A New Artefact Typology for the Study of Medieval Arrowheads

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ARCHAEOLOGICALLY recovered arrowheads from the British Isles, dated to between the 10th and 16th centuries are examined. The existing arrowhead typology in the London Museum Medieval Catalogue is assessed and a new typology consisting of 28 generic forms, and subdivided into functional groups, is suggested.

The only available reference work for studying medieval arrowheads was published in 1940.¹ The intention of this paper is to renew an interest in this artefact by suggesting a new typology which takes advantage of numerous excavations undertaken during the last 55 years. The early typology is briefly discussed and then incorporated into the new typology, which is accompanied by a detailed catalogue.

THE LONDON MUSEUM MEDIEVAL CATALOGUE ARROWHEAD TYPOLOGY

The original intention of the catalogue was that it should act as a summary text book for the study of medieval finds from London.² Despite this, it has been used nationally as a primary source of reference by those involved in the interpretation of archaeological artefacts. Its author, Ward Perkins, emphasizes that the chapter describing arrowheads has only one purpose, to '... serve as a convenient basis for classification';³ and as such it has proved very useful. However, he also stresses that it '... is not exhaustive; and may even include a few non-medieval types'.⁴ Regrettably, this crucial point is sometimes overlooked by those referring to it. Problems have occurred because certain forms of arrowhead are clearly absent,⁵ and when such examples are recovered, they are often inadvertently attributed to incorrect forms.⁶

In an attempt to give the arrowhead typology a chronological framework, arrowheads from six archaeological sites were used to provide dates.⁷ There are, however, inherent problems with the accuracy of this data. The first four sites⁸ were excavated before 1915 and their reliability is suspect, mainly due to the poor level of recording. The actual dates are obtained by dubious associations with other artefacts⁹ and from unsubstantiated stratigraphic relationships.¹⁰ The remaining
two sites are both in Sweden, and it is perhaps unwise to accept such European examples for a typology which is devoted to British types.

**THE NEW ARROWHEAD TYPOLOGY**

The drawbacks with the *London Museum Medieval Catalogue* arrowhead typology emphasize the need to update accepted reference works in the light of new evidence. The typology presented within this paper attempts to start this process.

Before describing the new typology, it is perhaps sensible to reconsider the role of an archaeological typology. The majority of typologies are used as a basis for reference and for subdividing varied and large artefactual groups. The overall intention is to identify quantitative differences between each artefact, therefore allowing comparative statements to be made. However, internal subdivisions within any typology may have no relation to divisions in antiquity. Such uncertainty can also be observed when examining technological development. For example, due to our limited knowledge of influencing factors, the most complex artefact is not necessarily the most advanced. Typologies should be evolutionary, allowing modification and amendment when new evidence becomes available. The new typology is designed in such a way that additional subgroups can be incorporated, along with new generic forms of arrowhead. Unlike the *London Museum Medieval Catalogue*, which uses actual artefacts, in this typology arrowheads with similar traits have been amalgamated and are divided into 28 generic forms (Fig. 1). These are further subdivided into four broad groups: Tanged, Multi-purpose, Military and Hunting, which are ascribed a likely function and date. Variation within each individual group may appear quite considerable; however, each arrowhead has the same basic characteristics and generic profile. The suggested date range is derived using stratified deposits from 23 excavated sites (Fig. 2), although it is not entirely satisfactory, and future revision will be necessary.

**CATALOGUE**

The catalogue describes and provides parallels for the 28 generic arrowhead forms illustrated in Fig. 1. Preceding each of the four subgroups there is a brief description of the characteristic traits of the arrowheads within it. Each catalogue entry consists of a physical description, an indication of individual function, dimensions, a list of parallels and a tentative date range or introductory date.

**TANGED FORMS**

The arrowheads which incorporate a tang, T1, T2, T3, are predominantly from contexts dating from the 9th–10th centuries. Their apparent absence from later deposits may indicate that they were soon replaced when socketed forms became widespread. Two such arrowheads have been recovered from Dyserth Castle in Clwyd which have spirally twisted tangs. This feature can be paralleled by examples from Coppergate in York, and is probably functional rather than decorative, allowing the arrowhead to be screwed into a wooden shaft. Tanged
FIG. 1

The new arrowhead typology
arrowheads are manufactured from a flat bar of iron, requiring less technological skill than arrowheads from the 13th–15th centuries.

**Type T1**: 9th–11th century.  
This form has a long, thin, leaf-shaped blade, which is triangular in cross-section. The blade forms a slight shoulder and then tapers to a narrow tang, which is diamond or circular in cross-section. Some blades have a twisted tang and low ridges on the blade.  
Function: Warfare/Hunting.  
Dimensions: Length 102–155 mm. Width 10–13 mm, 20–21 mm.  
Parallels/Date: Coppergate, \(^{19}\) 10th–11th century; Ashmolean Museum, unprovenanced.\(^ {20} \)

**Type T2**: 11th–12th century.  
This form has a small leaf-shaped blade, with a rectangular tang.  
Function: Uncertain.  
Dimensions: Length 40–55 mm. Width 15–25 mm.  
Parallels/Date: Llantwit Major, 14th–15th century; \(^ {21}\) Dyserth Castle, mid 13th century; \(^ {22}\) Castle Acre Priory, 12th–13th century; \(^ {23}\) Butcombe, 13th century.\(^ {24} \)

**Type T3**: 12th–13th century.  
Description: This form is a development of T2. It has a triangular-shaped blade with an oval cross-section, and a rectangular tapering tang.  
Function: Hunting/Military.  
Dimensions: Length 40–55 mm. Width 15–28 mm.  
Parallels/Date: Dyserth Castle, mid 13th century.\(^ {25} \)

### MULTI-PURPOSE FORMS

Ten forms have been categorized as multi-purpose. This

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**FIG. 2**  
Medieval arrowhead timechart
rather general subdivision has been chosen because these forms could have been successfully employed for both hunting and warfare. However, for a few of the forms a more likely function has been suggested. All of the types within this group are socketed, thus having an advantage over the earlier tanged forms, T1–T3, in that the wooden arrowshaft is firmly encased within an iron socket, thus creating an overall stronger physical structure. Additional to this, the socket made the arrow more streamline and faster.

Types MP1–MP6 are very similar in design. All except MP4 have triangular heads which are diamond or oval in cross-section. Dr Ian Goodall suggests that the larger examples of these forms, MP2 and MP8, would have been used for hunting. They are a clear development on the basic shape, with similar attributes to the larger and heavier broadheads, H3 and H4. The addition of a thin spine, as on MP8, would have provided greater rigidity, which was perhaps necessary for a successful multi-purpose arrowhead.

**Type MP1:** 11th–15th century.
This form has a triangular blade, and a diamond cross-section, with a socket. Large sizes can occur. *London Museum Medieval Catalogue*, Type 2. 27
Parallels/Date: Winchester, 12th–14th century; Llantrithyd; Goltho Manor, 11th century; Rivenhall; Castle Acre, 12th century; Rumney Castle; Bramber Castle, 13th–14th century; Castleskreen, late 12th–13th century.

**Type MP2:** 11th–14th century.
This form is similar to MP1. It has a small triangular head, diamond in cross-section and an extended socket. *London Museum Medieval Catalogue*, Type 3. 28
Function: Uncertain. Dimensions: Length 45–60 mm. Width 20 mm.
Parallels/Date: Goltho Manor, 11th century; Bramber Castle, 13th–14th century; Winchester, 13th century; Rumney Castle; Llantrithyd; Rivenhall; Ashmolean Museum, unprovenanced; Salisbury; Cumnor; Portchester Castle, early medieval; Hereford, 13th–14th century; Urquhart Castle, early medieval.

**Type MP3:** 10th–16th century.
This is a very common form. It is triangular in shape, but has rounded shoulders. It is socketed, with a diamond or oval cross-section. *London Museum Medieval Catalogue*, Type 1. 29
Function: Hunting/Military. Dimensions: Length 50–70 mm. Width 20–30 mm.
Parallels/Date: Durham, 10th–11th century; Castle Acre Priory, 12th–13th century; Glastonbury Tor, L. 12th century; Hereford, 13th–14th century; Llantrithyd; Beckery Chapel; Salisbury.

**Type MP4:** mid 13th century.
This form is a thin leaf-shaped blade, diamond in cross-section, with a short socket. *London Museum Medieval Catalogue*, Type 4. 30
Function: Uncertain. Dimensions: Length 60–75 mm. Width 10–20 mm.
Parallels/Date: Winchester, mid 13th century; Rayleigh Castle; Portchester Castle.

**Type MP5:** late 11th century.
This form is socketed and triangular in shape; with shoulders cut off at an obtuse angle. Function: Hunting/Military. Dimensions: Length 40–60 mm. Width 15–25 mm.
Parallels/Date: Llantrithyd; Great Yarmouth, late 11th–12th century; Portchester Castle, early medieval.
**Type MP6:** mid 12th century.

This form has a triangular blade with slight barbs curving down from the shoulders, it is socketed and diamond or oval in cross-section.


Parallels/Date: Loughor Castle;64 Llandough, 12th–13th century;65 Ashmolean Museum, unprovenanced;66 Chester;67 Woodperry;68 Castle Acre, 12th century;69 Rhuddlan Castle, 13th century;70 Winchester, mid 13th century;71 Bramber Castle, 13th–14th century.72

**Type MP7:** early 13th century.

This form has a barbed head which is oval or diamond in cross-section, and is socketed. There are wide variations in barb size and socket length. *London Museum Medieval Catalogue*, Type 13.73


Parallels/Date: Christchurch, 13th century;74 Woodperry;75 Dyserth Castle, mid 13th century;76 Brandon Castle;77 Sandal Castle;78 Lurk Lane;79 Urquhart Castle, early medieval.80

**Type MP8:** mid 13th century.

This form is similar to MP7. It has a central socketed spine with flat barbs attached, which can vary in size.


Parallels/Date: Dryswyn Castle, late 13th–14th century;81 Lurk Lane;82 Loughor Castle;83 Beckery Chapel;84 Rivenhall;85 Urquhart Castle, early medieval;86 Clough Castle;87 Montgomery Castle, 13th century;88 Seafin Castle.89

The final two forms within this multi-purpose group, MP9 and MP10, may have been specifically designed for archery practice. This is emphasized by their recovery from sites such as Baile Hill in York,90 and the Free Grammar School in Coventry.91 Their blunt shape would allow straightforward removal from an archery butt and help reduce the likelihood of serious physical wounding in the case of an accident. They can vary in size, and are occasionally mistaken for ferrules from staffs or spears.

**Type MP9:** 12th–15th century.

This form has a short concoidal socket. A stubby version of M6.

Function: Military/Practice. Dimensions: Length 15–35 mm. Width 7–13 mm.

Parallels/Date: Baile Hill, late medieval;92 Huish, 15th–16th century;93 Kildrummy Castle;94 Great Linford;95 Lydford Castle;96 St Augustines Abbey;97 Sandal Castle;98 Rivenhall;99 Nottingham Castle, mid 16th century;100 St Frideswide’s Monastery;101 Winchester, 15th–17th century;102 Barry Village;103 Hereford, 15th–16th century.104

**Type MP10:** 16th century.

This form is similar to MP9. It is bullet-shaped and socketed. Occasionally decorated. *London Museum Medieval Catalogue*, Type 5.105

Function: Practice. Dimensions: Length 5–30 mm. Width 6–12 mm.

Parallels/Date: Baile Hill;106 Free Grammar School, mid 16th century;107 Lydford Castle;108 St Mary of Ospringe;109 Sandal Castle;110 Winchester, 16th–18th century;111 Salisbury.112

**MILITARY FORMS**

The ten military forms can be divided into either compact warheads or slender armour-piercing heads. The warheads M1–M4 would have been effective against early forms of armour and body protection.113
**Type M1:** late 14th century.  
This form has a thin walled central socket, which is concoidal and has flat wings attached. It is occasionally barbed.  
Parallels/Date: Leith, 15th century; Carrisbrooke Castle; Pevensey Castle; Sandal Castle.

**Type M2:** 15th century.  
This form is similar to M1. It has a central conical socket with very thin wings/trails applied.  
Parallels/Date: Ashmolean Museum, unprovenanced; Montgomery Castle, 17th century; Pevensey Castle; Salisbury.

**Type M3:** late medieval.  
This form has a socket which tapers to a narrow point. Inwardly curving wings have been added along its length.  
Parallels/Date: Sandal Castle; Urfhurt Castle, late medieval; Salisbury; Pevensey Castle; Woodperry.

**Type M4:** 14th century.  
This form has a small compact head, with close fitting barbs. It is diamond or oval in cross-section, with a socket.  
Parallels/Date: Huish, 15th–16th century; Wadham College; St Mary of Ospringe; Goltcho Manor; Salisbury; Okehampton Castle, 14th century; Winchester, 15th century.

The forms which appear to have been designed for armour piercing, M5–M10, have a comparatively small cross-sectional area and a slender shape. These specific features would allow them to pass successfully right through plate armour. Forms M5 and M7 are of a surprisingly early date; examples from Goltcho Manor date from 1000–80 and Castle Acre from the 12th century. They appear to be the forerunners of the larger types, M8, M9 and M10, which are predominantly found on castle sites.

**Type M5:** mid 13th century.  
This form has a narrow socket, which tapers into a square sectioned point.  
Function: Armour-piercing. Dimensions: Length 50–70 mm. Width 7–12 mm.  
Parallels/Date: Goltcho Manor; Lewis Castle; Dyserth Castle, mid 13th century; Barry Village; Rumney Castle; Rhuddlan Castle, 14th–15th century.

**Type M6:** 11th–14th century.  
This form is long and narrow, with a conical point, and a socket.  
Parallels/Date: Dryslwyn Castle, late 12th–14th century; Castle Acre, 12th century; Llantithyd; Northolt Manor, 13th century; Hereford, 13th–15th century; Brandon Castle; Goltcho Manor, 11th century.

**Type M7:** 11th–14th century.  
This form has a short circular socket which narrows into a very long, thin point with a diamond cross-section.  
Parallels/Date: Goltcho Manor, 11th century; Castle Acre, 12th century; Rumney Castle; Dryslwyn Castle, mid 13th–14th century; Montgomery Castle; Rhuddlan Castle, 13th century; Brandon Castle; Bramber Castle, mid 13th century; Caergwile Castle; Weoley Castle; Winchester, 11th–12th century.
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**Type M8:** mid 13th–15th century.
This form has a long, narrow, tapering blade with a diamond cross-section, it has a socket which joins the blade smoothly or with a prominent shoulder.
Parallels/Date: Loughor Castle;162 Dryslwyn Castle, late 13th–15th century;163 Castell-y-Bere;164 Criccieth Castle;165 Montgomery Castle;166 Dyserth Castle;167 The Mount;168 Doonbought Fort;169 Urquhart Castle;170 Rhuddlan Castle, 13th century.171

**Type M9:** mid 13th–15th century.
This form is similar to M8. It has a thick diamond-shaped tapering blade, with a large socket.
Parallels/Date: Carisbrooke Castle;172 Dryslwyn Castle, mid 13th–15th century;173 Milton Keynes;174 Rumney Castle;175 Castell-Y-Bere;176 Urquhart Castle.177

**Type M10:** mid 12th–15th century.
This form has a short thin blade, with a diamond cross-section and a socket. *London Museum Medieval Catalogue, Types 8 and 10.178*
Parallels/Date: Castell-Y-Bere, 13th century;179 Criccieth Castle;180 Dryslwyn Castle, late 13th–15th century;181 Pevensey Castle;182 Llandlech, 13th century;183 Montgomery Castle;184 The Mount;185 Urquhart Castle.186

**HUNTING ARROWHEADS**

The final group consists of five hunting arrowheads. Types H1 and H2 are sometimes referred to as forkers,187 because their barbs point forward, either in a crescent or V shape. Their exact function is unknown, although they were possibly used for catching fowl. The larger forms, H3 and H4, are often referred to as broadheads. The enormous barbs allow the maximum cutting edge possible, which would have caused extensive blood loss, and effectively weakened a pursued animal.

The last arrowhead form within the new typology is H5. There is a lack of archaeological evidence for its existence; possibly because it was made from an organic material such as wood or leather. However, its inclusion within the typology is due to its illustration in medieval manuscripts.188 It is suggested by Blackmore that it would be ideal for catching smaller game birds, because their delicate flesh would be extensively damaged by forked or barbed heads.189 In the 14th-century hunting book written by Gaston Phoebus there is an illustration of the use of this form for hunting hares.190 It appears that the arrowhead would have stunned the animal, allowing easy retrieval by the waiting hounds.

**Type H1:** late 13th century.
This form has a crescent-shaped head with a short socket, the inside of the crescent is sharpened. *London Museum Medieval Catalogue, Type 6.191*
Parallels/Date: Basing House, late medieval;192 Ashmolean Museum, unprovenanced;193 Clarendon Palace;194 Glenluce;195 Baile Hill, 13th century;196 Salisbury.197

**Type H2:** late 14th century.
This form is similar to H1. It has a V-shaped head with a short socket. The inside angle is sharpened.
Function: Hunting. Dimensions: Length 30–50 mm. Width 25–40 mm. Parallels/Date: Blenheim Palace; Basing House, late medieval; Westbury; Carrisbrooke Castle.

The two examples of broadheads H3 and H4 are representative of a very large range of forms. They do, however, split into two distinct groups; those with a flattened diamond cross-section, H3, and those with a central socketed spine, H4. Their size varies from c. 100 mm in barb width to c. 40 mm. They appear to be absent from early assemblages, and they may be a late introduction.

Type H3: mid 13th century. This form has a centrally enclosed socket, by the addition of two, large, flat barbs, it is diamond in cross-section. Many derivatives.

Function: Hunting (Broadhead). Dimensions: Length 50–100 mm. Width 45–100 mm. Parallels/Date: Eltham Palace; Christchurch, 13th century; Clarendon Palace; Low Petergate; Woodperry.

Type H4: 14th century. This form is similar to H3. A tapering socket forms the spine of the arrowhead, with two long curving barbs. London Museum Medieval Catalogue, Types 14 and 15.

Function: Hunting (Broadhead). Dimensions: Length 35–80 mm. Width 50–100 mm. Parallels/Date: Customs House; Usk; Ashmolean Museum, unprovenanced; Okehampton Castle, 15th–16th century; Westbury; Woodperry; Clarendon Palace; New Romney.

Type H5: 12th–13th century. This form is a blunt-ended arrowhead, with a socket.


CONCLUSION
The new typology has attempted to incorporate the common forms of arrowhead from the British Isles dating to between the 10th and 16th centuries. It combines the strengths of the London Museum Medieval Catalogue typology, and is designed in such a way that new forms can and should be added into the sequence. Future work aims to look more closely at the context of deposition and the effect of continental influence on arrowhead shape and development. This should help refine the suggested date ranges for the individual types.

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NOTES

1. London Museum Medieval Catalogue, 7, J. B. Ward Perkins (London, 1940), 69-73. The typology was created using arrowheads found within the city of London, mainly from bomb sites and the River Thames.

2. Ibid., see preparatory note.

3. Ibid., 65; ibid., 66, fig. 16. Type 18 appears to be a Roman form, see W. H. Manning, Catalogue of the Romano-British Iron Tools, Fittings and Weapons in the British Museum (London, 1985), 177-79, pl. 85.

4. For example, new Typology forms - Ti, MP5, MP6, MP8, MP9, M1, M2, M3, M5, M6, M8, M9, H2, H3 and H5; see fig. 15.


6. Ward Perkins, op. cit. in note 1, fig. 17, 69-70.

7. Caesar's Camp in Kent, Marlborough in Wiltsire, Rayleigh Castle in Essex and Dyserth Castle in Clwyd.

8. An example of this is the arrowhead from Marlborough, which was apparently discovered within a 12th-century pot and therefore dated to the 12th century. However, his statement cannot be verified, see Ward Perkins, op. cit. in note 1, 68-70.

9. The excavation of Raleigh Castle by E. B. Francis, Trans. Essex Archaeol. Soc., 19 (1913), 147-85, does not appear to take account of the later building work within the castle, or the likelihood of intrusive features.


11. However, one of the reasons for such a wide range of arrowhead forms within Britain is likely to have resulted from contact with Northern Europe.


13. Other examples of typologies can be found in O. Montelius, Die Typologische Methode (Stockholm, 1903); and W. M. F. Petrie, 'Sequences in prehistoric remains', J. Antiquit. Inst., 29 (1899), 295-301.

14. It is perhaps helpful to use the 'golf club' analogy, and imagine that at any one time the medieval archer had a range of arrowhead forms in his quiver, each designed for a specific purpose.


25. Ward Perkins, op. cit. in note 1, 65, fig. 16, type 2.

26. Ibid., op. cit. in note 26, 1070-71, finds nos. 9991, 9994, 3997.


28. Ibid., op. cit. in note 26, 1070-71, finds nos. 9991, 9994, 3997.

29. Ibid., op. cit. in note 26, 1070-71, finds nos. 9991, 9994, 3997.

30. Ibid., op. cit. in note 26, 1070-71, finds nos. 9991, 9994, 3997.

31. Ibid., op. cit. in note 26, 1070-71, finds nos. 9991, 9994, 3997.

32. Ibid., op. cit. in note 26, 1070-71, finds nos. 9991, 9994, 3997.

33. Ibid., op. cit. in note 26, 1070-71, finds nos. 9991, 9994, 3997.

34. Ibid., op. cit. in note 26, 1070-71, finds nos. 9991, 9994, 3997.

35. Ibid., op. cit. in note 26, 1070-71, finds nos. 9991, 9994, 3997.

36. Ibid., op. cit. in note 26, 1070-71, finds nos. 9991, 9994, 3997.

37. Ibid., op. cit. in note 26, 1070-71, finds nos. 9991, 9994, 3997.

38. Ibid., op. cit. in note 26, 1070-71, finds nos. 9991, 9994, 3997.

39. Ibid., op. cit. in note 26, 1070-71, finds nos. 9991, 9994, 3997.

40. Ibid., op. cit. in note 26, 1070-71, finds nos. 9991, 9994, 3997.

41. National Museum of Wales unpublished. Accession nos. 76.4H/2, 76.4H/3, 76.4H/4, 76.4H/5.

42. Rodwell and Rodwell, op. cit. in note 31, 44-46, finds no. 18.
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48 Samson, op. cit. in note 6, 466-68, finds no. 16.
49 Ward Perkins, op. cit. in note 1, 65, fig. 16, type 1.
51 Wilcox, op. cit. in note 23, 265-66, finds no. 3.
53 Shoesmith, op. cit. in note 47, 4-7, finds no. 2.4.
54 National Museum of Wales unpublished. Accession no. 76.4 H/11.
56 Borg, op. cit. in note 44, 83, finds no. 63.
57 Ward Perkins, op. cit. in note 1, 65, fig. 16, type 4.
58 Goodall, op. cit. in note 26, 1071, finds no. 4001.
59 E. B. Francis, op. cit. in note 10, 169, finds no. 6.
60 Hinton, op. cit. in note 46, 198, finds no. 20.
63 Hinton, op. cit. in note 46, 198, finds no. 23.
65 Brewer and Lewis, op. cit. in note 6, 173-74, finds no. 11.
69 Goodall, op. cit. in note 32, 295-306, finds no. 166.
71 Goodall, op. cit. in note 26, 1073, finds no. 4011.
72 Barton and Holden, op. cit. in note 34, 61-62, finds nos. 4, 5.
73 Ward Perkins, op. cit. in note 1, 65, fig. 16, type 13.
76 Glenn, op. cit. in note 17, 63-64, 250-51. Also, National Museum of Wales unpublished. Accession no. 15.248/19.
80 Samson, op. cit. in note 6, 466-69, finds no. 13.
82 Goodall, op. cit. in note 79, 135, 146, finds no. 572.
84 Rahlt and Hirst, op. cit. in note 55, 61-61, finds no. 6.
85 Rodwell and Rodwell, op. cit. in note 31, 64-66, finds no. 21.
86 Samson, op. cit. in note 5, 466-69, finds no. 17.
89 Waterman, op. cit. in note 87, 141, finds no. 94.
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99 Rodwell and Rodwell, op. cit. in note 23, finds nos. 122.
102 Goodall, op. cit. in note 26, 1074, finds no. 4016.
104 Shoesmith, op. cit. in note 47, 4–7, finds nos. 29–213.
105 Ward Perkins, op. cit. in note 1, 65, fig. 16, type 5.
106 Addyman and Priestley, op. cit. in note 90, 138–43, finds nos. 29–32.
107 Goodall, op. cit. in note 92, 86–87, finds nos. 1–9.
108 Goodall, op. cit. in note 91, 100–101, finds nos. 12, 14.
110 Credland, op. cit. in note 78, 265–66, finds nos. 32, 33.
111 Goodall, op. cit. in note 26, 1074, finds nos. 4017, 4018.
112 Borg, op. cit. in note 44, 84, finds nos. 83, 84.
117 Credland, op. cit. in note 78, 265–66, finds no. 38.
119 Knight, op. cit. in note 88, 226–28, finds no. 16.
120 British Museum unpublished. Accession no. OA4717.
121 Borg, op. cit. in note 44, 84, finds nos. 77, 80, 81.
122 Credland, op. cit. in note 78, 265–66, finds no. 37.
123 Samson, op. cit. in note 48, 466–69, finds no. 4.
124 Borg, op. cit. in note 44, 84, finds no. 93.
125 British Museum unpublished. Accession no. OA4718, OA4720, OA4725, OA4724.
127 Ward Perkins, op. cit. in note 1, 63, fig. 16, type 16.
128 Thompson, op. cit. in note 93, 120–21, finds no. 25.
130 Goodall, op. cit. in note 109, 135–37, finds nos. 119–21.
132 Borg, op. cit. in note 44, 82, finds no. 31.
134 Goodall, op. cit. in note 26, 1073, finds no. 4014.
135 Goodall, op. cit. in note 30, 185–86.
136 Goodall, op. cit. in note 32, 235–36.
137 Goodall, op. cit. in note 30, 185–86, finds no. 183.
139 Glenn, op. cit. in note 17, 47–56; also, National Museum of Wales unpublished. Accession no. 15.248/20.
141 Lloyd-Jern and Sell, op. cit. in note 32, 135–36, finds no. 13.
142 Goodall, op. cit. in note 76, 188–89, finds no. 140.
143 Jessop, op. cit. in note 81, finds no. 8–16.

Fairbrother, op. cit. in note 115, finds no. 30.


Goodall, op. cit. in note 74, 76–77, finds no. 52.

Goodall, op. cit. in note 194, 222–23, finds no. 122.


J. Wilson, ‘Antiquities found at Woodperry, Oxon’, Archaeol. J., 3 (1846), 119–22, finds no. 5.

Ward Perkins, op. cit. in note 1, 157–61, fig. 16, type 14, 15.


Goodall, op. cit. in note 133, 105–06, finds no. 15.

Mills, op. cit. in note 200, 337–40, 264, finds no. 1111.

Wilson, op. cit. in note 206, 119–22, finds no. 6.

Goodall, op. cit. in note 194, 222–23, finds nos. 119121, 119123, 119124.


Blackmore, op. cit. in note 187, 144, fig. 60.

Bise, op. cit. in note 190, 98.

Ward Perkins, op. cit. in note 1, 65–73, fig. 16.