

SKULLDUGGERY IN ROMAN LONDON?

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INTRODUCTION (G.M.)

Ever since the early 19th century, excavations in the Walbrook Valley, particularly across the stream itself, have produced large numbers of human skulls. General Pitt-Rivers (then Augustus Lane Fox) has the credit of being the first person to record their findspots in detail and to preserve some, which survive today (Pitt-Rivers, 1867). Discoveries continued throughout the 19th century and reached a peak in the early years of this century. Since the First World War the only major find was from the site of the Bank of England and only two have been recorded since 1938. However, the discovery of these skulls may go back much further and help to explain a curious story told by Geoffrey of Monmouth in his *Historia Regnum Britanniae*, V,4. He records how a group of Romans were besieged in London by Asclepiodotus, Duke of Cornwall and how:

When the Romans saw they were being slaughtered one after another, they persuaded Gallus to surrender together with his men and to beg the mercy of Asclepiodotus, so that they might be able to depart with their lives. Almost all their number had been killed already, leaving one single legion, which was resisting as best it could. Gallus agreed to this request, surrendering himself and his men to Asclepiodotus. Asclepiodotus himself was prepared to have mercy on them; but the Venedoti advanced in formation and in one day decapitated the lot of them, beside a brook in the City which from the name of their leader was afterwards called Nantgallum in Welsh, or in Saxon Galobroc.

It seems quite probable that Geoffrey may have actually witnessed the discovery of some skulls from the Walbrook and made up his story to account for them or it is possible he saw earlier discoveries, perhaps preserved as relics in a City church.¹

Whatever the exact source of Geoffrey's story over fifty skulls survive in various museums and form the largest group of early Roman skulls from Britain (Pl. 1). In 1980 the two writers examined all the surviving material in order to carry out a proper anatomical study and to try and establish their real significance. The following list details the various discoveries in chronological order and individual details of the surviving skulls are included in Appendix 1. Full detailed anatomical reports may be consulted either at the Museum of London or the British Museum (Natural History).

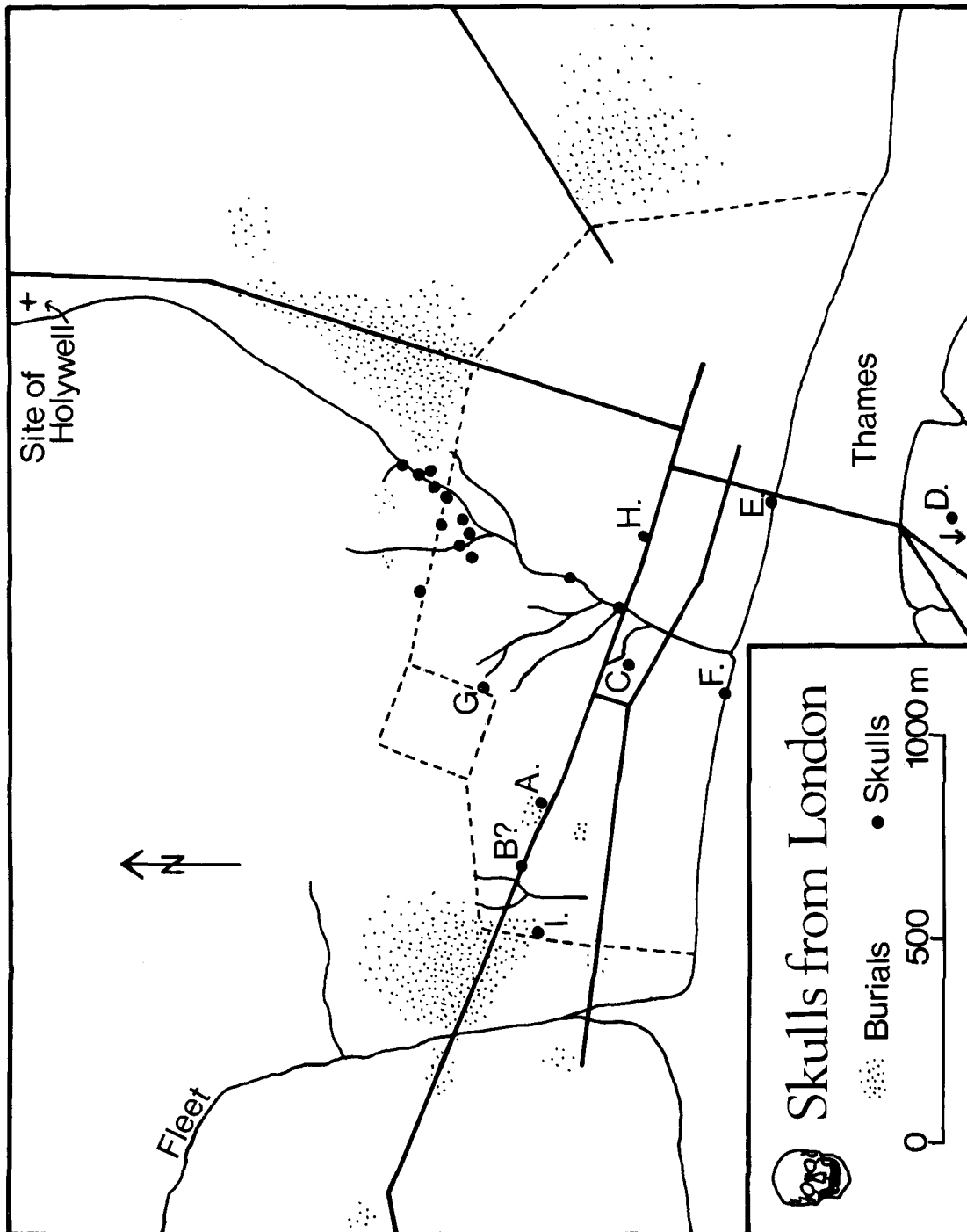


Fig. 1. Finds of isolated skulls in Roman London.

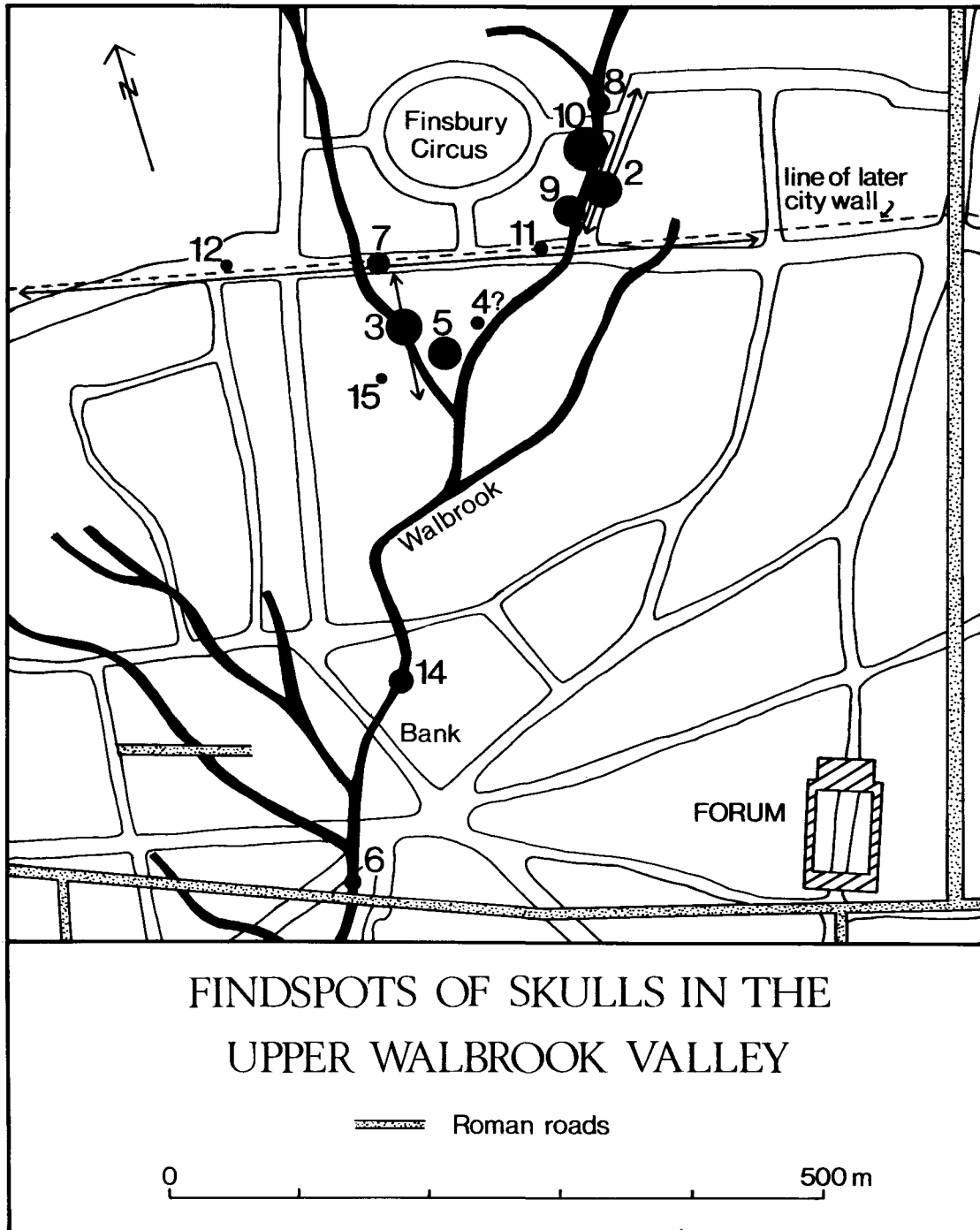


Fig. 2. Finds of skulls in the Walbrook Valley.

DISCOVERIES OF HUMAN SKULLS IN THE WALBROOK VALLEY (Fig. 2)

1. Unknown before *c.* 1136. Geoffrey of Monmouth.
2. Blomfield Street 1838. City Sewer Records and Smith (1842) 152–3. ‘. . . it may be mentioned that an immense number of human skulls were found throughout this street.’ None survive.
3. Road from London Wall to New Court/Little Bell Alley (now Copthall Avenue) 1851–1852. City Sewer Records. ‘. . . We also found human heads in the same line of work.’ None survive.
4. Site adjoining Gooch and Cousens Wool Warehouse 1862. Pitt-Rivers (1867, lxxvii). Two skulls discovered neither of which survive.
5. Gooch and Cousens Wool Warehouse 1866. Pitt-Rivers (1867). Seventeen crania and three mandibles recovered, now in Pitt-Rivers Museum, Oxford.
6. National Safe Deposit Company Site (N.S.D.C.) 1872–3. Price (1873). The Museum of London has a skull and mandible from this site which exhibit the characteristic staining of the Walbrook skulls and which may come from the stream although Price (1873) makes no mention of them in his report.
7. London Wall (exact site uncertain) before 1885 when purchased by Royal College of Surgeons (unpublished). Five skulls now in the British Museum (Natural History).
8. Old Moorfields Chapel *c.* 1900. Reader (1903, 201). Six skulls discovered, none survive.
9. London Wall Estate Office, Finsbury Circus 1902–3. Reader (1903). ‘. . . large numbers were found . . .’ of which Norman and Reader 1906, 176, record 13 in the Guildhall Museum and three held by Mr. Kennard. The Museum of London now has eleven of the former and one of the latter.
10. Finsbury House, Blomfield Street *c.* 1905. Norman and Reader (1906, 176). ‘. . . upwards of 100 (skulls) were discovered on that site at the bottom of the stream filling, while other bones were almost wholly absent. No effort was made to preserve these’. During minor alterations in 1938 two more skulls were found which are now in the Museum of London. Part of another skull was found by workmen in October 1981, but has not yet been studied.
11. London Wall, outside Carpenters’ Hall 1905. Norman and Reader (1906, 176). Two skulls excavated neither of which survive.
12. 122 London Wall, 1920. Lambert (1921, 75). One skull found now in Museum of London.
13. ‘Walbrook’ exact site uncertain possibly Blomfield Street, before 1925. Unpublished. One skull in Museum of London.
14. Bank of England 1928–34. Unpublished. Nine skulls survive, eight in the Museum of London and one in the Bank’s own collection.
15. 13 Copthall Avenue, 1967. Unpublished inf. Mr. P. Marsden. A human skull, which does not survive, was recorded by Mr. N. Cook from the southern part of the site in a layer of black mud.

LOCATION AND DATE OF THE SKULLS

Figs. 1 and 2 show the location of the sites known to have produced skulls. It is immediately apparent that the finds concentrate in the upper reaches of the Walbrook valley, particularly in a natural ‘amphitheatre’ in the area of London Wall/Finsbury Circus. This area was well north of the main occupation area of the Roman settlement during the 1st century. No skulls are definitely recorded south of the N.S.D.C. site, where the Walbrook stream cuts down to the River Thames, and the finds from this site are not absolutely certain. Almost all of the discoveries are as a result of workmen’s excavations but it is certain that most of the finds are from the Walbrook stream or the nearby banks. Specific details of location survive for sites 5, 9, 10 and 11 and it is clear that in all four cases that the skulls were found in the lowest level of stream fill, overlying the natural gravel. This layer is described as sand and silt on sites 9 and 11, and peat on site

5, although skulls from the latter site were described as being filled with brown silt. A *terminus ante quem* for the deposition of the skulls is provided at site 9 where the layer was sealed by dumped earth, nearly four feet thick, with associated timber revetments and a plank lined tank (Reader 1903, 194). A quantity of pottery from this level survives in the Museum of London and is almost entirely of early-mid 2nd-century date. This material suggests the skulls from this site at least were deposited before *c.* AD 100.² A *terminus post quem* is almost impossible to fix due to the lack of any associated material. However, the total lack of any Iron Age material from the Walbrook suggests that deposition occurred after the Roman conquest.

CONDITION OF THE SKULLS

A detailed report is included below but a few general comments can be made. Although a certain number of skulls showed damage from picks and spades during excavation, these marks were distinct and easily recognised. Prior to their excavation the skulls had been subject to a number of processes. All the skulls lacked their lower jaws and the four mandibles which survive do not belong to any of the skulls. In addition, about half the skulls lacked their facial bones. Close examination suggested that, apart from the loss of teeth, this was their original condition on discovery and not the result of damage during excavation. The absence of abrasion marks on the skulls and the fact that they have not come apart or become crushed suggests that they had become rapidly filled with silt and were then completely buried in stream deposits. All the skulls are stained in a characteristic manner, ranging from tan to dark brown in colour and often have a shiny surface. This colouration is completely different from the pale yellow of Roman and medieval human bone excavated in London from graves. None of the sites produced any other human material, except a shoulder blade of uncertain date from site 5.

THE EXAMINATION OF THE SKULLS (BW)

48 skulls and 4 mandibles (representing 52 individuals) were examined:
 26 from the Museum of London
 20 from the Pitt-Rivers Museum, Oxford
 5 from the British Museum (Natural History)
 1 from the Bank of England Museum

The determination of gender was based on standard criteria as outlined by Brothwell (1972b), Genoves (1969), Anderson (1962) *et al.*, and age was estimated using dental attrition (Brothwell, 1972b). Cranial suture fusion was not used, since this method has proven to be thoroughly unreliable in several studies (Singer, 1953; Cobb, 1955; Brooks, 1955; McKern and Stewart, 1957).

Of the 47 individuals whose gender could be determined, 39 were male and 8 female. Of the 43 individuals whose age could be estimated, all were young to middle-aged adults except one (a child aged 10–11 years). It may be of interest to note here that the average life expectancy of earlier populations was approximately 19 years from birth (which includes the high infant mortality rate) and 40 years if only adults over 19 are considered (Brothwell, 1972a).

However, it does not necessarily follow that anyone over the age of 35 was regarded by his fellows as ancient. It was, instead, a matter of being 'carried off in one's prime' by one of any number of infectious diseases.

The investigation of pathology shed little light on the problem of the original deposition of these skulls, as they proved to be a fairly representative assemblage with a typical distribution of dental anomalies, metopism, osteoporosis, etc. There was no evidence of ante-mortem injury to any of the skulls.

Of particular interest were the 32 skulls which were sufficiently complete to be aged, sexed and measured. Measurements from these specimens (comprising 26 males and 6 females) were compared with those from 32 other British and European populations (Brothwell, 1972b; Buxton, 1935; Dawes & Magilton, 1980; Goodman & Morant, 1940; Keepax, 1979; West, forthcoming). Until the entire body of data has been subjected to multivariate analysis, however, only the following general and tentative observations can be offered.

The three cranial variables illustrated as examples (Figs. 3, 4) are those for which the greatest amount of comparative data is available, and the Walbrook specimens fit quite well into the Romano-British group. Both diagrams illustrate the general tendency of medieval groups toward brachycephalism (round-headedness), and that of Iron Age, Romano-British and Saxon groups toward dolichocephalism (long-headedness). The Iron Age groups also tend to have a greater vault height than the Romano-British. In comparisons with twenty other cranial variables, however, the Walbrook specimens are similar not only to the Romano-British group, but also to the Iron Age populations, particularly those recorded from Wetwang Slack.

DISCUSSION (GM)

Since the excavations recorded by Pitt-Rivers there has been argument about the reason for the presence of skulls in the Walbrook. Pitt-Rivers, himself, was in no doubt, commenting '... nothing is more clearly proved than that the heads were severed from the bodies before they were thrown into the positions in which they were found' (1867, lxxx). However, this view had been replaced at the turn of the century by the idea that the skulls were the remains of complete bodies which had become disarticulated. Reader (1903, 201) considered that the skulls had sunk while the other bones had been washed away.³ It was Wheeler, writing in 1928 for the Royal Commission volume on Roman London, who seems to have first suggested that the skulls were the result of the Boudican massacre in AD 60 (R.C.H.M., 1928, 16). This view, though tentatively expressed at the time, has become the generally accepted explanation of the skulls today.

While an obvious solution to the problem it is difficult to accommodate with the results of the present survey. The skulls are clearly not the result of a simple massacre of civilians since they are not a typical cross section of a population, but rather a group of 'selected' individuals. Tacitus (*Annals XIV*) records '... but those who stayed because they were women, or old, or attached to the place, were slaughtered by the enemy', exactly the opposite of the young adult

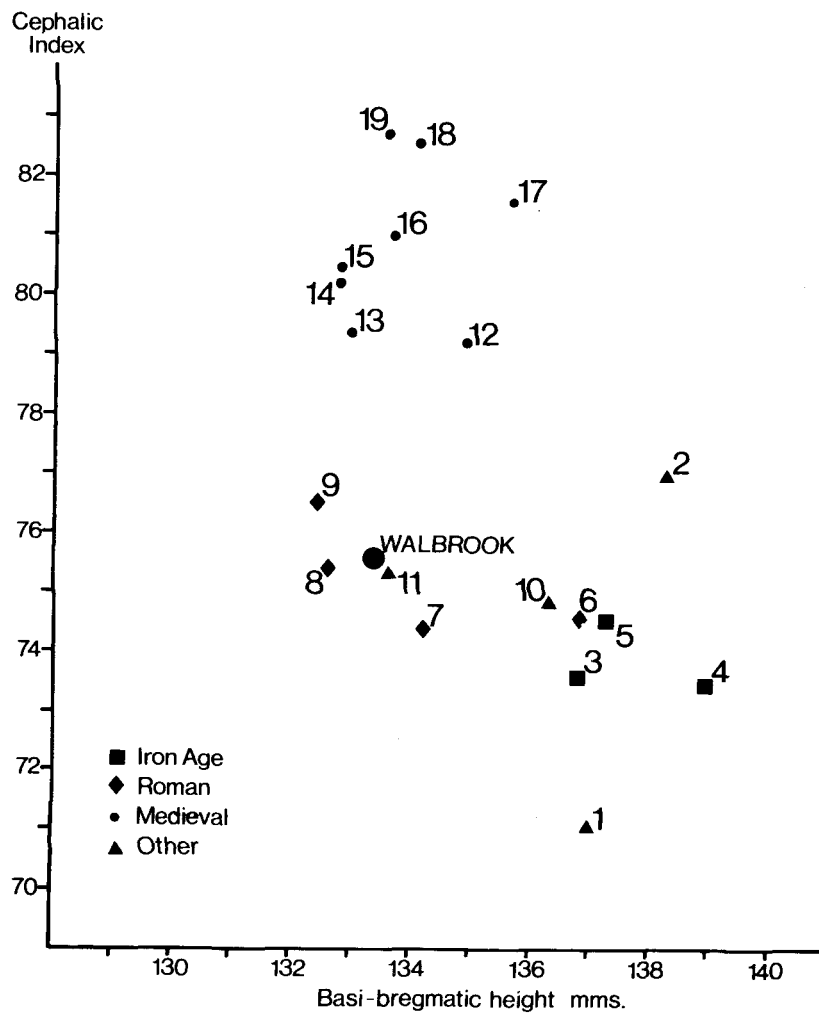


Fig. 3. Comparisons of cephalic indices and vault heights of the male Walbrook specimens with those from 19 other British sites.

Neolithic

1 England generally

Bronze Age

2 Yorkshire

Iron Age

3 Wetwang Slack, Yorkshire

4 Gussage All Saints, Dorset

5 Maiden Castle, Dorset

Romano-British

6 York Mount

7 Cranborne Chasc, Dorset

8 Frilford, Oxfordshire

9 Trentholme Drive, York

Saxon

10 Bunwell

Anglo-Scandinavian

11 York Minister

Medieval

12 Abingdon, Oxfordshire

13 St. Helen's York

14 Clementhorpe, York

15 Greyfriars, Chester

16 Rothwell, Northamptonshire

17 St. Mary's York

18 Hythe, Kent

19 York Minster

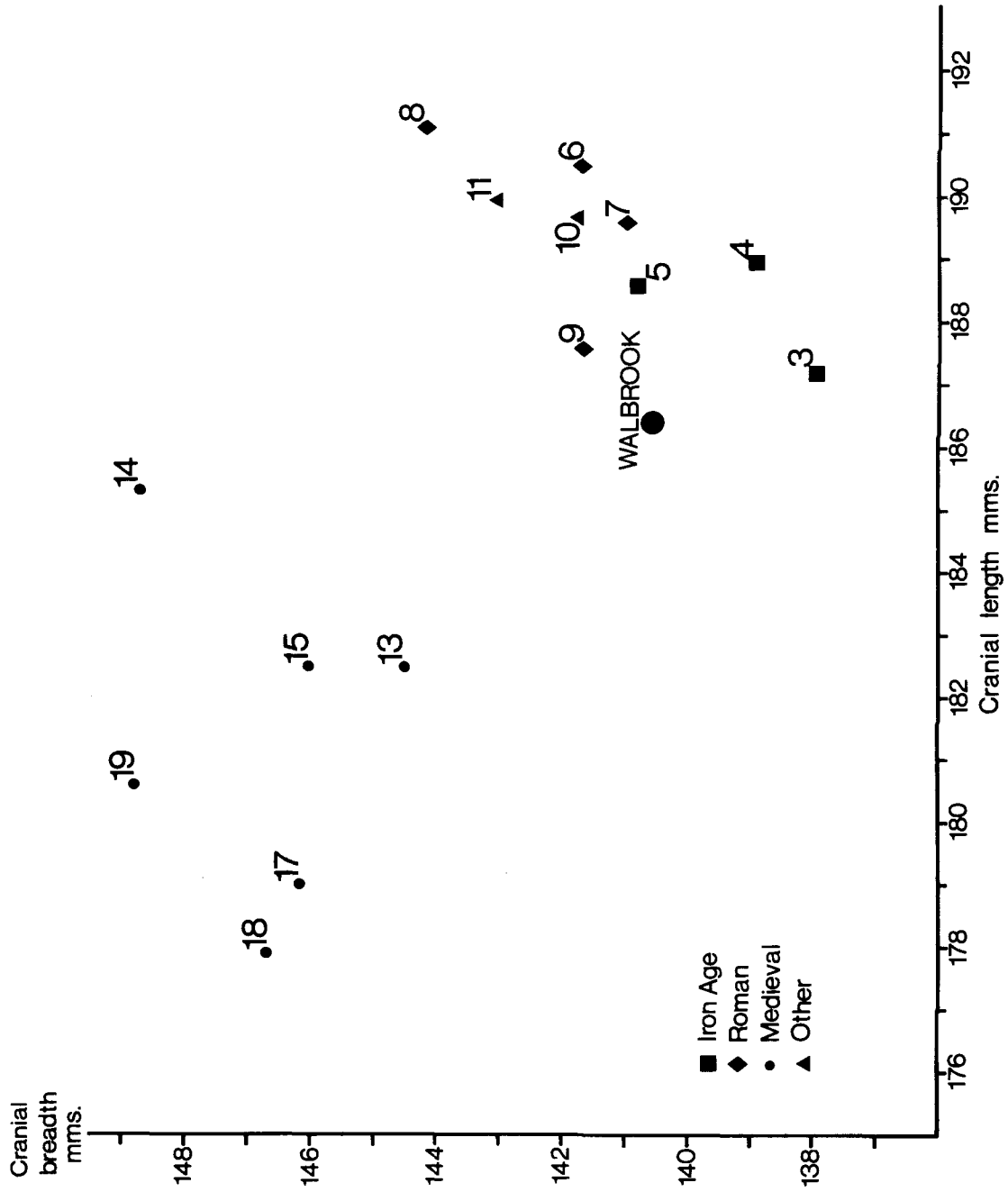


Fig. 4. Comparisons of cranial length and breadth measurements of the male Walbrook specimens with those from 15 other British sites. For sites see Fig. 3.

males attested by the skulls. Moreover, none of the skulls show any evidence of ante-mortem injuries as might be expected. In the Maiden Castle war cemetery (Wheeler, 1943, 351–356), although not completely comparable, a third of the skulls had evidence of wounds inflicted by weapons, while at Worlebury hillfort half of the massacred inhabitants had traces of injuries on the bones (Bulleid and Gray, 1917, 683).

The suggestion of ritual killing is more plausible given Tacitus' (*Annals* XIV) reference to the Britons, who would 'cut throats, hang, burn and crucify'. However, the lack of jaws or upper cervical vertebrae would appear to indicate that the heads went into the Walbrook as defleshed and disarticulated skulls.⁴ If exposed, the exact time it takes for a jaw to separate from a skull depends on the weather, but even in summer it might take several months. About half of the skulls lack their facial bones suggesting that they had been exposed for a considerable time before final deposition.⁵ Our knowledge of the events of AD 60 is limited but it seems clear that London remained in rebel hands for a few weeks at most (Carroll, 1979, 199–201), far too short a period for the apparent disarticulation to have taken place. It also seems unlikely that the returning soldiers and inhabitants would have left decomposing human remains near one of main sources of water in London. Moreover decapitation at whatever period it was practised seems to have often resulted in damage to the back of the skull. A good example occurs amongst the decapitated victims of the Iron Age camp at Sutton Walls, perhaps executed by the advancing Romans. As Cornwall (1954, 69) comments on one particularly botched effort '... it seems the executioner in this case was more muscular than skilful'. If the Walbrook skulls were the victims of decapitation some at least might be expected to show such damage, but none were found. However, it should be noted that in the Lankills cemetery (Clarke, 1979, 415) seven bodies had had their heads removed by cutting the neck from the front, probably with a knife, leaving marks only on the 3rd and 4th cervical vertebrae.

Evidence for hanging is often difficult to recognize, even on a complete skeleton. Nonetheless, Smith and Jones (1908, 335) in discussing a large group of Roman bodies from Shellal, Nubia, indicate that hanging had resulted in characteristic lesions, where the base of the skull had been torn back opening up the occipito-mastoid suture.⁶ Again there was no evidence of such damage in the Walbrook skulls.

The necessity of seeking a violent explanation for the skulls has been considerably lessened by the recognition that skull deposition was practiced throughout Britain in the Roman period and, in particular, in London. The evidence from London consists of a number of skulls found in non-funerary deposits.⁷ Of the following list the first six, at least, seem to be deliberate depositions⁸ (See Fig. 1).

- A. Old GPO, St. Martin-le-Grand (now 161–162 Cheapside) 1926 (Museum of London 12, 372) unpublished. Skull stained brown found without lower jaw. Male 22–24. Exact context unknown but found in natural gravel a few feet from an early cremation burial; probably 1st century.
- B. Newgate (exact site unknown). Found before 1903. (Museum of London 16,157)



Pl. 1. Selection of skulls found in the Walbrook.



Pl. 2. Skull recovered from Roman well on the site of the Bank of London and South America.

- unpublished. Skull stained brown found without lower jaw. Male 22–35. Perhaps from within the same early cremation cemetery areas as find A and probably same date.
- C. Bank of London and South America (B.O.L.S.A.) 1953–4 (Museum of London 21,670). See Marsden (1980, 64 and Pl. 2). Skull lightly stained found without lower jaw. Male 35–45. This skull was found as part of a deliberate filling of an early Roman well. A large post had subsequently been driven into the well filling, smashing part of the skull. Perhaps late 1st or 2nd century in date but the deposit may possibly date up till the 3rd century.
- D. 201–211 Borough High Street, Southwark, 1972. Bird *et al.* (1978, 65 and 176). Lightly stained calvaria. Female *c.* 30 years. Found with two nearly complete samian vessels including a decorated bowl indicating a date *c.* AD 55–70 for deposition. The group was in the base of a ditch which environmental evidence suggested had contained running water.
- E. Regis House, 1929–30. Not survived. MS notes in Museum of London. Report at the time notes ‘Fragmentary skull of middle aged man. The mastoid process is enlarged and pierced by holes which are possibly pathological.’ Found in a massive timber waterfront constructed in the mid-Flavian period.
- F. Upper Thames Street tunnel context 711, 1978. Museum of London, information Mr. K. Flude. Skull stained brown found without lower jaw. Adult male. Although found by contractors the skull was probably associated with a timber waterfront dated to *c.* AD 85.
- G. Aldermanbury, 1965. Museum of London, Marsden (1968). Skull fragment which is not stained but ‘normal’ bone colour. Found with three smashed but complete pots in the filling of the Cripplegate Fort Ditch. Mid second century.
- H. Coutt’s Bank, Lombard Street, 1959. (Museum of London 24901). Unpublished. Fragments of skull which like G are not stained. Male adult. Found in a late 1st-century stratum.
- I. Old Bailey, 1966–69. Museum of London, unpublished. For the site see Marsden (1970). Skull found in late Roman addition to City wall bank. The significance of this find is not clear since the wall cuts across a cemetery area which included at least one inhumation.

Skulls A–F show the characteristics of the Walbrook finds, especially in the absence of the lower jaw. One also wonders how skulls A and B received their staining and it may be, that they were originally deposited in the Walbrook or another stream and then subsequently removed for their final burial. In purpose the finds range from association with a cremation cemetery to possible foundation deposits in the case of the two waterfront finds. The interesting context of the BOLSA skull is suggestive of more complex practices. The date of deposition of skulls A–F is predominantly 1st century although the BOLSA find might take the practice into the 2nd century or even later. The Walbrook skulls, therefore, fit into a wider pattern of skull burial in London.

The Celtic practice of head-hunting is well attested in classical sources (see generally Lambrechts, 1954; Ross, 1967, 61–126; Petres, 1972 and Clarke, 1979, 414–421). The importance of the human head is also indicated by numerous stone and wood carvings and in particular by the famous stone portico and door posts from Roquepertuse, Glanum and Entremont in southern France, which have niches cut in them for human heads. The exact origin of the skulls is not however clear since at Roquepertuse they were all young adults with the implication that they may have been enemy warriors (Gérin-Ricard, 1927, 27) while at Entremont six of the victims were over 45 perhaps suggesting ancestor worship (Lambrechts, 1954, 39). Other evidence for head removal is extremely limited, e.g. a Druid (?) holding a head in his hand on coins (Allen, 1958, 61–2, Pl. 8, 68, 69), and actual physical remains are even more difficult to trace

archaeologically.¹⁰ Appendix B provides a select list of Iron Age and Roman finds of probable ritually deposited skulls and related material.¹¹ While the list does not pretend to be exhaustive it does give an indication of the range and date of deposits likely to be encountered. The consideration of Iron Age material is made more difficult by the general lack of elaborate funeral rites in Britain (Whimster, 1977) and the resulting possible confusion between ritual and funerary deposits on settlement sites.¹² The finds range from the early Iron Age to the Belgic period and vary between clear cases of war-time head hunting as at Bredon Hill to more enigmatic single finds at Winklebury, Burgh-by-Woodbridge and Bagendon.

After the conquest a few discoveries are probably associated with military executions as at Colchester and Stanwick,¹³ but most occur on civilian sites and are particularly associated with the ritual shafts discussed by Ross (1968).¹⁴ Clearly shafts and in particular disused wells were filled with carefully selected objects and the BOLSA find is probably an example of the type. The exact purpose of these skull depositions is unclear but the well finds at Odell and Coventina's Well, Carrawburgh emphasize the link with water and fertility and the same intent can perhaps be ascribed to the Walbrook finds. Perhaps most surprising is the persistence of these cults indicated by the late Roman finds at Wroxeter and Icklingham.¹⁵ The latter site is particularly interesting in the light of its apparent later Christian associations; while the material from Wroxeter throws an interesting side light on one basilica during the Roman period.

If the Walbrook skulls are part of this tradition, carried on apparently on the outskirts of the Roman settlement, it is not unreasonable to ask where the skulls were coming from in such numbers. It is difficult to imagine the Roman authorities encouraging the active collection of such objects. Unfortunately our knowledge of early Roman burial practice in the London area is extremely deficient. Although London fell within the area of a general late Iron Age cremation tradition, which continued until the 3rd century AD, early Roman inhumations have been excavated recently at the Tower of London and in Southwark.¹⁶ Without the detailed examination of early cremations we do not know anything about the treatment of the body between death and eventual cremation. Excavations from 1964–6 at the La Tène I inhumation cemetery at Mont Troté (Ardennes) showed that 32 of the 89 burials studied had their skulls removed shortly after burial, significantly often leaving the lower jaws in the ground.¹⁷ This find shows that skulls could be obtained by other methods than head-hunting in time of war. It is of course not impossible that the Walbrook skulls are far older than their apparent date of deposition would suggest and that they were brought to London from elsewhere after the conquest, but only the radiocarbon dating of some could prove this.¹⁸ Unfortunately the morphology of the skulls by itself is not sufficient to distinguish between the Iron Age and Roman periods, especially as most of the early Roman inhabitants of London were probably of Celtic extraction.

CONCLUSIONS

While further discoveries in the Walbrook valley may radically alter the

evidence it is the writers' opinion that there is, at present, no need to seek an explanation of the Walbrook skulls in the events of AD 60, but rather in the nature of Celtic religious practices. In the London area rites connected with water religion have a long history (Torbrügge, 1970–1) being attested by numerous finds from the Thames and elsewhere, such as the Battersea shield.¹⁹ Many writers have also noted the vast quantity of other material recovered from the Walbrook, in particular coins, metal objects and various types of pottery which seem to be a result of votive offerings.²⁰ These perhaps can now be seen as the continuation in a modified form of earlier practices, presumably as Romanisation progressed in London during the late 1st and 2nd centuries. In conclusion one can do no better than repeat Ralph Merrifield's (1965, 149) comments on the nature of 'Roman' London:

'In all respects, Roman London seems to have been a city of contrasts, a curious mingling of civilization and barbarism, of the exotic and the native. . . .'

Since this article was finished excavations (1982) at 2–3 Cross Key Court have produced a lower jaw of an adolescent male from a late 1st– early 2nd-century context. A sliver of bone had been detached from the angle of the mandible consistent with a heavy blow by sword.

APPENDIX I

Surviving skulls from the Walbrook.

	Museum	Accession No.	Site	Sex	Age
1	Pitt Rivers Museum, Oxford.	1074	Gooch & Cousens Warehouse, London Wall	Male	Adult
2	"	1075	"	"	"
3	"	1076	"	"	"
4	"	1077	"	"	Young Adult
5	"	1078	"	"	"
6	"	1079	"	"	Adult
7	"	1080	"	Female	"
8	"	1081	"	Male	"
9	"	1082	"	"	"
10	"	1083	"	—	"
11	"	1084	"	Male	"
12	"	1085	"	"	"
13	"	1086	"	"	"
14	"	1087	"	"	"
15	"	1088	"	too fragmentary	
16	"	1089	"	"	"
17	"	1090*	"	Male	17–25
18	"	1091*	"	"	"
19	"	1092*	"	"	"
20	"	1585A	"	"	"
1	British Museum (Natural History)	160(4.1021)	London Wall (exact site uncertain)	Male	Adult
2	"	161(4.1022)	"	"	"
3	"	162(4.1023)	"	"	"
4	"	163(4.1024)	"	"	"
5	"	164(4.1025)	"	"	"

APPENDIX I contd.

	<i>Museum</i>	<i>Accession No.</i>	<i>Site</i>	<i>Sex</i>	<i>Age</i>
1	Museum of London	3902A	National Safe Deposit Co. Site	Child	10–11
2	"	3902*	"	Male?	17–25
3	"	10023	London Wall Estate Office, Finsbury Circus	Male?	Adult
4	"	10024	"	Female	"
5	"	10025	"	Male	"
6	"	10026	"	"	"
7	"	10027	"	"	"
8	"	10028	"	Female	17–20
9	"	10029	"	Female?	Adult
10	"	10030	"	Female	18–20
11	"	10031	"	Male	Adult
12	"	10032	"	"	17–21
13	"	10033	"	Female?	18–21
14	"	A19600	"	Male	23–30
15	"	10762	122 London Wall	"	18–21
16	"	15151	Finsbury House, Blomfield St.	"	over 21
17	"	15152	"	"	Adult
18	"	15153	Bank of England	"	"
19	"	15154	"	"	Adolescent
20	"	15155	"	"	Adult
21	"	15156	"	"	"
22	"	15157	"	Female	17–25
23	"	15158	"	"	17–21
24	"	15159	"	Male	18–25
25	"	15160	"	"	25–35
26	"	A27860	'Walbrook'	"	Adult
1	Bank of England	—	Bank of England	Male	17–25

Total: 52

*Mandibles only

APPENDIX 2

Select list of discoveries of Iron Age and Roman skulls from non-funerary contexts.

1. All Cannings Cross, Wilts. 1911–22. Cunnington (1923, 40–43). Thirty-two fragments of human skull from settlement site. Four pieces deliberately cut out, of which one was polished and perforated for suspension. Early Iron Age.
2. Hunsbury, Northants. 1882. Parry (1930, Pl. 3). Three skulls recovered during quarrying without jaws. Context unknown. One had 3 holes (c. 10mm dia.) drilled for suspension.⁵¹
3. Glastonbury, Somerset 1892–1907. Bulleid and Gray (1917, 673–682). A number of skulls and other human bones, some with sword cuts found around the settlement area.
4. Winklebury, Hants, 1976. Smith (1977, 78). Skull without jaw found placed in bottom of Pit 2738. Male, 20–30 yrs.
5. Bredon Hill, Gloucs. 1935–7. Hencken (1939, 54). Early 1st century AD. Evidence of Iron Age massacre in gateway with evidence of subsequent skull removal. This was shown by the calculation of maximum number of individuals from bones: 27 cranial evidence, 46 mandible evidence, 64 non-cranial bones. Where identifiable the bodies were male, 25–35 years.
6. Uley, Gloucs. Ellison (1980, 308). Early 1st century AD. The ditch of the pre-Roman ritual enclosure contained a human femur. While human bone occurs on Iron Age temple sites, e.g. Hayling Island and Harlow, complete deposited human skulls seem noticeably absent.
7. Burgh-by-Woodbridge, Suffolk. 1975. HMSO (1976). Early 1st century AD. Skull without jaw found in primary silting of the ditch of a probably defended enclosure. Probably adult female.

8. Bagendon, Gloucs. Clifford (1961, 17). Tiberio-Claudian. Skull without jaw. Male 25–35 years.
9. Thaxted, Essex. Ross (1967, 72). Skull found associated with ?Iron Age stone-head now in British Museum.
10. Hillhead Broch, Caithness. Parry (1930, Pl.4a). Top of skull with three holes drilled in top as with the Hunsbury example.

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11. Colchester, Essex. Crummy (1977, 74). *c.* AD 43–49. A number of human bones with a high proportion of skulls found in legionary fortress ditch by West Gate. Possibly from executions.
12. Stanwick, Yorks. Wheeler (1954, 53–56). Skull and vertebra of middle-aged male recovered from ditch assumed to have been beheaded, after death from other injuries.
13. Newstead, Ross and Feachem (1976). Flavian and Antonine. Four pits (1, 16, 23, 57) contained human skulls. The pits clearly belong to a mass of ritual shafts, rubbish pits etc. which contain a massive array of objects.
14. Odell, Beds. inf. Mr. B. Rix. Later 1st century. Skull complete with jaw found behind lining of a well. Female 20–25 years.
15. Brislington, Gloucs. 1899. Barker (1901). Several skulls recovered from a well from this villa site. Ross (1968) considers a ritual filling.
16. Heywood, Wilts. Pugh and Crittal (1957). Four skulls recovered from a ritual shaft.
17. Caves Inn, Warwicks. Anon (1953). Antonine. Skull of adult female recovered from a well which Ross (1968) considers a ritual shaft.
18. Caerwent, Mon. Ross (1968) and Boon (1976). One Antonine. (i) Well 2 contained a skull. (ii) Rock cut pit or pool contained 2 skulls and associated Antonine material. 100 feet south of later (4th century) Shrine of the Head.
19. Springhead, Kent. Penn (1960, 121–122). 2nd century. Four six month infants had been buried by the four corners of Temple IV at different periods, presumably as some form of foundation deposit. Two of the burials lacked their heads.
20. Carrawburgh, Northumberland 1876. Clayton (1880). 2nd–4th century. Top of skull recovered from contents of well dedicated to goddess Coventina.
21. Churchill Hospital, Oxford. Young (1973, 16). 3rd century. Head of a decapitated woman found in the filling of a well on the site of a pottery.
22. Icklingham, Suffolk. West and Plouviez (1976). 1st half of 4th century. Six skulls, four with jaws found in base of pit along with collection of unusual decorated roof tiles and a stone column. One of the skulls showed evidence of beheading.
23. Wroxeter, Shrops. Inf. Mr. P. Barker. Parts of at least nine skulls but only two mandibles found in the Basilica where they had become incorporated in the rubble during the 4th century. The original date and location of the skulls is at present uncertain. Two of the skulls showed sword cuts (? post-mortem) and the cut marks on another suggested it had been scalped. Most of the individuals were young adult males but one was aged about forty and another, aged at least fifty, suffered badly from Paget's disease indicating he was unlikely to be a warrior (Report by Dr. J. L. Wilkinson). The skulls had a ginger colouration which examination showed to be caused by a coating which contained linolenic acid, or a related substance, found in preparations such as linseed oil.
24. Northchurch, Herts. Neal (1976, 14). 3rd–4th century. Adult human skull found in the filling of a well in association with a waterworn stone in the shape of a head.
25. Appleford, Berks. Brown (1973, 201). 4th century. Fragments of adult human skull found in the filling of a well which included a hoard of 24 pewter vessels.
26. Armsley, Hants. Ross (1968). 1st–4th century. Wooden head (8" high) from a ritual shaft.

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NOTES

1. Fossils were evidently preserved in City churches as Stow (Kingsford edition, 275) records a bone and a tooth hung up in St. Lawrence Jewry. I am indebted to John Clark for this reference.
2. For the dating of the Walbrook generally see Merrifield (1962).
3. The evidence from Wookey Hole where a burial area was eroded by the River Axe indicates that skulls tend to be carried further than the rest of the skeleton (Hawkes *et al.*, 1978, 31).
4. Evidence from Sutton Walls (Cornwall, 1954) and elsewhere indicates decapitation usually results in severance at the 3rd, 4th or 5th cervical vertebra. Mercer has noted at Hambledon Hill the distinction between severed heads, complete with the upper vertebrae, found in the ditch of the outer enclosure and the skulls lacking their lower jaws found in the ditch (ritual) of the causewayed camp (Selkirk, 1981, 148).
5. None of the skulls showed evidence of gnawing by rodents or larger animals.
6. I am greatly indebted to Mr. R. Entwistle for discussing the evidence for trauma in skeletons and for drawing my attention to the Shellal material. At Pákozd, Hungary (Petres, 1972) a group of ritual pits of La Tène C/Roman date produced upper part of an articulated skeleton of a 21–25 year old man, which might possibly be the remains of a body left hanging from a tree for a considerable period.
7. Other bones are also found occasionally in the City. For example fragments of the limb bones of three individuals were recovered from Roman deposits in Lower Thames Street (Jones, 1981, 162).
8. In addition to these finds a human skeleton was found in 1835 in King's Arms Yard during sewer construction and described as 'in very good preservation but quite black' (Norman and Reader 1906, 236).
9. Van Doorselaer (1967, 110–11) notes ten sites in northern Gaul where skulls have been found accompanying cremations as grave goods. The number of skulls range from one to five and at Brunembert (Pas-de-Calais) several burials were found with the same rite. At Bavai the cremation was associated with two skulls in a marble cist. Wells (1977, 86) has suggested after examining a number of burials from Puckeridge, Herts., that 'On balance, a disproportionately small amount of cranial material appeared to be present and this implies the possibility that some of it may have been distributed to family or friends as souvenirs of the departed'.
10. There seems to be more conclusive evidence of large scale head removal from France. Déchelette (1927, 546) records a group of 200 skeletons dumped in a ditch at Moeuveres, near Cambrai all lacking their heads and associated with weapons and ornaments of La Tène II date. Delmaire (1976, 201) notes a pile of skulls found in a Gallic site on the estuary of the Somme at Noyelles-sur-Mer.
11. In addition there is a growing number of late Roman civilian inhumation burials where the skull has been removed and placed elsewhere in the grave, usually between the feet. Clark (1979, 372–5 and 414–21) lists large number of such burials and recent excavations at Dunstable (Matthews, 1979, 311–12) have revealed a dozen examples including a child of 3–6 months. There were also examples of the much rarer 'mutilation' burials. The most unusual burial was a combination of both rites, with the head placed between the knees and the lower halves of the legs put by the arms. At present there is no completely satisfactory explanation for these practices and there is no definite connection with the practice of total skull removal.
12. This material has been fully discussed by Chris Wilson in an undergraduate dissertation at the Institute of Archaeology which will be published shortly.
13. Such executions and head collecting are illustrated on Trajan's Column.
14. Such shafts also sometimes contain human bones apart from skulls and occasionally cremations. In France these shafts are paralleled by the 'puits funéraires' which occur in various areas. One example at Grigny (c. 40kms south-east of Boulogne) was particularly interesting as the cremation, which was in an urn, had been placed at the bottom of the shaft on top of a complete, unburnt skull (Delmaire, 1976, 197).
15. A late 3rd-century site at Viminacium (Kostolac on the Danube in Upper Moesia) produced a votive area with animal bones surrounded by a circle of severed heads, one of which at least was placed on a plate with special offerings. I am indebted to Ralph Merrifield for this information.
16. See Dean and Hammerson 1980. The Belgic cemetery at Prae Wood contained 463 cremations and 18 inhumations (Stead 1969). Six inhumations were recorded from a ditch at Verulam Hills Fields, probably of mid-1st century date. They may have been slaves or even victims of Boudica, see Anthony (1968). The same survival of inhumation can be seen on the other side of the Channel where Delmaire (1976, 93) records the practice surviving in the *Civitas Morinorum* into the early 1st century AD.
17. In another four graves the skulls were found displaced by the side of the body (Ertlé and Rozoy, 1967). I am indebted to Dr. I. Stead for information on this site. Head removal is recorded at several other similar sites e.g. Poix, Sogny (Bretz-Mahler, 1971, 196 and pl.138) and Chassemy and Grandes-Loges (Thenot, 1976, 829).
18. In France, most of the evidence for head hunting/removal appears to be quite early in the Iron Age, viz. Mont Troté or the Celto-Ligurian sanctuaries at Roquepertuse, Entremont and Glanum. However a Roman altar from Apt (in the same area) dedicated to Mars (C.I.L. XIII) is recorded as having eight or nine skulls below it and a Roman carving from Paris shows a stylised tree with heads hanging from it (Espérandieu, 1911, No. 3138) which is discussed by Duval (1961, 205–6), who considers it probably 1st century AD.
19. It is now generally agreed that the Battersea Shield was made in the early 1st century AD under strong Roman influence. Its date of deposition is however another matter and there seems no reason why its deposition could not have taken place after, rather than before, AD 43.
20. The exact significance of this material is difficult to judge since a large proportion of objects of most types from London have come from the Walbrook Valley. In the medieval period the Priory of Holywell was situated north of the City by one of the springs feeding into the Walbrook.

21. An interesting parallel is provided by the skull of Carolan, the famous Irish harpist, who died in 1738. His body was later dug up and the skull had a hole drilled in it with a gimlet through which was tied a piece of green silk ribbon. This skull was subsequently preserved in a chapel and small pieces were broken off, ground up, and boiled in water in the skull as a cure for epilepsy (O'Sullivan, 1958, Vol.1) A skull with a small hole drilled in it, probably for suspension, was discovered in London at 48-50 Cannon Street (Boddington, 1979, 36), but unfortunately it was recovered by building contrac-

tors and its date is unknown. There are many references to drinking from human skulls to cure a variety of illnesses (Ross, 1962, 36-7), especially epilepsy and mental sickness. In the Elizabethan period German workers at the Mint suffering from fumes during silver refining were advised to drink from skulls and traitors' heads displayed above London Bridge were obtained for them (Glanville 1979, 22). The Germans 'found some relief, although most of them died'.

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