# THE OCCURRENCE OF BRONZE AGE METALWORK IN THE THAMES: AN INVESTIGATION

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#### SUMMARY

This paper examines the possible explanations for the vast amount of Bronze Age metalwork which has been found in the Thames, and other rivers. Data from Thames Conservancy Board records for the river above Teddington are examined and the effects of dredging are discussed. The hypotheses that the material is the result of accidental loss, of votive offerings or burial practices and of the erosion of riverside sites are considered. No firm conclusions are reached.

The dense concentration of Bronze Age metalwork, and particularly of weapons, found in the river Thames, and to a lesser extent in the other major east coast rivers of Britain, has long been recognized.<sup>1</sup>

This is shown both on Bronze Age distribution maps of the whole country, where the concentrations in the river valleys are clear<sup>2</sup> and on larger scale maps of individual river valleys (Fig. 1). For example, well over half the bronze age spearheads from Berkshire, Buckinghamshire and Oxfordshire come from the rivers Thames and Kennet, and over 80 per cent come from within two miles of the river banks. In The Personality of Britain, Fox<sup>3</sup> suggested that this distribution showed that the rivers, and particularly the Thames, were very important trade highways, with dense settlement along the banks. In general terms he must have been right, but perhaps it is worth attempting to be more specific about the processes by which the material actually entered the water. Burgess, Coombs and Davies, Davey<sup>4</sup> and others have favoured the hypothesis that they were votive or ritual offerings, while Rowlands<sup>5</sup> has put forward the possibility that the erosion of land sites containing metalwork might be responsible. Although Torbrugge<sup>6</sup> has considered this phenomenon in Europe as a whole, the various hypotheses for the concentration of metalwork in British rivers have not been examined with the thoroughness they deserve.

## THE IMPORTANCE OF DREDGING

Before examining other theories systematically, it is worth considering the possibility that the present record of materials found in rivers is the result of modern dredging and other factors rather than an accurate reflection of the real distribution of bronze implements.

The Thames has been dredged almost continuously since the mid 19th century, to allow vessels of increasingly large size to travel up the river, and it has now been completely scoured upstream as far as Oxford. Many thousands of artefacts of all periods have been found in the river by dredger crews. Fig. 2



Fig. 1 Bronze Age metalwork: The distribution of selected Bronze Age types in Berkshire, Buckinghamshire and Oxfordshire.



Fig. 2 Bronze Age metalwork: Material dredged from the Thames above Teddington 1932–1972.

shows the material, grouped by period, which has been dredged from the Thames above Teddington by the Thames Conservancy Board since 1932, when records were initiated;<sup>7</sup> this clearly demonstrates that the Bronze Age metalwork is by no means the largest class of artefacts found in the river, but rather that the increase in finds with time correlates with the increase in population and greater variety of material possessions.

In the latter part of the 19th century and the early decades of this century, collectors such as G. F. Lawrence<sup>8</sup> and T. Layton, both of whom collected in the London area, specialized in acquiring archaeological material from the dredger crews; not surprisingly bronze and iron 'collectors' items' were of especial interest to these men, although their notes show that pottery, bone and timber were also being found by the dredgers. Most of these finds from the river were made before accurate records were kept, which in the Thames Conservancy Board reaches, above Teddington, began in 1932. For example, only 27 out of 132 finds of Bronze Age metalwork from the Berkshire stretch of the river Thames have been made since that date. Since then, all finds from that part of the river should have been reported to the Thames Conservancy Board, and dredgermen have been given a small sum of money for each find, regardless of its value. In 1969 an officer was appointed to take charge of archaeological finds and it is noticeable (Fig. 3) that since then the total number of finds



Fig. 3 Bronze Age metalwork: Material from the Thames above Teddington, by date of dredging.

recorded has increased and many more sherds of pottery, in particular, have been kept; this suggests that the earlier numerical supremacy of finds like Bronze Age metalwork was the result of selective policy by the dredger men or the antiquaries.

Other rivers which have been regularly dredged show similar concentrations of artefacts. The Witham, for instance, has produced a great deal of metalwork of Bronze Age and Iron Age date.<sup>9</sup> On the other hand only about ten finds of bronze implements have come from Welsh lakes and rivers<sup>10</sup> but almost no dredging takes place in Wales.

## THE DISTRIBUTION OF RIVER FINDS

In the past, concentrations of finds at points along the river have usually been interpreted as marking the position of fords, or of settlement or religious sites along the banks. However, this needs to be examined more closely.

On the one hand, when an implement with a large wooden haft enters the water, it may float some distance before it becomes waterlogged, or caught up in the river bank, and sinks. It may then be moved downstream a short distance by the river currents. Both the excellent state of preservation of most of the river finds and the few detailed records of exact location of the artefacts suggests that an object will often become embedded in several feet of silt and gravel of the river bed" and thus be protected from erosion.

Secondly, few of the provenances of the artefacts from the Thames are exact. There is little doubt, that until recently the dredger crews would note the provenance only in terms of the nearest town or bridge which might be two or three miles away; for example 'Thames at Taplow' may refer to anywhere within a reach three and a half miles long, from Cookham to Bray, and a number of finds thus provenanced may have come either from the same ten yard stretch of the river or from quite different find-spots. This could be particularly confusing since all the finds from one dredging campaign would almost certainly reach the museum at the same time. There seems, therefore, no way of knowing whether the river finds, apparently from the same provenance, and even with successive museum accession numbers, were, for example, a hoard, or were individual deposits spread over a large area and time.

Lastly very little information is available about differential amounts of dredging. The earlier records of the Thames Conservancy Board<sup>12</sup> are not sufficiently detailed to be able to attempt to correlate them with the number of finds from any particular reach. Because of differing local geological conditions and other factors some reaches become silted more rapidly than others and therefore need more frequent redredging. Figure 4 shows the comparative distribution of Bronze Age spearheads and of Neolithic axes and Saxon spearheads<sup>13</sup>. As no systematic dredging of the Thames above Reading was carried out until the 1950s, it is not suprising that few finds of any period have been found there. The greatest known concentration of Anglo-Saxon material in the area is in the Upper Thames, and this seems to be reflected to a certain extent in the Saxon spearhead distribution. The high posititive correlation between the Neolithic axes and the Bronze Age spearheads, shown particularly



Fig. 4 Bronze Age metalwork:Comparative distributions of Neolithic axes, late Bronze Age spearheads and pagan Saxon spearheads from the Thames above Staines.

in the marked increase in density below Taplow, could be related either to more intense prehistoric activity further downstream, or to the more intense dredging recorded in the middle reaches of the Thames.

To some extent, dredging may also be responsible for the different proportion of various types of Bronze Age artefacts found at land sites and in the river. Fig. 5 clearly demonstrates that the vast majority of weapons found in Berkshire, Buckinghamshire and Oxfordshire come from the river, while the vast majority of tools come from land sites. Tools such as axes and gouges are, on average, considerably smaller than weapons, and may have been missed by dredger crews, although even if this is so the larger tool types, such as palstaves, should be more frequently found. It is noteworthy that the proportion of weapons which were found near to the river banks is also disproportionately high.

In the same way as intensive field work along the route of a new road, or other special area may vastly increase the number of known archaeological sites or finds, and so distort distribution maps, by stressing those areas, so dredging has concentrated attention on the quantity of artefacts in the river. In particular the proportion of archaeological material lost or dropped in rivers, to that lost or dropped on land may be grossly distorted. Nevertheless the number of implements from rivers, and especially the Thames, is surprisingly large, and the mechanism by which they entered the river has been the subject of much speculation.

# ACCIDENTAL LOSS

The easiest way for a community living beside a river to dispose of its rubbish would undoubtedly have been to throw it into the river. Along with large amounts of organic refuse, broken objects, such as potsherds would have found their way into the river and large proportion of the Roman and Medieval material from the Thames probably comes into this category.

Some of the implements were probably lost accidentally. In most cases it would be easy to retrieve an object dropped on land, but this would rarely be possible in a river. This would apply, for instance to objects lost at fords, although Rowlands<sup>14</sup> and Coombs<sup>15</sup> have both recently pointed out that the apparent concentrations of Bronze Age metalwork do not in fact coincide with known fording points, as had sometimes been previously stated.

Some implements may have been lost from boats capsizing. Over thirty boats of various kinds, but definitely of prehistoric date, have been recorded from Britain and Ireland<sup>16</sup>, and cross-channel links, which must have involved the use of sea-going boats, were clearly important throughout the Bronze Age;<sup>17</sup> it seems likely that boats would also have been in frequent use on the river, as a means of communicating between settlements along the length of, and across the river. The advantage of river transport for the bronze smith, or merchant carrying his heavy goods, must have been appreciated. Equally certainly accidents must have happened, and capsized cargoes will account for some of the bronze implements even if this is only a small number.

Both these explanations would apply to finds of all periods, and would not



Fig. 5 Bronze Age metalwork: Weapons and tools from the Thames and Kennet, and from land provenances in Berkshire, Buckinghamshire and Oxfordshire.

account for the preponderance of Bronze Age weapons over tools which occur in the Thames.

It has been suggested<sup>18</sup> that many of the Saxon and Viking weapons found in the river would have been lost during battles at river crossings, and it is possible that such an explanation may account for some Bronze Age weapons too. Since rivers are obvious natural boundaries, they would always have been a common site for battles, and for the historic period there are a number of references to fighting at rivers; the Olaf Saga, dating from the 11th century AD tells of a Viking attempt to capture London from the river. The eighth century Irish saga, the Tain,<sup>19</sup> describing events probably of the first few centuries AD has references to individual combat actually taking place in the water, and weapons lost in a river battle are unlikely to be recovered, whereas even if the owner of the weapon is killed or forced to retreat suddenly, the victor of the land battle may pick up the weapon as spoil. After a battle a high proportion of weapons might be damaged but damage to weapons might also occur for a religious motive, and it is interesting that most of the Thames prehistoric weapons are in good condition.

Accidental loss could account for most of the Bronze Age material in rivers, but in may not satisfactorily explain the predominance of weapons.

### **VOTIVE INTERPRETATIONS**

The interpretation most usually accepted of the Bronze Age metalwork from the Thames is that it was thrown in as votive offerings to appease or propitiate the gods. However the evidence for this must be examined very closely. Most often cited are the documentary references to the ritual deposition of rich objects in watery places at later periods. Later mythology and tradition make it clear that rivers were among the many natural features sacred to the Celtic world, and inscriptions to water deities occur in Britain during the Roman period.<sup>20</sup>

The existing documentary evidence for the deposition of objects in water again refers to later periods. For example, Strabo<sup>21</sup> writes of 1st-century BC Gaul,

'The country came to have treasure in many places in Celtica; but it was the lakes most of all that afforded the treasures their inviolability, into which the people let down heavy masses of silver and gold.'

Hoards of Iron Age metalwork from watery places, such as Llyn Cerrig Bach in Anglesey, are almost always interpreted as votive offerings.<sup>22</sup> The Llyn Cerrig Bach find consists not only of rich ornamental La Tène metalwork, including weapons, horse and chariot fittings, and other iron and bronze objects, but also bone and wood. The find is very similar both in content and context to the fairly numerous bog finds from Southern Scandinavia. Most of these date from the early centuries AD, but a few, such as the find from Hjortspring, in Schleswig,<sup>23</sup> belong to the first century BC or earlier; the ritual nature of some of these, such as the find from Ejsbøl  $Mose^{24}$  is thought to be clearly shown by the distribution of finds, which suggests that all the objects were thrown in from one spot, with the lighter objects near the shore, and the heavier, and more easily thrown objects, more sparsely distributed further out. A recurrent feature of the Danish bog finds, shared by the Llyn Cerrig Bach find, is that many of the objects seem to be deliberately broken, and this also seems' to be the case in the Roman period, when figurines, with limbs amputated and deliberately mutilated occur in large numbers in the Thames.<sup>25</sup> However this phenomenon is rare amongst Bronze Age river finds, and it is not certain that we are dealing with the same or even a related ritual.

Perhaps the very rich Iron Age objects dredged from the Thames and other major rivers are more relevant to the problem. Items of superb quality, which were probably too precious, or not strong enough to be used as weapons, such as the Battersea or Witham shields, are hard to interpret as anything other than votive offerings. But for the most part the Bronze Age weapons are more common and less elaborate.

None the less the votive hypothesis has much to commend it. Accepting the current arguments that the beginning of the Iron Age was not marked by any large scale movements of population or any sudden change,<sup>26</sup> there is little reason to suppose that a change of religion took place at that time. Either the water cults documented later began sometime during the Iron Age, or before it. Burgess<sup>27</sup> has related the increasing climatic deterioration, suggesting that a change in religion might be an attempt to appease water gods, following increased rainfall, flooding and waterlogging.

Perhaps the most important argument for ritual deposition is the very high proportion of weapons among the river finds, suggesting special choice, and therefore, presumably deliberate deposition.

## **RIVER BURIALS**

An alternative hypothesis,<sup>28</sup> which perhaps deserves more consideration than it has hitherto received is that the river finds might be part of a human burial ritual which otherwise leaves no trace in the archaeological record. Perhaps the dead person, or his cremated remains, were thrown into the river with his prized weapons. It is perhaps noteworthy that the proportion of weapons in the river becomes significant at the time when burial under round mounds ceased to be usual (Fig. 6). Apart from a very small number of later Bronze Age burials<sup>29</sup> there is virtually no evidence for a regular burial rite at that time. It may also be significant that in the Early Bronze Age the majority of the most common weapon type, the dagger, is found in burial mounds, while the tool types such the the flat and flanged axes rarely occur in such contexts. This same feature has already been noted above with regard to Later Bronze Age weapons and tools from the Thames. The rite could have continued into the Iron Age and may explain the very rich Iron Age objects and the lack of 'high status' burials.

## THE EROSION OF SETTLEMENTS

One other explanation for the river finds exists—that land sites containing the artefacts such as settlements, hoards or stray finds have been eroded into the river.

It is difficult to estimate the actual amount of erosion of the river bank which has taken place since any given point in the past, although freshly exposed sections which can be seen at many places along the bank show that erosion is still taking place. A comparison of the first (1866–1880) and latest editions of the 25ins. Ordnance survey maps show that over the last hundred years changes in the course of the Berkshire stretch of the river of over a hundred yards have occurred in places.



Fig. 6 Bronze Age metalwork: Weapons by period from Berkshire, Buckinghamshire and Oxfordshire.

The spread of alluvium on either side of the river also gives a guide to the changes in the course of the river, varying from almost nothing, where erosion has been the most recent dominant factor, to several hundred yards.<sup>30</sup> Some alluvium is much older than the Bronze Age, but elsewhere it is certainly later; for example, a three foot deposit of alluvium at Wallingford covers late Bronze Age material<sup>31</sup> and at New Palace Yard, Westminster, it is of Roman date.<sup>32</sup>

Changes have also taken place in the river level since the Bronze Age, although estimating the extent of the changes is rather complex. In the lower Thames area<sup>33</sup> the more or less constant rise in sea level during the post-glacial period has caused the Thames to be tidal further and further upstream; therefore any Bronze Age settlement on the river banks would now be flooded. In the

Upper Thames factors such as the depth of the river channel and the amount of water taken out of the river in recent years must also be taken into account, but it seems certain that since the Bronze Age the river has risen and fallen considerably at various times and the course of the river was then far more abraided with islands in between numerous channels of shallow water.<sup>34</sup>

So if Bronze Age settlements did exist close to the river banks any evidence for them would now either be under several metres of water, or of alluvium—and thus would not be visible on any aerial photographs, or be disturbed by most kinds of recent activity, for example, agriculture—or would be completely eroded into the river.

However, there are a number of indications that such settlements did exist. The clearest is the growing number of Bronze Age sites known in the Thames valley such as Runnymede Bridge<sup>35</sup> and Aldermaston.<sup>36</sup>

Secondly, of the vast number of early sites known in the Thames valley from aerial photographs<sup>37</sup> comparatively few are dated and it is possible that some may belong to the Bronze Age. Quite a significant proportion of the non-Thames metalwork comes from the numerous gravel quarries near to the river, apparently as stray finds, but in at least some cases these could be construed as the most tangible remains of settlements.

Most specifically and significantly, there is direct evidence of a small number of sites which have been observed either in the river or in the process of being eroded.

Two Neolithic sites were described by Stevens in 1883.<sup>38</sup> At Reading workmen digging a trench in an angle between the Thames and a tributary found two Neolithic axes five foot below the surface, along with 'stout oak timbers deeply embedded in the silt of the river bed', and animal bones. At Taplow, dredgers at Garton Eyot brought up two stone axes with three human skulls, and bones and horns of various animals were found in the river bank. Oak posts were also found there. The author seemed to be of the opinion that the site was actually built in the river, or perhaps that it was a settlement built close to the river bank, which was brought to an end by flooding.

The site at Old England, Brentford is well known.<sup>39</sup> The earliest material from the site is a considerable quantity of Late Bronze Age material, including swords, spearheads and various tools, which were dredged up from one fairly confined spot 10–20 feet from the present water mark. In and on the surface of the river gravel, below the present low tide, Wheeler found twenty or more fragments of coarse hand-made pottery, of Late Bronze Age type.<sup>40</sup> Unfortunately no structures of this period were found, although it seems likely that this was a settlement site. Nearer to the shore were the remains of a rectangular Romano-British hut, very similar in structure to the Glastonbury huts<sup>41</sup> built in a manner suggesting marshy ground, but not necessarily in the river itself.

Another relevant site is known at Wallingford<sup>42</sup> where part of the Berkshire bank of the Thames collapsed in the winter of 1948–9, and a freshly eroded section was observed by a passer-by and reported to Reading Museum. At a depth of about one metre below the surface, covered by pale brown alluvial soil, there was a dark brown earthy deposit, about ten centimetres thick, which

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contained many animal bones, two fragments of human skull, bronzes, pottery and a spindle whorl. The bronzes included a complete tanged chisel, a broken socketed sickle and two pieces of the same or different spearheads. The pottery is of 8th to 6th-century date.<sup>43</sup> Had the site not been noticed in the bank section, the material would have been rapidly washed into the river, as, presumably had part of the site before it was noticed. Even if the pottery and bones had not been destroyed by river action, they would probably not have been noticed in subsequent dredging, whereas the bronzes may have been found. It is perhaps possible that many bronzes from the river, and indeed artefacts of other periods too, entered it by such a process.

However, the settlement theory poses several problems. While it would account for the wide chronological range of the Thames material the very large number of Bronze Age implements from the river is hard to explain. Although the number of sites on which Bronze Age metalwork has been found is growing, none have produced complete tools or weapons in large quantities. But if a settlement was built on marshy ground close to the river banks, where it was not often possible to recover objects dropped onto the wet ground before they sank, more objects might be found. This would seem to be the situation in the Swiss Lake Dwellings, where vast quantities of Neolithic and Bronze Age implements have been recovered.

The disproportionate percentage of weapons to tools from the river is also problematical, but a number of solutions might be proposed. On the one hand the richer, weapon-using elements of society may have lived close to the river, while the tool-using agricultural communities lived inland.<sup>44</sup> Also these weapon users might be likely to have considered that the river had some special or religious significance, and therefore might make offerings to it and they would be more likely to lose things accidentally in the river, or to bury hoards beside it. Alternatively there is some evidence of manufacturing processes, and from the contrasting distribution patterns of tools and of weapons<sup>45</sup> which suggests that smiths may have specialized in either tool or weapon production. It is possible that the weapon smiths chose riverside locations for their workshops, which would be ideal for communication, for importing raw material, and exporting the finished products. Perhaps the Hallstatt D daggers which lope<sup>46</sup> suggests were made in workshops in the area should be seen as a continuation of a tradition of weapon manufacture in the area. The river finds might represent the eroded workshops of these smiths, or the caches of finished goods awaiting distribution.

## CONCLUSION

There is little firm evidence in support of any of the hypotheses proposed above, and what there is can be used to support contradictory arguments: it therefore seems unreasonable to take any one hypothesis for granted. Accidental loss may account for only a small proportion of the Bronze Age metalwork from the Thames. Two hypotheses may account for the majority of material. On the one hand, votive offering, perhaps the precursor of the known Iron Age and Roman ritual, or more appealingly as part of a burial rite, may be

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the cause; or secondly the material may have been eroded from river bank sites, such as settlements, workshops or hoards. In either case the importance of the Thames is clear and the metalwork deposited in the river may be considered as a facet of the increasing body of evidence which suggest that there was a considerable population living in the Thames valley in the later Bronze Age.

#### **ACKNOWLEDGEMENTS**

The data which forms the basis of this paper are taken from the records of archaeological objects dredged up by the Thames Conservancy Board, which are held on loan in Reading Museum. I would like to thank the Thames Conservancy Board and Mr L. Cram, Reading Museum for access to these records, and Mr Greenaway, T.C.B. for interesting discussions on various aspects of the Board's work and methods since the 1850s. I would also like to thank J. C. Barrett and J. Price who have read and commented on this paper, thought I must take responsibility for the ideas expressed here.

NOTES

- 1. Eg. C. Fox The Personality of Britain (Cardiff 1932) 58; O. G. S. Crawford Man and his Past (Oxford 1921) 142.
- 2. Eg. C. B. Burgess 'The Later Bronze Age in the British Isles and North-Western France' Archaeol. J. 125 (1969) 1-45.
- 3. Fox op. cit. in Note 1, 58
- 4. C. B. Burgess, D. Coombs & D. G. Davies 'The Broadward Complex and Barbed Spearheads' in C. B. Burgess & F. Lynch eds. Prehistoric Man in Wales and the West (Bath 1972) 228; P. J. Davey 'The Distribution of Bronze Age Metalwork from Lincolnshire' Proc. Prehist. Soc. 37 (1971) 96-112.
- 5. The Organization of Middle Bronze Age Metalworking (Oxford 1976) 207.
- 6. Vor- und Fruhgeschichtliche Flussfunds. Zur Ordnung und Bestimmung einer Denkmalergruppe' Germania 51 (1971) 1-146.
- 7. Information extracted from T.C.B. Finds register in Reading Museum.
- 'Antiquities from the Middle Thames' Archaeol. J. 86 (1929) 69-98.
- 9. Davey op. cit. in Note 4; Anglian Water Authority (pers comm. 1976).
- 10. Dr H. N. Savory (pers. comm. 1976). 11. Lawrence op. cit. in Note 8, 71.
- 12. D. Greenaway, Thames Conservancy Board (pers. comm. 1976).
- 13. Neolithic axe data from R. Adkins & R. Jackson Neolithic Stone and Flint Axes from the River Thames. An illustrated corpus (London 1978) and Saxon spearheads from M. Swanton A Corpus of Anglo-Saxon Spear Types (Oxford 1974).
  14. Op. cit. in Note 5, 207.
- 15. D. Coombs 'Bronze Age Weapons in Britain' Arch. Atlantica 1 (1975) 70. 16. J. Coles, S. V. E. Heal & B. J. Orme 'The Use and
- Character of Wood in Prehistoric Britain and Ireland' Proc. Prehist. Soc 44 (1978) 1-45. 17. D. Coombs 'The Dover Harbour bronze find—a
- Bronze age wreck?' Arch. Atlantica 1 (1978) 193-5. 18. R. M. Wheeler London and the Vikings (London
- 1927) 14.

- 19. Eg. trans. Kinsella The Tain (Dublin 1969).
- J. A. Alcock 'Celtic Water Gods in Roman Britain' Archaeol. J. 72 (1965) 1-12; A. Ross Pagan Celtic Britian (London 1967) 20.
   Geographia 4, ii, 13.
- 22. C. Fox A Find of the Early Iron Age from Llyn Cerrig Bach, Anglesey (Cardiff 1945).
- 23. H. R. E. Davison Pagan Scandinavia (London 1967).
- 24. M. Ørones 'The Weapon Find from Ejsbøl Mose at Hadderslev' Acta Archaeol. 34(1963) 232-48.
- 25. R. Merrifield 'Art and Religion in Roman London-An Inquest on the Sculptures of Londinium' in J. Munby & M. Henig eds. Roman Life and Art in Britain (Oxford 1977) 375.
- G. C. Clark 'The Invasion Hypothesis in British Prehistory' Antiq. 40 (1966) 172–89.
   C. B. Burgess 'The Bronze Age' in C. Renfrew ed. British Prehistory (London 1974) 195.
- 28. E. M. Jope 'Daggers of the Early Iron Age' Proc. Prehist. Soc. 28 (1961) 321.
- 29. C. B. Burgess 'Burials with metalwork of the Later Bronze Age in Wales and beyond' in G. C. Boon & J. M. Lewis eds. Welsh Antiquity (Cardiff 1976) 81–104; this excludes the 'Deverel-Rimbury' burials probably mainly of earlier date (cf. J. C. Barrett Deverel-Rimbury: problems of chronology and interpretation' in C. B. Burgess & R. Miket eds. Settlements and Economy in the Third and Second Millenium B.C. (Oxford 1976). 30. D. Benson & D. Miles The Upper Thames Valley
- (Oxford 1974) 14.
- 31. A. E. P. Collins 'Bronzes and Pottery from Wallingford' Berks Archaeol. J. 51 (1949) 65-6.
- 32. J. G. Evans (pers. comm.) 33. G. A. Willcox 'Problems and Possible Conclusions related to the History and Archaeology of the Thames in the London Region' Trans London Middx. Archaeol. Soc. 26 (1975) 287.
- Willcox ibid. 287.
- D. Longley & S. Needham 'Runnymede Bridge, Egham' Current Archaeol. 68 (1979) 262-7
   R. Bradley & M. Fulford 'Aldermaston 1976'
- Current Archaeol. 54 (1976) 220-1.
- 37. Benson and Miles op. cit. in Note 30.

- J. Stevens 'Stone Implements found in the Thames River' J. Brit. Archaeol. Assoc. 40 (1883) 344.
   R. E. M. Wheeler 'Old England, Brentford' Anti-quity 3 (1929) 20-32.
   J. C. Barrett (pers. comm. 1977).
   E. K. Tratman 'The Glastonbury Lake Village: A Reconsideration' Proc. Univ. British Spelaeol. Soc. 12 (1970) 157.

- Collins op. cit. in Note 31.
   J. C. Barrett (pers comm. 1977).
   Barrett *ibid.*; Bradley, R. 'The Interpretation of Later Bronze Age Metalwork from British rivers' Int. J. Naut. Archaeol. 7 (1979) 3-6.
   Op. cit. in Note 5.
   Jope op. cit. in Note 28.