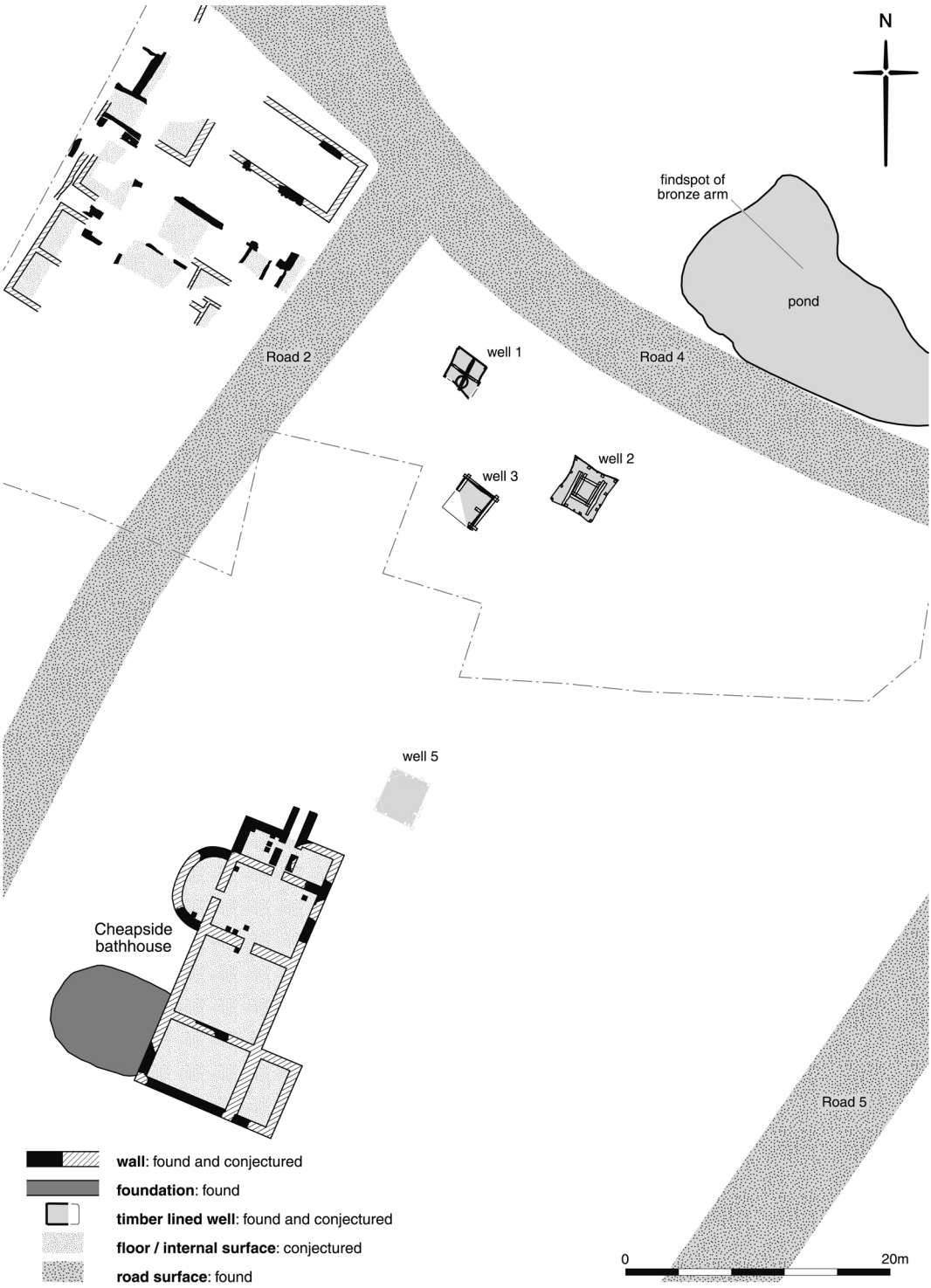


FIG. 3. Plan of the southern portion of the site, showing the pond where the bronze arm was found and other significant early Roman features.

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decayed organic matter such as stable waste.[14] Pollen indicates the local environment was treeless grassland. A high level of Brassicaceae pollen in one deposit is attributed to on-site vegetation, perhaps a vegetable garden.[15] Plant remains included waterlogged spelt wheat and large amounts of cereal straw. There was also a high frequency of grasses and grassland plants, suggesting that both animal fodder and bedding material were being discarded here.[16]

Associated ceramics from the sediments surrounding the arm are dated to *c.* A.D. 60–70; this assemblage included sherds derived from two Verulamium region whiteware vessels, several Baetican (early Dressel 20/Haltern 70 fabric) amphorae, and Oxidised wares.[17] The deposition of the sediments above the arm is dated by ceramics to *c.* A.D. 120–160. These sediments were sealed by further accumulations of water-lain silts and the systematic infilling of the feature dating to *c.* A.D. 150–160. The finds and environmental material from the pond and its contemporary setting will be described in detail in the forthcoming monograph devoted to the narrative history of the site.[18]

DESCRIPTION OF THE ARM

The hand looks relatively youthful and relaxed (FIG. 4).[19] The thumb and forefinger almost meet each other; the other fingers are bent as though the hand were holding something like a scroll (Table 1). The musculature of the back of the hand is lightly indicated. The nails are carefully shaped and well defined. The wrist is fairly narrow but the forearm swells out, before contracting just below the elbow where the arm is broken off. Most of the surface colouration, which was originally interpreted as leaf-gilding, is actually a layer of brittle pyrites resulting from prolonged burial in waterlogged conditions (see below).

The interior is hollow-cast of quite thin metal, and there are remaining traces of what must have been the armature of iron struts allowing the statue to be cast using the lost-wax process. The forearm and hand were apparently cast separately, the latter part being added to the former (see below). The arm (and presumably the rest of the statue) was leaf-gilded. Comparison may be made with a somewhat similar arm, of about the same length (442 mm), likewise leaf-gilded, but in this case a right forearm, from Clairmarais, Rheims, now in the collection of the British Museum.[20] This may be a little later in date, but must have been cast no later than the third century.

TABLE 1. DIMENSIONS OF BRONZE ARM

Length	**Dimensions (mm)**
Overall	460
Forearm	290
Hand	160
Width	Across hand 105; across wrist 74; at break 95

14 Smith 2006.
15 Scaife 2006.
16 Davis 2006.
17 Open Area 11, see Watson *et al.* in prep.
18 Watson *et al.* in prep.
19 Site code GHT00 [4202] <740>; archive curated by Museum of London Archaeological Archive and Research Centre (LAARC) at Mortimer Wheeler House, 46 Eagle Wharf Road, London N1 7ED.
20 Oddy 2002, 101–3.

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FIG. 4. Photograph and cross-sections of the bronze arm.

THE METALLURGY OF THE ARM

By Justine Bayley

In the laboratory the arm was carefully examined and two small flakes of metal that had become detached from it were analysed by X-ray fluorescence (XRF).

X-radiography of the arm was combined with inspection of the interior of the mainly hollow casting to explore how the piece had been made. It appeared that the forearm was one casting, but that the hand had been cast onto it subsequently. The evidence for this is the solidified dribbles of metal just visible within the casting around the wrist; any excess metal on the outer surface would have been removed before the statue was gilded. The casting-on could have been part of the original design for the statue, or was perhaps a repair made to a faulty casting where the molten metal had failed to completely fill the mould.

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On initial visual inspection it appeared that large amounts of gilding survived on the piece. However, analysis showed that the bright gold-coloured surface was mainly a fairly brittle pyrites (copper-iron sulphide) layer. This had been deposited on the metal because the object had been buried in a waterlogged environment where sulphate-reducing bacteria were active; pyrites is commonly found on non-ferrous metal objects from anaerobic deposits.

The colour of the actual gilding was slightly different. It lay between the pyrites crust and the bulk metal of the statue and could be seen in a number of different areas. Further XRF analyses confirmed the presence of gold, but no mercury was detected so the gilding has been identified as leaf gilding, the expected gilding technique on a piece of this date.[21]

One of the metal flakes was a piece of the bulk metal of the statue fragment. XRF analyses suggest its composition is around 90 per cent copper with tin and zinc both under 0.5 per cent and lead essentially making up the balance. This analysis should be regarded as semi-quantitative, as although the metal appeared copper-coloured, its surface was rough so its composition had probably been affected to some extent by corrosion.

The composition of the Blossom's Inn arm can be compared with those of other statue fragments found in London (Table 2). It has no close compositional parallels as its tin content is far lower than those of the other pieces and its lead content falls between the low levels seen in Nos 2, 4 and 5 and the far higher amount in No. 1. It can best be described as leaded copper rather than as leaded bronze. Oddy's survey of leaf-gilded classical statues contains several with only a per cent or two of tin, and interestingly these also tend to have intermediate amounts of lead.[22]

OTHER ARMS AND HANDS FROM BRONZE STATUES FOUND IN LONDON

1. Left hand, found at 83–87 Gracechurch Street during 1866–68.[23] Only the hand and wrist remain. Length: 0.241 m; width (of back of hand): 0.105 m. Hollow cast bronze. This too is leaf-gilded.[24] The thumb and two forefingers are extended, while the other two are bent. The hand was probably part of a statue, which stood in the Forum and Basilica complex.[25]
2. Right forearm and hand, found in a well to the east of Seething Lane, Tower Street, in 1884.[26] The arm is broken off below the elbow. Corrosion has resulted in the loss of part of the palm and there is also a considerable loss of metal in the forearm. Length: 0.485 m; width: 0.101 m (across hand), 0.103 m (across arm at elbow). Hollow-cast bronze. The thumb is straight but the fingers are bent as though to clasp a staff.
3. Colossal right hand and wrist, found during excavations along Lower Thames Street near the Tower, in 1845.[27] The thumb is broken. Length: 0.32 m; width: 0.11 m. Hollow-cast bronze (not analysed). The thumb and index finger are extended; the others are bent around the now missing shaft of a spear or sceptre(?). It has been suggested that this hand belonged to the statue of Hadrian, whose head was found nearby.[28]

21 Lins and Oddy 1975.
22 Oddy 1982, 6.
23 Museum of London (MoL) Acc. No. 2079; RCHM 1928, 44 and 121, pl. 2; Merrifield 1977, 391 and 393, pl. 17.ivc; Marsden 1987, 66, pl. 20.
24 Oddy 1982, 6 no. 19.
25 Brigham 1990; Dunwoodie 2004.
26 MoL Acc. No. 2077; RCHM 1928, 44, pl. 2; Merrifield 1977, 391 and 393, pl. 17.iv.
27 British Museum, Acc. No.: PRB 1856.7-1.18; Merrifield 1977, 391 and 392–3, pl. 17.iv; RCHM 1928, pl. 3; Smith 1859, 66. While the context of this find is unknown, as Lower Thames follows the line of the Late Roman river wall, it is quite possible that this bronze was discarded within the northern portion of the river channel, Merrifield 1977, 392.
28 Merrifield 1977, 392; RCHM 1928, 44; Smith 1859, 66.

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4. Bent finger, found in Fenchurch Street.[29] The finger is pitted with corrosion and has been over-cleaned. Length: 0.105 m; width: 0.03 m; depth: 0.02 m. Cast bronze.
5. Bent finger, found in Fenchurch Street, London.[30] In the same condition as last. Length: 0.095 m; width: 0.03 m; depth: 0.035 m. Cast bronze, probably derived from the same statue as No. 4.

In 1981 Paul Craddock of the British Museum Laboratory undertook the analyses of a number of gilt bronze Roman artefacts in the Museum of London collections (Table 2). It was noted that item 1 was not 'fire-gilded'.[31]

TABLE 2. RESULTS OF THE 1981 ANALYSES OF THE FRAGMENTS OF ROMAN BRONZE STATUARY IN THE MUSEUM OF LONDON COLLECTIONS

Catalogue No.	Copper %	Lead %	Iron %	Tin %	Zinc %
1	65.5	25.3	0.44	6.6	0.86
2	84.5	0.63	0.03	13.3	0
4	86.0	2.7	1.2	10.7	0.04
5	85.0	3.6	0.07	10.3	0.01

DISCUSSION

No other parts of the statue were found. It is unlikely that the sculpture stood in the area or that the arm reached its eventual condition and position by accident.[32] It is not possible to identify the subject with certainty from the surviving portion alone, but given the first-century date and materials used, it is probable that the piece was an imperial portrait. The obviously damaged condition and this early date tend to suggest a particular identification, specifically the Emperor Nero. There are two periods when there is a feasible political context for this act of destruction. First, during the Boudican sack of London in A.D. 60/1, any public statues of Nero or his predecessor Claudius would have been obvious targets for the rebels' ire.[33] Secondly, the events preceding Nero's fall in A.D. 68, or the celebration of his demise, provide another instance when any images of this unpopular ruler were likely to have been broken up by his disgruntled subjects.[34]

This particular arm has an undeniable physical similarity to the other surviving traces of bronze statuary from Roman London (see above). Indeed, the high frequency of hands (and connected segments) as the sole remaining portion of London statuary suggests an apparent preference for this type of body part as a fragment.[35] However, the other London examples are believed to

[29] MoL Acc. No. 21786.
[30] MoL Acc. No. 21787.
[31] Results listed in a letter of 23 February 1981 from Andrew Oddy to Hugh Chapman, MoL. See also Lins and Oddy 1975.
[32] See Watson *et al.* in prep. for details of the site sequence.
[33] Salway 1981, 113–19.
[34] Cassius Dio in Book 63 of his *Roman History* noted that in A.D. 68 as a result of Nero's oppressive taxes the 'inhabitants of Britain and Gaul … were being more vexed and inflamed than ever'. Also in A.D. 68 when the soldiers of Rufus, governor of Germany, were trying to persuade him to proclaim himself emperor (which he declined to do), they 'threw down and shattered the images of Nero' (Cary 1961, 173, 181; Cassius Dio, *Epitome of Book LXIII*).
[35] A pattern not restricted to the capital: of the 55 bronze statues from Roman Britain evidenced by surviving traces, 16 consist of a solitary hand or finger (Croxford 2007, 196).

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have been deposited during the second century or later.[36] Therefore, the circumstances of the fragmentation and deposition of these later finds may also have been different.[37] There are a number of other bronze statuary finds with a first-century date of deposition from Britain. These consist of: a pteryx[38] from Usk in Gwent/Monmouthshire;[39] the hock of a horse from Ashill in Norfolk;[40] and the famous head from the River Alde, Suffolk.[41] Of these three finds only the deposition of the Usk fragment is securely dated, but the other two are believed to be of a similar date. It has been argued that the pieces from eastern England were victims of the Boudican rebellion.[42] That from Usk, far from lands troubled by Boudica, is thought to be the result of the *damnatio memoriae* that followed Nero's fall from power.[43]

The arm from London occupies an uncertain position geographically and chronologically, potentially falling within the scope of both episodes of sculpture destruction discussed earlier. The destruction of images of unpopular or deposed rulers is a powerful motif and one still employed in the modern world.[44] Whatever the potential symbolism of the action, it cannot actually be said which of the two possibilities accounts for the arm's condition and position. It is an unfortunate reality of broken sculpture that the resulting fragments are rarely indicative of the precise sequence of events that produced them. Indeed, even the level of destruction evidenced is not always certain. In instances such as the pteryx from Usk, such minor losses could have occurred with the sculpture continuing in use.[45] The loss of an entire arm might be thought a more certain sign of complete destruction, but sculptures have remained in use despite similar losses or even more comprehensive assaults.[46]

Whether the moment of separation occurred at the hands of rebellious natives or aggrieved/jubilant citizens, and even if it did not signal the disuse of the sculpture, there is the matter of the deposition to consider. However the arm became detached, it was certainly intentionally deposited in a place from which recovery would have been very difficult. This action was possibly intimately connected with the division of the sculpture. Instances of *damnatio memoriae* often feature an element of disrespectful disposal, commonly into rivers or sewers.[47] Non-Roman interaction

36 The other surviving portions of bronze sculpture found in London were probably deposited at later dates, after the second and third centuries and most likely within the fourth or perhaps fifth century.

37 Such pieces are thought to be the product of reclamation efforts, with their deposition the action of those involved in such work (Croxford 2003, 89). The physical similarities are therefore the product of chance, largely determined by the likely points of fracture for such images (Croxford 2007, 180).

38 Being one of the small lappets from the lower part of a cuirass, this one from a statue rather than a functional example.

39 Webster 1995, 46–54.

40 Lawson 1986, pl. 35.

41 Found at Rendham in 1907. See Huskinson 1994, pl. 1. It has been identified as Claudius and also as an anonymous private individual, but the case for it being Nero has also been considered recently (Russell 2006). As the image depicts an older man with facial features such as marked ridges flanking his nose, it is generally considered very unlikely to represent Nero. The continuing debate concerning the identity of this piece was discussed by Huskinson (1994, 13, no. 23).

42 Though the head from the Alde was at one stage thought to have been deposited by Vikings (*Athenaeum* 12 December 1908, 766).

43 *Damnatio memoriae* being the modern term used to describe the process and type of event (Hedrick 2000, 93) with a common conception of what this entails and why it occurs (Stewart 2003; Varner 2004).

44 As seen in the carefully stage-managed toppling of Saddam Hussein's statue in Sahat al-Firdaus on 9 April 2003 and the numerous other incidents (some more spontaneous) carried out by both Iraqis and invading forces (including the targeting of such images by British tank commanders of 7th Armoured Brigade).

45 Though it has been argued that in this instance actual destruction may be inferred (Webster 1995, 48).

46 Even defacement does not automatically signal the end of use, as shown by the sculpture from Camerton (Wedlake 1958, 66, 214; Croxford 2007, 243).

47 Stewart 2003, 276. At Chester there is a very interesting probable example of political iconoclasm which took place during the late third century, when the tombstones associated with an entire legion were hacked up and buried in a fortress wall (Clay 2004).

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with separated fragments of sculpture could also result in ritualised disposal or deposition.[48] Additional possibilities include an attempt to secrete illegitimately acquired, valuable scrap.[49] Indeed, such a possibility need not preclude the means of destruction considered above, an enterprising individual simply making off with a segment following the violent destruction. That there are more logical and accessible places for concealment (coupled with the obvious failure to recover) weighs strongly against such a proposal. The arm certainly constituted a considerable loss, purely in terms of metal value,[50] and it is very unlikely that it was casually discarded. With the later incidents of destruction and deposition, it has been suggested that ritual purposes were the intention.[51] The situation in late Roman Britain, necessitating re-evaluation of sculpture's role and nature, certainly provides ample potential for such unusual reinterpretations and novel uses.[52] That the piece in question here is of considerably earlier date means that it was unlikely to have been subject to precisely these processes or situations.

Given the dating and the probable subject, attention obviously focuses on the two probable episodes of statue destruction during A.D. 60–69. Ultimately, however, it is impossible to categorically pronounce upon the subject of the sculpture, the circumstances of its dismemberment, or the reasons for the deposition of this one portion independent from the majority. This find serves to remind us of the complexity of destructive interactions with material culture and specifically sculpture in Roman Britain.

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48 Croxford 2007, 232–5.

49 As has been suggested with the bronze cladding found beneath a floor at Carmarthen (*CSIR* 1.5, 49).

50 According to the inscription on the base of a statuette of Mars from the Foss Dyke, Lincolnshire (*RIB* I, no. 274) a pound of bronze cost three denarii.

51 Merrifield 1987, 103.

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