

# Evidence for Bronze Age settlement on Coombe Warren, Kingston Hill

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*The evidence of artefacts collected since the last century suggests intermittent activity on Kingston Hill between the Neolithic and Middle Bronze Age, while in the Late Bronze Age actual occupation may be inferred. A number of relatively complete pottery vessels and characteristic LBA domestic artefacts indicate an established settlement. In addition there is possible evidence for contemporary burial and strong evidence for metalworking. It is conjectured that the site could have been responsible for some of the rich accumulation of bronzes in the west London stretch of the Thames, and might have been enclosed by an earthwork.*

## Introduction

Kingston Hill rises to some 175ft OD and the summit, a crest running north-west to south-east along Warren Road, commands extensive views of this part of the Thames Valley and towards the south-east, of the North Downs (fig 1). The Kingston–London (A308) road bisects the area in a north-east to south-west direction. To the north of this, much of the hill now lies enclosed within Richmond Park though housing has developed between the Park and the road, covering the area of the ‘gallows’ where some archaeological discoveries were recorded. To the south the extensive George Road gravel quarries are now covered by a golf course.

The valleys below the site contain the Thames, just over a mile to the west, the Beverley Brook to the east and the Hogsmill to the south-west. The main source of water, however, and perhaps the major attraction of the site, was the presence of a series of mineral springs at the junction of clay and gravel. The various chemical analyses of the 19th century (Biden 1852, 97, 127) seem to indicate that water from each spring was of a slightly different composition, and it was widely observed that it was much superior to local river water (Walford 1894, 297). It was certainly prized for its attractive properties from at least 1514 when Cardinal Wolsey envisaged tapping the springs to supply Hampton Court Palace with water (Lindus Forge 1959, 3) and it seems likely that early inhabitants recognised its value also.

A number of finds of an archaeological nature have been made, mostly on the south-western side of the hill and often as the result of gravel digging during the 19th and early 20th centuries. Reports of these finds are difficult to correlate since in many instances precise find circumstances are not recorded and the locations are given variously as Coombe Wood, Coombe Park, Coombe Estate, Coombe Hill, Coombe Warren and Kingston Hill.

Evidence of early settlement is of two kinds: firstly, there are the accounts of early historians and antiquaries and, secondly, there are the surviving artefacts rescued, or more often purchased from the local gravel diggers, that remain in museums.

## Geology and gravel extraction

The subsoil varies according to height. The lower levels of the hill consist of London Clay with an overlying deposit of Claygate Beds. Capping the hill above approximately 150ft OD is a deposit of gravel described by the Geological Survey (1981, Sheet 270) as High Level Terrace. This is current-bedded (Grist 1917, 101; and personal observation) and according to Gibbard (1979) represents a braided river terrace. It is described elsewhere as the *Kingston Leaf* (Zeuner 1959, 154; Evans 1971, 291), a river terrace situated between the Winter Hill and Black Park stages which was thought to correlate with the 27m level at Swanscombe (Evans 1971, 292).

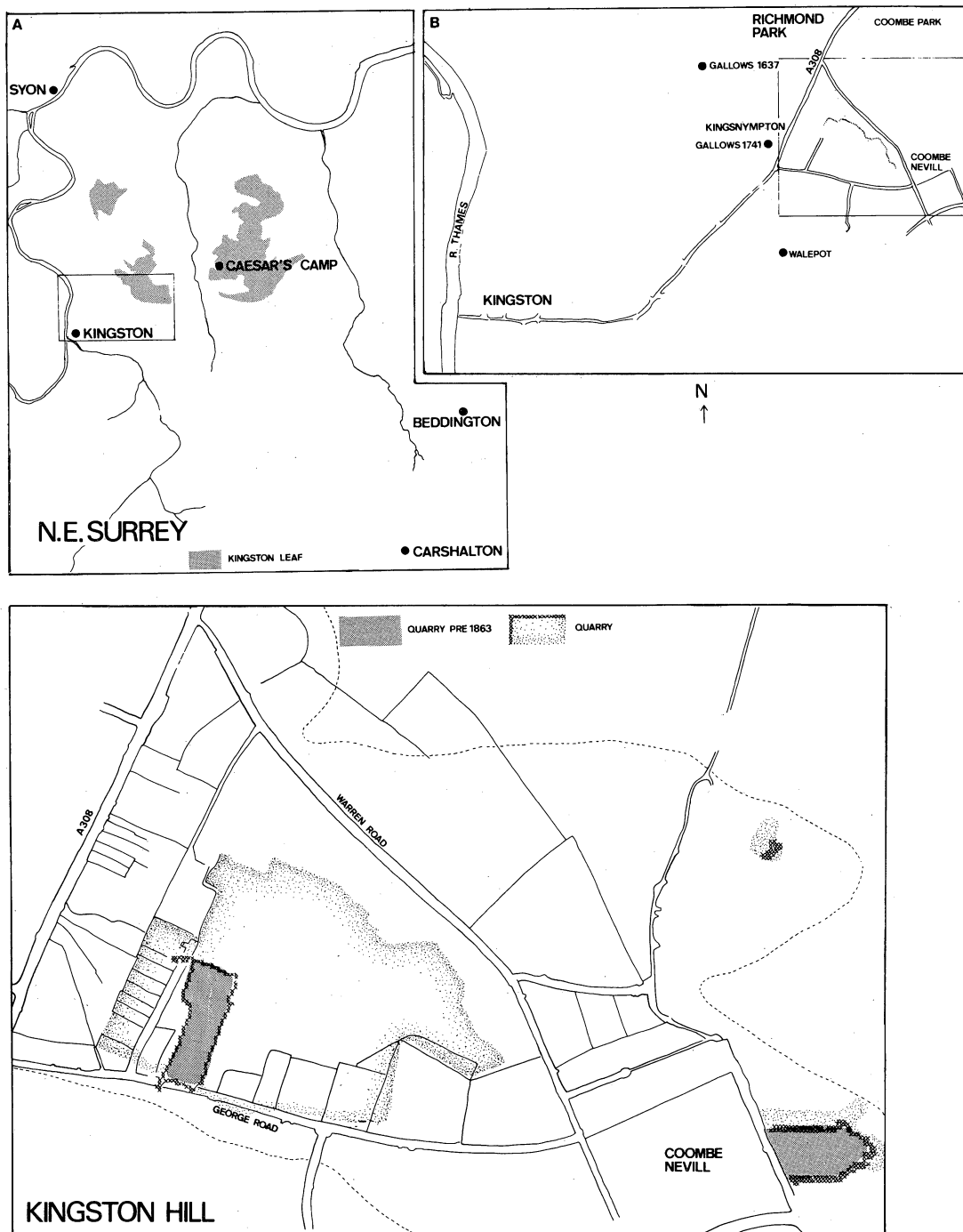


Fig 1. Location plan

Gibbard (1979, 39) however sees it as representing a confluence of the Thames and the Mole/Wey during the Black Park stage of the Late Anglian glaciation.

The earliest gravel extraction seems to have taken place at the southern end of the summit near to Coombe Hill farmhouse. Certainly by 1789 there was a gravel pit at Coombe Nevill (Gough 1789) and the 1st edition OS map (1865–6) shows a number of small though not insignificant pits scattered over the south-east and eastern parts of the hill. The major extraction area however was on the south-western or Kingston side of the summit and here extraction may have begun somewhat later than elsewhere. Certainly the area was still under cultivation in 1741–5 (Rocque 1741–5). The workings here eventually became known as the George Road gravel pit and were bounded by the triangle formed by Warren Road, the A308 and George Road (fig 1).

Early editions of the Ordnance Survey (1865–6; 1864; 1911) indicate that extraction began at the western end of George Road close to the present Golf Club House. Inspection of that area suggested that the initial workings were little more than 0.5m deep, this being close to the edge of the gravel deposit, though recent archaeological excavation (Field 1981, 2) has since contradicted this and indicated that working in this area was in excess of 3m deep. Extraction moved from there both northwards and eastwards, finally encompassing an area of over 15ha and producing a final section almost 600m long and up to 6m deep that runs parallel to Warren Road. The whole of this pit is currently part of Coombe Wood Golf Course.

### Early references

Perhaps the earliest documentary indication of settlement on Kingston Hill comes from local field names. A piece of land named as *Walepot* was described as being in the East Field of Norbiton during the reign of Edward III (1327–77) (Malden 1911, 493). This may be a corruption of Waleport and is thought to occupy an area of the south-western slopes of the hill to the north of Coombe (Wakeford, in Gent 1979, 23; Wakeford 1984, 254). In the same area ‘upon le Downe’ was Burghditches, mentioned in deeds of 1426 and 1429.

The earliest written account is that of Leland, who collected his information in the 1530s. He stated that ‘The olde monumentes of the town of Kingeston be founde yn the declyving doune from Come parke towards the galoys: and there yn ploughyng and diggyng have very often beene founde fundation of waulles of houses, and diverse coynes of brasse, sylver and gold, with Romaine inscriptions, and painted yerthen pottes; an yn one yn the Cardinal Wolsey’s tyme was founde much Romaine money of sylver, and plates of sylver’ (Smith 1964).

John Aubrey collected material up to 1692 though it was not published until 1718–19. He stated that ‘East of Kingston, on the Rising of the Hill, stands the Gallows, in a dry gravelly Ground, where they often find Roman Urns. An Urn was found by the Gallows, by Mr Chelsham, and is in his Custody of a kind of Umber Colour, black Ashes up half way, and something at the Bottom like coarse Hair, as if it had been laid in before. Height of it six Inches, near  $\frac{1}{2}$  thick, or rather  $\frac{2}{3}$ . Diameter six Inches and  $\frac{1}{2}$ ’ (Nevinson 1975, 17; for illustration see Wakeford 1984, fig 1).

Gibson’s edition of Camden’s *Britannia* (1753) uses Aubrey’s manuscript though adds a number of other points: ‘... East from hence, upon a gravelly hill, near the road, was a burying place of the Romans. Here are often found Urns, and pieces of Urns, which lie about two foot deep. One particularly was discovered about the year 1670 of a kind of *amber* colour fill’d up halfway with black ashes, and at the bottom something like coarse hair, as if it had been laid there before. At a little distance from the Thames, we see Combe-Nevill, seat of the Harveys, where have been found Medals and Coins of several of the Roman Emperors, especially of Diocletian, the Maximinians, Maximus, Constantine the Great etc and between this place and Wimbledon is a round Camp supposed to be a work of the Danes’ (Gibson 1753, 187). Gough’s 1st edition (1789) adds that an urn ‘... full of coins of the lower Empire was dug up in a gravel pit within a mile of the town at the end of Combe-Nevill. Many other urns with Roman coins of all metals and foundations were found about the same spots in Cardinal Wolsey’s time’.

Manning & Bray (1804, 329) repeat the accounts of Leland and Aubrey and in addition note that 'In October 1722, some persons digging here found a great number of urns and other pieces of Roman antiquities'. The source of this information apparently came from a manuscript in the possession of Mr Gough.

### Location of the monuments

Leland, the earliest writer, describes Kingston's 'monuments' as being on the 'declyving doune from *Come parke towards the galoys*'. He is the only writer to describe the presence of structures as opposed to burial places or urns. He also mentions gold, silver, and brass coins containing Roman inscriptions. Notwithstanding the tendency to call all antiquities Roman, the description does sound authentic. The descriptions of coins from Combe Neville (Gibson 1753, 187; Gough 1789) with the names of emperors also sound authentic. The location however does not match that of Leland. These accounts are of importance as they are the only evidence of Roman settlement on Kingston Hill. Little Roman material evidence survives – only one jar amongst the Roots Collection – though the Ordnance Survey object notebook refers to a number of Roman objects, including a bronze statue, that were in the possession of the Duke of Cambridge (D Ball, pers comm, RCHME, Southampton).

It might be worthwhile considering whether there is any significance in the apparent differing locations of Leland's and Camden's accounts, and it is worth noting that a major change in local topography took place between Leland's (1530s) account and the Gibson and Gough editions of *Britannia*, namely the enclosures by Charles I of Richmond Park. This effectively deprived both Kingston and Combe of a number of fields, and while it cannot be certain whether all of these were subject to 'Ploughing and digging', rig and furrow (Field 1980, 4) indicates that at least some were. Leland's indication was that the site was on the 'declyving' part of the hill, presumably therefore not on the summit. There is nothing to indicate that this was the western or Kingston side of the hill but this has often been presumed to have been the case.

He mentions also 'Come parke'. This was probably a medieval deer park which certainly existed by 1164 (Malden 1911, 502). It is marked on the Charles I Richmond Park enclosure map of 1637 (Ordnance Survey) as being on the eastern or Robin Hood side of the hill; that is, where Gipsy Hill College now stands. Despite the obvious cartographical inaccuracies, Speed's map of 1610 also illustrates the park on the eastern part of the hill, actually portraying it as bordering the Beverley Brook. Camden's map however (Gibson 1753) shows the park on the summit of the hill, predominantly in Richmond Park but partially to the south of the A308. The 'galoys' appear to have changed location. There is a Gibbet Close, presumably one of the Coombe Fields in Richmond Park midway between Ladderstile and Robin Hood gates, marked on the 1637 enclosure map. The gallows referred to, however, is probably the strip of land along the escarpment of Kingston Hill in Richmond Park leading as far north as Thatched House Lodge. This is described on the 1637 enclosure map simply as 'Gallows', and the name is still retained in the adjacent 'Gallows Road'. After enclosure it was probably necessary to move the gallows site. Rocque (1741–5) shows it on Kingston Common, ie further south along the same escarpment, just to the north of the A308. Kingsnympton flats now lie on the site, and it may be significant that one of the perforated clay slabs came from this area (no 38 below). Here then, are probably the gallows of Aubrey and Camden, the '... burying place of the Romans' and in particular the provenance of the amber-coloured urn half filled with black ashes. A century later they seem to have moved south again, for early Ordnance Survey editions locate the site of the gallows along George Road.

If we are to take Leland literally, then we must imagine the 'monuments' as sited north of the A308 partially or completely within Richmond Park, between the Kingsnympton flats and Gipsy Hill College. This sounds unlikely since no evidence of the required nature has come from the park despite use of the area for agriculture during the last war. Neither, though, is there any evidence from other favoured locations such as Walepot, somewhere north of Combe Lane

West which has been much developed, or the Combe Nevill area which has seen development and gravel quarrying.

The surviving material evidence is mostly dateable to the Late Bronze Age. Most of this has come from the George Road gravel quarries to the south of the A308. The early descriptions of urns, at least one containing ashes and others by presumption since it was described as a 'burying place' and found about 2ft deep, matches well those that later came from the gravel quarry. Together with the more recent find of a piece of perforated clay tile from the Kingsnympton area it seems likely that the Later Bronze Age site described below extended a considerable distance to the north of the A308, perhaps as far as Richmond Park. To the east the site extended at least as far as the summit of the hill for a pot was found in the final face of the gravel quarry alongside Warren Road in 1945 (OS records).

Excluding the possible site at 'Walepot', there are probably then three distinct sites recorded – a Roman site, consisting of wall foundations, with deposits of gold, silver and other coins perhaps to the north of the A308; a second Roman site to the south-east of the hill at Coombe Nevill consisting of finds of coins, in at least one case a pot-full; and finally a Later Bronze Age settlement extending from the summit to the escarpment on the western flank of the hill. It is this last site that is considered below.

### The Bronze Age settlement

During the 19th century progress in the gravel pits was observed by local antiquaries, notably William Roots and Walter H Tregellas. Their finds were often displayed before meetings of archaeological societies, and summary accounts were occasionally published in the relevant journals. It is from these accounts that we learn that the sites consisted of a series of pits and hollows, or what were described as 'pot holes'. At least some of these contained pottery.

Tregellas (1863) records finding a large potsherd *in situ* in one pit that had evidently been disturbed and subjected to the action of fire (the pot bore evidence of burning). The pit was large, some 7ft across (it is not clear what shape) and 3ft deep. In 1863 Tregellas presented to the British Museum part of an urn (no 19) that was found at the bottom of a shallow circular pit filled with earth (BM 1864.2-8.1), and a further series of artefacts including pottery, perforated tiles, cylindrical loomweights and copper cake were said to have been found in a series of pits which were between 3 and 4ft deep and which appeared to be in some arranged order (Tregellas 1868).

It is impossible now to determine the nature of these pits. In all probability a variety of functions are represented. On occasion urns were found apparently in association with parched wheat (Clutton 1858; Tregellas 1863, 373; Roots 1845). Roots specifically notes that 'one or two contained charred wheat' and it is tempting to suggest that some at least were for storage. On the other hand on at least one occasion an urn was found half full of ashes (Roots 1860) and Tregellas' description of the burnt area surrounding the fragment of an inverted urn is suggestive of a burial deposit (Tregellas 1863, 373). Roots notes (1845) that of several urns discovered about 2ft deep in the gravel some were half filled with ashes. He also points out that the area was perfectly level and that there was no sign of a tumulus.

Although it is not clear whether pits were involved, Root's description of the finding and destruction of several pots ranged in rows 2ft deep in gravel (Roots 1845) supports Tregellas' statement that the 'pot holes' appeared to follow some sort of order in their arrangement (Tregellas 1868, 155). Unfortunately no further record exists of the shape these arrangements took, or whether the pit size varied.

### The finds

A number of finds have found their way into museums and these are recorded below. Others have been lost or destroyed. Some artefacts found their way to the collection of the Duke of Cambridge, the landowner, and some of these were presented to the British and Kingston Museums. C J Grist, headmaster of the local Tiffins School, seems to have collected small

quantities of material during the early part of this century, while earlier William Roots assembled a collection of material some of which was presented to the Society of Antiquaries. Some drawings and water colours by W H Tregellas of a number of artefacts exist amongst the Way MSS at the Society of Antiquaries and these provide descriptions of some of the missing material, in particular some missing pieces of the bronze hoard. Most of the surviving material is due however to the vigilance of W E St Lawrence Finney, a local antiquary and mayor of Kingston who managed to trace and present to Kingston Museum not only the bronze hoard, but a number of pottery vessels as well.

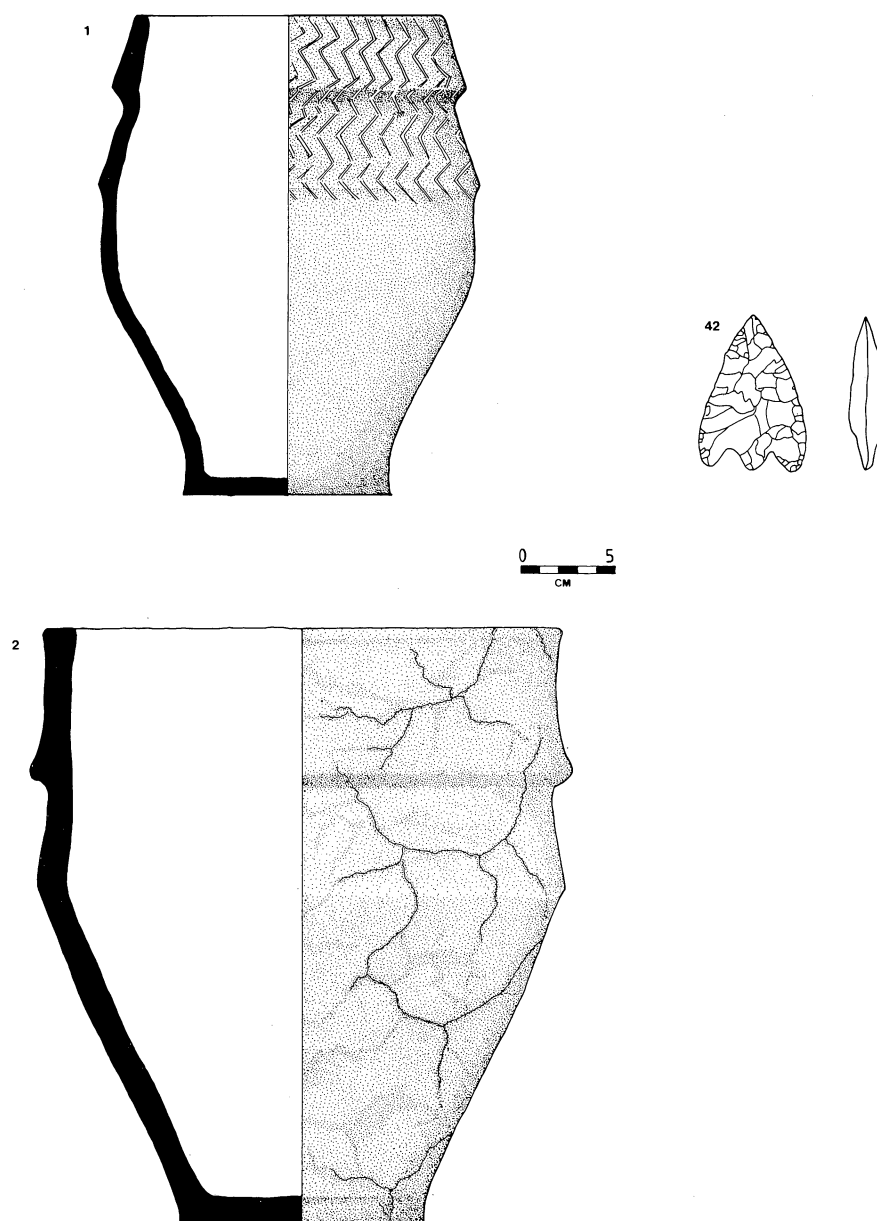


Fig 2. Earlier Bronze Age pottery (1 and 2); flint lancehead (42). Scale  $\frac{1}{4}$

## EARLIER BRONZE AGE POTTERY (fig 2)

1 Tripartite Collared Urn. A large fragment of the rim and shoulder and three other sherds of the vessel (orange-buff on the outer surface, black on the inner, coarse fabric with medium flint temper). The decoration consists of a herringbone arrangement of grooved zigzags made with a blunt chisel-shaped tool that extended from the rim down to the shoulder. This is probably the lost rim portion from the vessel illustrated by Tregellas (1868, opp 154); and Way (MSS, Society of Antiquaries). The illustration presented here is a combination of the surviving material and Tregellas' illustrations. Tregellas also noted that the vessel is unusual in its graceful curving outline and expanding base. The rim fragment was presented to Kingston Museum by W E St

Lawrence Finney, the rest of the vessel was the property of the Duke of Cambridge in 1868 but is now missing. It is recorded as coming from Coombe Gravel Pits, and a note on one of Tregellas' drawings adds '... near the George Inn'. The vessel falls into Longworth's Primary Series category and the expanding foot is thought to be indicative of Beaker influence (Longworth 1961, 272). Kingston Museum KM 1096.

2 Tripartite Collared Urn found on Coombe Warren. Secondary series urn of a coarse sandy fabric. Orange-brown in colour, it is plain with no decoration. It was donated by J Clutton on behalf of the Duke of Cambridge to the British Museum (BM 1861.8-10.1).

## LATER BRONZE AGE POTTERY (figs 3, 4)

Some 22 pottery vessels from Kingston Hill may be attributed to the Later Bronze Age, 14 being complete or near complete, and a further eight being represented by good portions or sherds. Less diagnostic sherds from four or more other vessels are likely to belong to the period, and there are indications in the literature of many other such discoveries. The fabric is almost invariably tempered to a greater or lesser degree with crushed burnt flint grits. One exception is the gritless fabric of cup no 21. The external surface is normally a reddish brown with large blackened or reddened areas created in firing due to uneven oxidation; Munsell values 7.5 YR 4/4 to 5/6 predominate, but deviate on occasion to 10 YR 5/3. Finer wares may be distinguished from coarse wares partly by the grade and density of the filler, but also by more careful surface preparation. Surface wiping or slip can cover most of the grits and burnishing sometimes further enhances appearance, usually externally, but in one case also internally (no 5). However the acid conditions of the Kingston Hill subsoil seem often to have attacked surfaces, thus obscuring the fine/coarse ware contrast.

*Catalogue*

3 Rim sherd of a large weak-shouldered fine ware jar with some grit, rim simple and almost flat-topped with localised lipping inside and outside; rim diameter approx 360mm; one body sherd (KM 1091 I), very similar in fabric, surface and thickness, may belong. Coombe Gravel Pits; Kingston Museum KM 1091A, presented by Finney in 1930. Comparisons: Barrett 1979, 230 no 1-Totternhoe, Beds; Bradley *et al* 1980, fig 17 no 148D-Aldermaston; Adkins & Needham 1985, fig 4 no 11, fig 10 no 317-Carshalton.

4 Thick-walled cup or small bowl with carination and 'S' profile to flat rim; indications of finger smearing up walls from base; traces of red slip on exterior, perhaps largely eroded; some extra grit on base; half rim missing; rim diameter 90mm. George Road gravel pits; Kingston Museum KM 1088A, presented by Finney in 1930. Comparisons: Hawkes & Fell 1943, 211 no U8-Fengate, more inverted rim.

5 Fine ware carinated bowl with most of interior and exterior surfaces fired black in reducing firing conditions; whole of exterior and interior above carination burnished; sparse flint grit; small base with rounded edges; half rim missing; rim diameter 105mm. Coombe Warren; Kingston Museum KM 7675, presented by Fin-

ney 1908. Comparisons: Adkins & Needham 1985, fig 8 no 215, fig 11 no 369-Carshalton; Longley 1980, fig 35 no 370-Runnymede Bridge; Hawkes & Fell 1943, fig 7 R6-Fengate.

6 Flared cup with very weak carination, slight foot and vestigial outer lip to flattish rim; off-central thumb print in otherwise flat base; interior charred and exterior of rim blackened one side in uneven firing; rim diameter 80mm. Coombe Warren; Kingston Museum KM 7679, presented by Finney in 1908. Comparisons: Hanworth & Tomalin 1977, fig 17 no 98-Brooklands.

7 Cup with crude angular to rounded carination, flattish rim and irregular out-turned foot; crude boss inside base; a number of vertical finger smears drawn up wall from foot; half of exterior and interior blackened by uneven firing; rim diameter 65mm. Coombe gravel pits; Kingston Museum KM 1095C, presented by the Duke of Cambridge. Comparisons: Lowther 1939, 191 fig 82 no 31-Green Lane.

8 Small carinated jar with round to flat rim; chopped straw impressions in base which show indications of finger pinching around feet; internally blackened; rim diameter 82mm. George Road gravel pits; Kingston

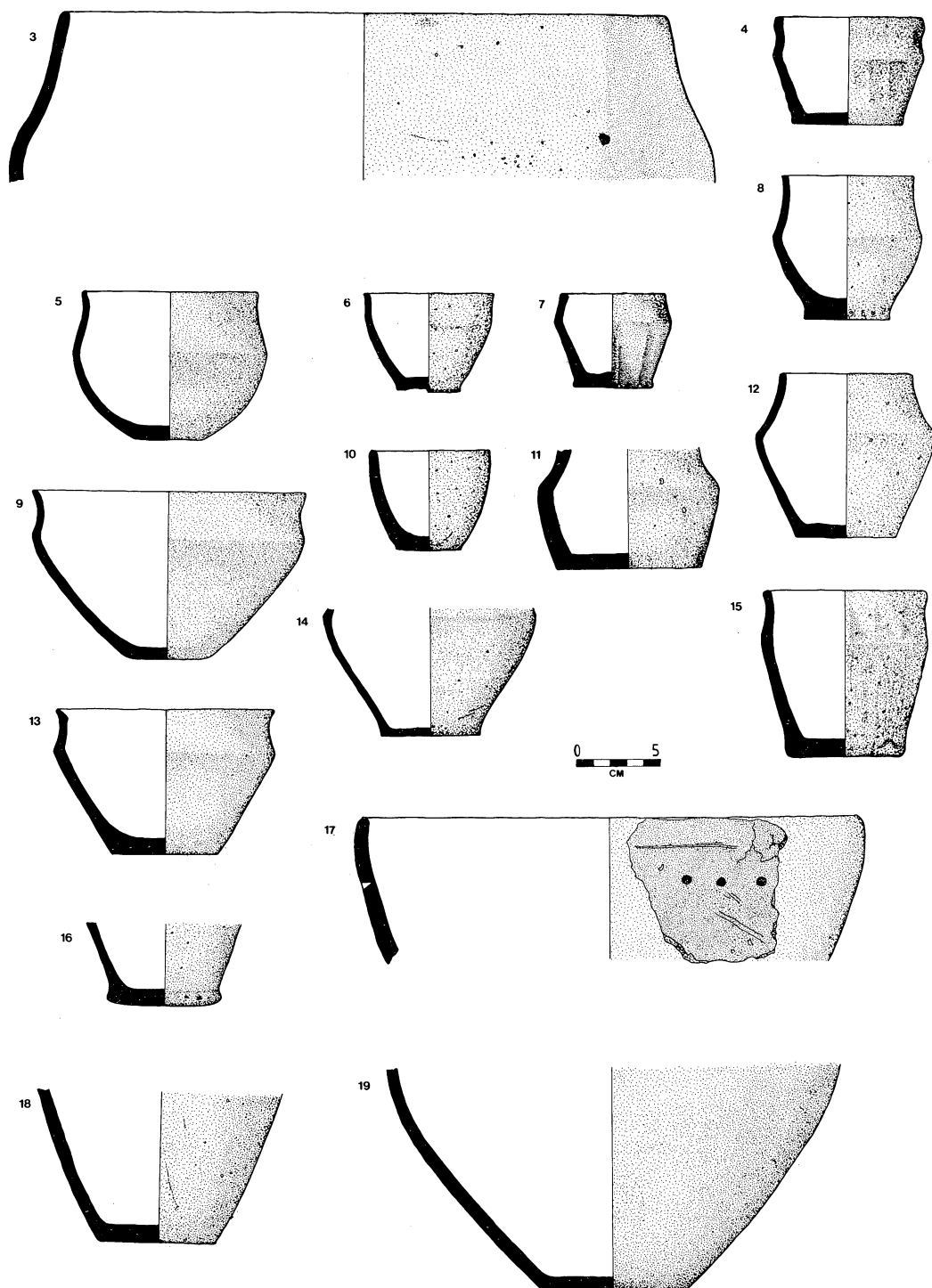


Fig 3. Later Bronze Age pottery (3-19). Scale  $\frac{1}{4}$



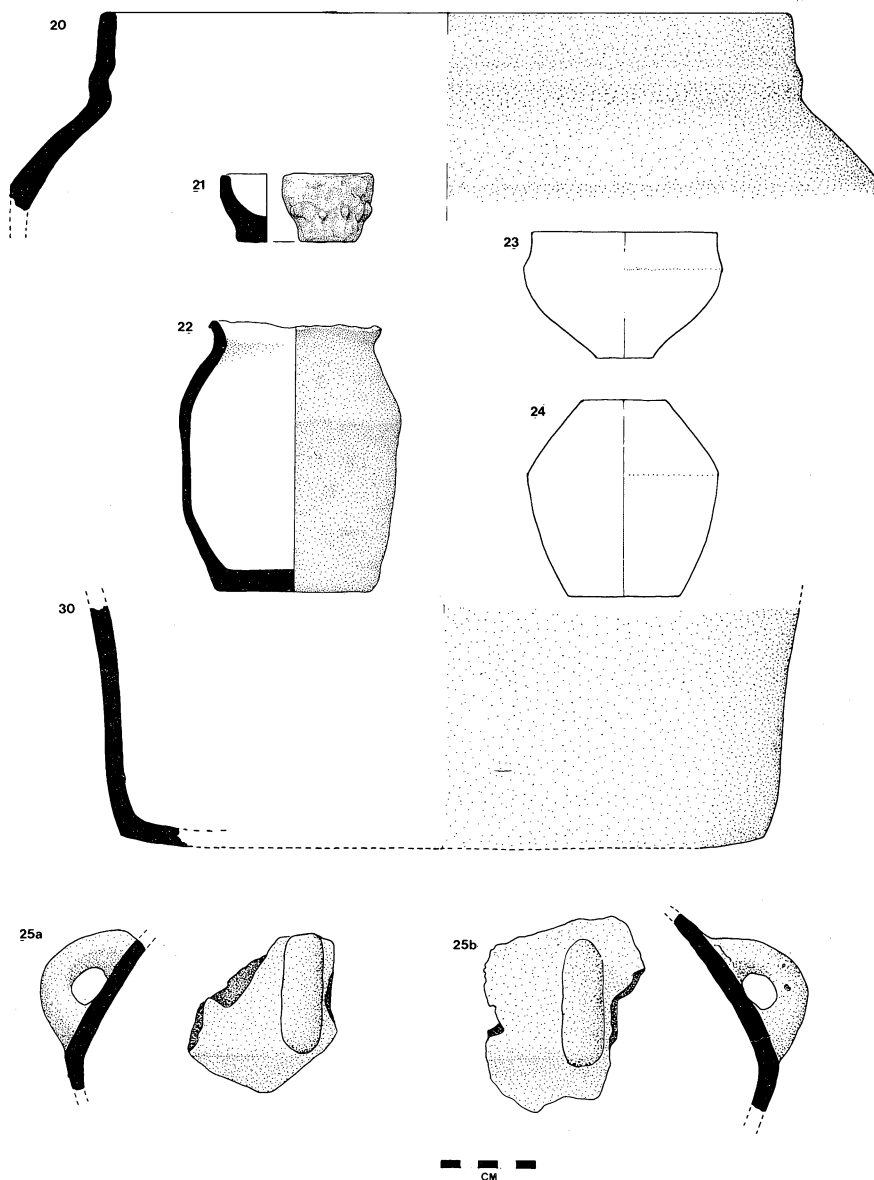


Fig 4. Later Bronze Age pottery (20-26, 30). Scale  $\frac{1}{4}$

Museum 1095A, presented by the Duke of Cambridge in 1930. Comparisons: Bradley *et al* 1980, 233 fig 11 no 9, 231 fig 13 no 26B-Aldermaston.

9 Wide carinated bowl with thin walls but relatively dense gritting; burnish above and below carination; most of rim missing; rim diameter 165mm. Coombe Warren; Kingston Museum KM 761D, presented by Finney in 1908. Comparisons: Lowther 1939, 186 fig 7 no 12-Green Lane; Bradley *et al* 1980, fig 15 no 102H-Aldermaston; Hawkes & Fell 1943, 207 no 1-Fengate.

10 Cup with simple rim and bowed walls; traces of finger-printing at vestigial foot; rim diameter 75mm. George Road gravel pits; Kingston Museum KM 1095B, presented by the Duke of Cambridge in 1930. Comparisons: Bradley *et al* 1980, fig 14, no 56F-Aldermaston.

11 Squat shouldered vessel with unusually thick walls; rim all damaged, but highest points possibly only abraded having lost little; very slight finger-tipped furrow at the base creating vestigial foot; underside of base heavily charred; shoulder diameter 110mm. George

Road gravel pits; Kingston Museum KM 1088B, presented by Finney in 1930. Comparisons: Bradley *et al* 1980, fig 11 no 2, fig 17 no 144F–Aldermaston.

12 Carinated jar, biconical with concave upper cone giving contracted mouth; simple rim with hints of internal lipping; lightly gritted; most of rim and walls missing; carination diameter 110mm; according to Tregellas' 1869 illustration in the Way MSS, which seems to show this vessel more complete, it contained burnt wheat; possibly that shown in Tregellas' 1868 illustration (Way MSS—see no 24). Coombe Warren; Kingston Museum KM 767F, presented by Finney in 1908. Comparisons: Bradley *et al* 1980, fig 15 no 103B–Aldermaston.

13 Carinated bowl with internally bevelled rim and traces of burnish; rim diameter 130mm. 'Gravel pits on Coombe Warren about 3ft below the surface, May 1839' according to attached note; London Museum A25853. Comparisons: Lowther 1944–5, 62 fig C2–Carshalton.

14 Base of thin-walled carinated vessel surviving to bottom of a concave neck; very light burnish; organic voids in base; carination diameter 130mm. Coombe Warren; Kingston Museum KM 767B, presented by Finney in 1908.

15 Slack-carinated jar with simple rim; sporadic finger-tip impressions on carination due to construction rather than ornamentation; vertical smearing of walls with fine striations associated; voids from organic matter in base and low on body; half rim missing; rim diameter 100mm. Kingston Hill; Kingston Museum KM 1088C. Comparisons: Lowther 1939, 187 fig 79 no 24; Elsdon 1982, fig 6 no 31–Green Lane, Farnham; Adkins & Needham 1985, fig 4 no 10–Carshalton.

16 Base of jar, wall expanding from pinched out foot; hints of vertical smearing; body sparsely gritted, but a mass of angular grits in the surface of the base; base diameter 70mm. Coombe Warren; Kingston Museum KM 767C.

17 Sherd from large vessel with slightly hooked simple rim; row of deep impressions below rim almost perforate wall; grooves on body may be grass wiping impressions; large grits, moderately dense; rim diameter approximately 300mm. Kingston Hill, found 1863 by W H Tregellas; British Museum BM 1864.2-8.2, presented by Tregellas (War Office). Comparisons: Bradley *et al* 1980, fig 13 no 27D–Aldermaston.

18 Base of jar with very small pinched out foot; exterior extremely rough with a few vertical scoremarks; grit-covered base; base diameter 70mm. Coombe Warren; Kingston Museum KM 767A, presented by Finney in 1908. Comparisons: Bradley *et al* 1980, fig 33 no 83e, fig 32 no 48d–Knights Farm.

19 Base of large bowl, widely flared to carination which survives for short stretch; smoothed and lightly burnished on exterior; gritted medium dense fine flint grit; base diameter 90mm. Kingston Hill, found 1863 by W H Tregellas at bottom of a shallow circular pit filled with earth; British Museum BM 1864.2-8.1, presented

by Tregellas (War Office). Comparisons: Bradley *et al* 1980, fig 32 no 48d, fig 33 no 65a–Knights Farm.

20 Large shouldered jar with flat rim and profile moulding at base of collar creating cordon; liberal calcined flint filler, less finely prepared than generally in the assemblage, vessel represented by two joining rim and shoulder sherds and three body sherds of identical character; rim diameter approximately 360mm. Coombe gravel pits; Kingston Museum KM 1091 E, J, K, N, presented by Finney in 1930. Comparisons: Bradley *et al* 1980, fig 31 no 1a–Knights Farm.

21 Small conical cup with flat to rounded rim and hemispherical inside; median row of eight crude knobs, a ninth possibly having been detached; exterior generally roughly rusticated with shallow impressions, often showing finger-prints; whole surface light-buff, core grey-brown or buff; no grits or sand visible; cracks across base and one side possibly formed in firing due to poor fabric; rim diameter 50mm. Kingston Hill, 'adjacent to the Roman encampment' and found in or near the top of vessel 22, in November 1844 (Roots 1845, 67; Way MSS—annotated illustration); Society of Antiquaries of London, Roots Coll no 17, presented by Sudlow Roots. Comparisons: Musson 1954, fig 6 nos 400–401–Brighton; Lowther 1939, pl XVIII–Snailslynch–Stoneyfield.

22 Weak-shouldered jar with irregularly out-turned rim, roughly flattened; the profile is rather variable and the pot somewhat oval; organic impressions in base include two or three of grain, one very well defined; interior and exterior pinky buff with some blackened areas; moderately sparse fine flint filler; small part of rim missing; rim diameter 85–91mm. Kingston Hill, 'adjacent to the Roman encampment', found November 1844 half-filled with ashes, the cup (no 21) within or near its top (Roots 1845, 67; Way MSS—annotated illustration); Society of Antiquaries of London C5, Roots Coll no 16, presented by Sudlow Roots. Comparisons: Smith 1958, GB 37. 1–Worthing Forty Acre Brickfield; Worsfold 1943, 36–7 fig 6, 6–7–Minnis Bay.

23 Carinated bowl with hollow upright neck (Tregellas' 1868 drawing–Way MSS); half rim missing and walls cracked; carination diameter approximately 105mm; a second drawing in the Way MSS, believed to be of the same pot states 'yellowish brown ware'. Kingston Hill, '... found in the gravel pits on the Coombe Estate near the George Inn ...' (Way MSS); present location unknown, owned by the Duke of Cambridge in 1868. Comparisons: as for no 9; also Jones & Bond 1980, 476 fig 3.12–Mucking.

24 Carinated jar, biconical giving contracted mouth (Tregellas' 1868 drawing–Way MSS); most of rim missing; carination diameter approximately 105mm; a second drawing in the Way MSS, very probably the same vessel, is annotated 'light brown, dark stains'. Kingston Hill, '... found in the gravel pits on the Coombe Estate near the George Inn ...' (Way MSS); present location uncertain, but possibly one extant in Kingston Museum (see no 12); owned by the Duke of Cambridge in 1868. Comparisons: as for no 12.

25 Two handles with attached fragments of body, possibly a pair; plugs joining handles to body are partially visible; striations on exterior on different alignments. Coombe gravel pits; Kingston Museum KM 1091 C, D, presented by Finney in 1930. Comparisons; Adkins & Needham 1985, nos 338–40–Carshalton; Jones & Bond 1980, 476 fig 3, 17–Mucking; Longley 1980, 48 no 156, 59 no 405–Runnymede Bridge.

26 Body sherd of large fine ware bowl or jar; exterior burnished black and brown; smooth self-slip on interior; core light grey with sparse minute flints. Coombe gravel pits; Kingston Museum KM 1091B, presented by Finney in 1930.

27 Three featureless sherds (not illustrated); fabrics distinct from the rest and probably not Bronze Age. Coombe; Kingston Museum KM 641 A–C, presented by Grist in 1905.

28 Pot with 'Iron Age A rim' (not illustrated; unavailable for study). Found in the face of the old George

Road gravel pit in 1945 by A V Franks of Coombe Hill (Kingston Museum Records); private possession.

29 'Fragments of a very large black urn, forming four distinct portions, white particles in the paste' (not illustrated). Kingston Hill, Coombe Estate; found embedded in the gravel about 4ft deep and full of parched wheat or corn (Clutton 1858, 171) British Museum BM 1858.4-16.1, presented by the Duke of Cambridge (through John Clutton of Whitehall Place); unlocated in 1985.

30 Base of large coarse ware jar; wall expands with slight sinusoidal profile; base thinner than adjacent wall and has gritted surface; two further sherds with similar fabric may belong; a wall sherd and central portion of a base which has some heavily gritted face. Coombe gravel pits, Kingston Museum KM 1091F, presented by Finney in 1930.

31 Body sherd of large coarse ware jar (not illustrated); interior surface with regular vertical finger smearing, not matched on any other vessels or sherds from the site. Coombe gravel pits; Kingston Museum KM 1091H, presented by Finney in 1930.

### *Discussion of the LBA pottery*

The Kingston Hill pottery displays a good range of forms, but is heavily biased towards small vessels, or 'tableware'. This might be due to the site having a specialised function, but is more likely to be rooted in the circumstances of survival. It is for example noteworthy that while most of the smaller vessels survive nearly intact, large vessels are represented by small portions. In view of reports of pottery breakages on discovery, it seems likely that the larger pots will have tended to be broken down in the gravel digging and consequently disregarded by the gravel diggers or the collectors. Obviously depositional factors in the Late Bronze Age and subsequent natural agencies could also have played a part.

Of the smallest vessels, two are squat shouldered vessels (4, 11), while four others may be described as cups. The latter vary in form having biconical (7), plain flared (6, 10) or bossed (21) walls. There are four or five small and medium sized bowls (5, 9, 13, 23 and probably 14), all of which are carinated forms generally with conical lower walls, except for the more globular bottom of no 5. One bowl (13) is distinguished by an internally bevelled rim.

Even amongst the jars there is a good proportion of the smaller varieties. Two biconical fine ware examples (8, 12/24) may be regarded simply as deeper versions of the carinated bowls and, likewise, are likely to have served as tableware. Four more jars are fairly small (15, 16, 18, 22), leaving relatively few large jars represented, contrary to expectation for LBA settlement assemblages. Vessel no 15 barely distinguishes itself from a plain bucket, while no 22 belongs to a familiar element in post Deverel–Rimbury ceramics characterised by round shoulders and out-turned rims. Large jars are represented by base and body sherds (30, 31), a rim with weak shoulder (3), a pair of handles probably belonging to a globular jar (25) and the unusual neck-cordoned shouldered vessel (20). Although neck cordons are a recurring (if infrequent) feature on LBA jars the technique of forming the cordon as a corrugation of the wall itself contrasts with the usual application of a clay strap. Sherd 17 could be the rim of a jar with a tall flared mouth or alternatively a fairly plain bucket. Two portions of finer wares with burnished surfaces and large diameters (19, 26) could come from either jars or large bowls; a carination survives on no 19.

The Kingston Hill pottery exhibits certain features which are widely known on LBA ceramics, namely pinched out feet, vertical finger-smearing, gritted bases, omphalos bases and internally bevelled rims. In these respects therefore, as well as in pot profiles, the assemblage is typical of Later Bronze Age material. This is true also of the mixture of coarse wares and better finished

pots, sometimes having burnished surfaces, although the extremely fine gritless wares known from some of the larger contemporary assemblages are absent at Kingston Hill.

Recent changes in the dating of pottery assemblages such as Kingston Hill are well illustrated by looking back to Bishop's synthesis of Surrey Iron Age material (1971). He divided the Kingston Hill material into two groups, the first comprising Form 1, featureless jars, including cups 6 and 7, along with the LBA 'hoard' (below) and cylindrical loomweights, representing a first phase dating to the 7th century BC. This was taken to be a period of transition. Period 2, represented by Form 7 (carinated bowls 9 and 13), was of the fully developed Iron Age and placed by Bishop early in the 5th century BC. This separation was based on morphological considerations in the absence of useful contextual data and is no longer tenable. Good pottery groups excavated from a number of sites in the Lower Thames region since the early 1970s point to the existence of a much broader ceramic range in the early 1st millennium BC than hitherto conceived, and more specifically show that most if not all of the Kingston Hill forms could belong to an integral assemblage of full Late Bronze Age currency. These revisions of chronology are highlighted above all by the work of Barrett (1979, 231; 1980), and others have identified similar trends (eg Longley 1980, 71–4). Avery goes further in his consideration of early 1st millennium ceramics and concludes that there were two phases of use of carinated pottery types, both reflecting continental Hallstatt trends, the first around 1000 BC, the second around the 5th century BC (1981, 47). However, this remains undemonstrated for British assemblages by stratigraphic evidence and associations.

Barrett's scheme of a 'plain ware' assemblage dating to the 11th–9th centuries BC, succeeded by a 'decorated' assemblage of 8th–5th centuries BC seems to be broadly applicable, despite the likelihood of regional variations. There is nothing amongst the Kingston Hill material that cannot be satisfactorily accommodated within the 'plain ware' traditions. Elsewhere one of the authors has applied the term 'Runnymede–Carshalton' group to sites with such assemblages in the Lower Thames region (Needham forthcoming). One vessel, the bossed cup (21), undoubtedly belongs to an earlier, Deverel–Rimbury tradition, but its association with a post-Deverel–Rimbury form (no 22) suggests that it is a survival belonging to the LBA phase of occupation. In view of the lack of contextual evidence it would be futile to suggest any phasing for the Kingston Hill pottery, especially as stratified sequences on recently excavated sites await full publication. However, the possibility of a spatial pattern may be raised, based on a broad difference in the pottery presented by Finney in 1908 and 1930. It may be significant that the first presentation was predominantly of finer cups, bowls and jars (5, 6, 9, 12, 14, 18), while the 1930 group comprises jars and the two squat vessels (3, 4, 11, 20, 25, 26, 30, 31). If the difference is due to a shift in the area of gravel extraction during Finney's collecting period then this might well signify different functional aspects of the site, such as identified for the Iron Age settlement at Wendens Ambo, Essex (Halstead *et al* 1978).

#### CLAY ARTEFACTS (fig 5)

32 Cylindrical loomweight: description based on an illustration by W H Tregellas (Way MSS). 120mm diameter × 80mm thick with a central perforation of 20mm diameter. Tregellas noted that the clay was imperfectly fired and that it had evidence of a rope or thong having passed through it (1868, 154). One of his sketches (Way MSS) shows the central perforation as worn on one side. Coombe Estate gravel pits, near the George Inn. Present location unknown. Comparisons: Lowther 1939, 190–Green Lane, Farnham; Bradley *et al* 1980–Pingewood and Burghfield; Adkins & Needham 1985, 33–8–Carshalton.

33 Cylindrical loomweight: description based on illustrations by W H Tregellas (Way MSS). 90mm

diameter × 50mm thick with a central perforation of 15mm diameter. Coombe Estate gravel pits, near George Inn. Present location unknown. Comparisons: as for no 32.

34 'Disc of clay': probably a cylindrical loomweight or part of one. It was thought to be a weight for a net and was lent for exhibition at the meeting of the British Archaeological Association in 1881 (Clutton 1881). 100mm diameter × 65mm thick with a perforation in the centre. No further description or illustration can be traced. Kingston Hill 'gravel pits on the estate of HRH the Duke of Cambridge, and at the west side of Coombe Wood. . .'. Present location unknown. Comparisons: as for no 32.

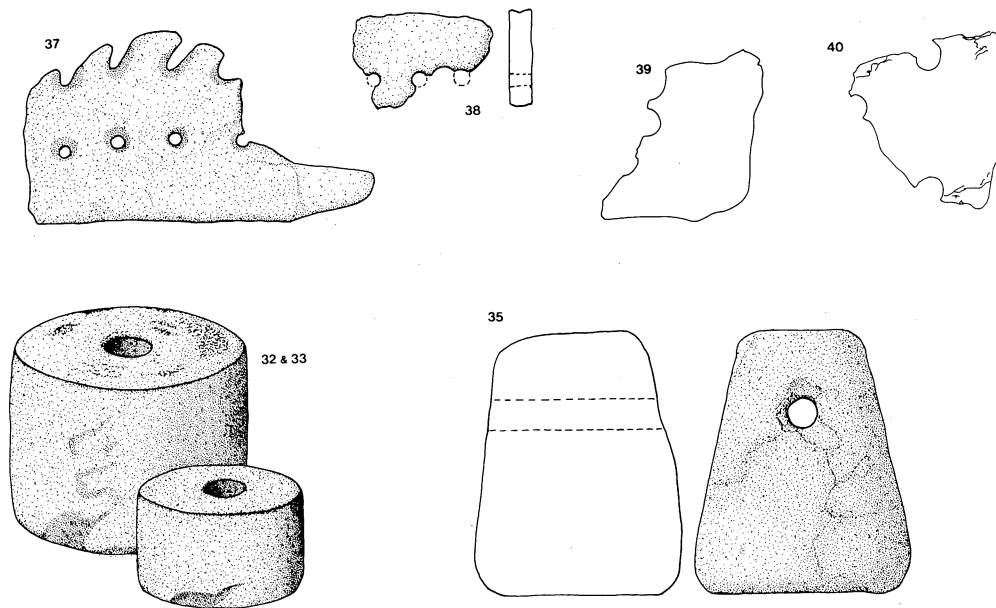


Fig 5. Clay artefacts (32 and 33, 35, 37–40). Scale  $\frac{1}{4}$

35 Pyramidal loomweight 140mm high  $\times$  100mm wide with a single horizontal perforation 18mm diameter. One of several 'quadrangular earthenware lumps' that were recovered (Clutton 1858). Kingston Hill; one was presented to the British Museum by J Clutton in 1858, the others are missing. BM 1858.4-16.2.

36 Spindlewhorl: a small rough clay spindlewhorl was amongst items exhibited at a meeting of the British Archaeological Association (Clutton 1881). No further details were provided and no illustration has come to light; Kingston Hill; present location unknown.

37 Perforated clay slab: large fragment of baked clay. Original length probably 195mm long  $\times$  130mm wide. Eight perforations of approx 10mm diameter are present, though the upper four have been partially worn away. The rounded appearance suggests abrasion by water action. The illustration is from Tregellas' sketch in the Way MSS. Tregellas adds (1868, 155) that it was found in a 'pothole' 3–4ft deep. Kingston Hill, found in the gravel pits on the Coombe Estate near George Inn. In 1868 it was the property of the Duke of Cambridge but the present location is unknown.

38 Perforated clay slab: small fragment of a slab of baked clay 70mm  $\times$  50mm  $\times$  12mm. The edges appear

to have been pinched along the edge. Traces of three perforations approx 8mm diameter. Kingston Hill, found by R Canham during building operations at Hillcrest in June 1967. Kingston Museum KM 2191.

39 Perforated clay slab: small fragment of a slab of baked clay approx 95mm  $\times$  70mm with traces of at least one perforation 14mm in diameter. The illustration is taken from a sketch by Tregellas dated 13/5/1869 amongst the Way MSS, and the artefact is possibly one of those mentioned by him (1863, 372). Duke of Cambridge's Coombe Estate; present location unknown.

40 Perforated clay slab: small fragment of a slab of burnt clay. The illustration is taken from a sketch by Tregellas dated 13/5/1869 amongst the Way MSS. Possibly one of those mentioned by him (1863, 372). Found on the Duke of Cambridge's Coombe Estate; present location unknown.

41 Perforated clay slabs: exhibited to the British Archaeological Association in 1881 was one of several rough tile-like objects and which in the original state would have measured 140mm  $\times$  105mm and perforated with circular holes (Clutton 1881). Kingston Hill; present location unknown.

### *Discussion of the clay artefacts*

Both cylindrical and pyramidal clay weights are now recognised as characteristic of Later Bronze Age settlement. The cylindrical type is usually considered earlier than the pyramidal being found in association with Deverel–Rimbury material at Pingewood, and Burghfield

(Bradley *et al* 1980) though the type was found in association with similar pottery to that from Kingston Hill at Green Lane, Farnham (Lowther 1939, 190) and Queen Mary's Hospital, Carshalton (Adkins & Needham 1985), and as pointed out in the latter report for the moment it may be wise to regard weights with a little caution rather than rigid indications of a chronological sequence. Cylindrical examples from Queen Mary's Hospital, Carshalton, are 60–100mm thick (Adkins & Needham 1985, 37, fig 14 nos 398–402) and although one was supposed to be worn by a cord (Robarts 1905, 396) this is not now thought to be the case (L Adkins pers comm). Other more fragmented examples came from Knights Farm and Aldermaston (Bradley *et al* 1980, 243, 275) where it was thought that they may have been thatch weights, a possible function previously assigned to clay weights by Hawkes & Fell (1943, 193).

Spindlewhorls of biconical clay form were present at both Runnymede Bridge (Longley 1980, 31) and Queen Mary's Hospital, Carshalton (Adkins & Needham 1985), and they need not be out of place here.

Perforated clay slabs have also been accepted as characteristic of Later Bronze Age sites and are known from, for example, Mill Hill, Deal and Highstead in Kent, Mucking, Yiewsley, Heathrow, Moultsford and Pingewood, Runnymede and Queen Mary's Hospital, Carshalton (Champion 1980, 241 distribution map). Robarts (1905, 394) noted that they were numerous at Carshalton, many being found in the ditch. Nineteen fragments survive from the site (Adkins & Needham 1985, nos 379–97). They are much larger than the Kingston examples, measuring some 330mm × 190mm and varying between 30 and 40cm thick. The perforations were approximately 15–20mm diameter and on the examples illustrated by Robarts (1905, 394 figs 7 & 8) were angular and in one case almost square. At least five irregularly placed perforations appear to have been common although the almost complete examples from Queen Mary's Hospital (Adkins & Needham 1985, nos 379 & 380) have only four each symmetrically placed at a corner. The question whether the size, number and arrangement of the perforations has significance must await further stratified discovery. The perforations in the Yiewsley slabs are more regular, and Champion (1980, 238) notes that two of the edges have slight notches running along their length, a feature that occurs on one of the Kingston slabs (no 38) as well as several at Queen Mary's Hospital (Adkins & Needham 1985, nos 379, 385 & 388).

The function of these slabs remains obscure. Jones & Bond (1980, 475) suggest that they may have been involved in salt production. Robarts (1905, 394) indicated that the Queen Mary's Hospital fragments were very thoroughly burnt and thought that they may have formed portable kilns for pottery making. Alternatively they may have been used in a cooking process and the presence of some in association with hearths tends to suggest a possible use in that connection. Robarts also describes them as associated with cremations (1905, 397). The presence of cremations, however, is considered dubious and the surviving slabs are not as burnt as Robarts suggests (Adkins & Needham 1985, 35; L Adkins pers comm).

#### STONE (fig 2)

A number of ground and polished stone and flint axes have been recovered (Penn *et al* 1984, 223). These were scattered over the hilltop and extend to the lower slopes. No concentrations can be discerned.

42 Flint 'lancehead' of grey flint with bifacial soft hammer flaking. Barbed and tanged and much too large for use as an arrowhead. Length 83mm. Kingston Hill; Kingston Museum presented by V Knapp. KM 1164.

43 Small stone disc with convex surface. No further details are available but it is noted among items by

Tregellas (1863, 373). George Road gravel pits; present location unknown.

44 Block of sandstone with convex surface. No further details are available and there is no indication of size, but it is noted among items recorded by Tregellas (1863, 373). George Road gravel pits; present location unknown.

45 Mould of fine grained stone 'for casting the base of some bronze implement'. No further details, but recorded as being exhibited to the British Archaeological Association in 1881 (Clutton 1881). Kingston Hill; present location unknown.

### *Discussion of stone artefacts*

The flint barbed and tanged 'lancehead' is much too large and heavy to have been used as an arrowhead and its size must be seen as unusual when compared with flint arrowheads from elsewhere in England. In form it might be seen as an enlarged example of Green's (1980) Sutton b type which are widespread and generally attributed to the Earlier Bronze Age. It might therefore be considered broadly contemporary with the Collared Urns from the same area though association cannot be demonstrated.

The small stone disc and the block of sandstone both have a convex surface and remain problematic. Saddle querns were recovered from both Green Lane, Farnham (Lowther 1939, 192), and Queen Mary's Hospital, Carshalton (Adkins & Needham 1985, 39–40), though one would expect a concave surface if such an identification were to be made and in the light of so much uncertainty the matter is perhaps best left.

Of the recorded but missing artefacts from Kingston Hill the casting mould is perhaps the most intriguing. Unfortunately, other than that it was made of fine-grained stone little is recorded, and there is no indication of size, shape, or indeed whether it was complete, as the note recording that it was for casting the base of an implement, perhaps a socket, implies that the rest was missing. The artefact is one of importance however as when linked to the evidence from the metalwork (below) it provides a good indication that metalworking was taking place on site.

### METALWORK (figs 6, 7)

As many as 25 or more pieces of Bronze Age metalwork may come from Kingston Hill. Recorded or implied dates of discovery make it clear that these belong to various findspots. In a few cases single finds seem to be involved, in others hoards may well have been disturbed; potential associations are listed below. Documentation of finds is, however, generally poor leading to uncertainty of contexts. The catalogue is therefore arranged by type and the discussion gives a concordance for the histories of the catalogued finds.

46 Palstave: unlooped, concave-triangular blade with low flanges flanking upper part; shallow median rib on each blade face; profile stepped at stop; crescentic cutting edge sharp and backed by clear bevel; well expanded blade causing slight hollows in sides; butt slightly damaged; fine crack across upper blade; two casting flaws blemish flange and blade edge; length 142mm, width cutting edge 65mm. Kingston Hill, found pre-1852; Society of Antiquaries B47, Roots collection no 4, presented by Sudlow Roots in 1860. Illustrated by Biden (1852, 4 fig 3) and described by Roots (1860, 82 no 4) as 'Found on Kingston Hill, near Caesar's Camp; and in the same neighbourhood were found several masses of unwrought bronze just ready for making others'. Noted briefly by Evans (1881, 82).

It is probable that later writers have mistakenly inferred two or three palstaves with differently described provenances, all stemming from this one find. In part this may have been caused by the Society of Antiquaries card index formed in the 1950s, for a second accession, B19, refers to a palstave from Kingston Hill. No such object survives in the collection and this is almost certainly a duplication of the object accessioned B47 at the same time. Phillips (1967, 17, 33) apparently drew information from these two record cards noting B19 under 'Coombe' as missing, and B47 under 'Wimbledon', due to a misunderstanding of Root's qualification 'near Caesar's Camp'. Rowlands then added these two records to the original Kingston Hill find to arrive at a total of three palstaves (1976, nos 680, 682, 980). Com-

parisons: Rowlands' class 2 group 2, developed side-flanged palstaves (1976, 31); Schmidt & Burgess' type Liswery (1981, 127 nos 790–4).

47 Socketed axe: looped, double mouth-moulding; sub-rectangular mouth and body section; gently waisted body with expanding cutting edge somewhat blunted; socket has a single longitudinal rib on inside of each face; trace of casting flash; nick and crack in mouth, possibly due in part to miscasting; length 58mm; width cutting edge 33mm.

Coombe Wood '... found in digging gravel close to the same place' as pots 21 and 22 were found, and at about the same time, November 1844 (Way MSS, annotated illustration); probably drawn up by Albert Way in 1845 when exhibited by Roots to the Society of Antiquaries (Roots 1845, 67–8); circumstances reiterated in subsequent accounts (Biden 1852, 4–5 fig 4; Roots 1860, 83 no 8; Evans 1881, 113); Phillips listed object twice (1967, 16, 33). Society of Antiquaries B15, Roots collection no 8, presented by Sudlow Roots, 1860. Comparisons: plain south-eastern (Butler 1963); variant Isle of Harty (Schmidt & Burgess 1981, nos 1267–70); Aylesbury hoard, Bucks (Farley 1979, 139 no 4, fig 6.2); Bexley Heath hoard, Kent (Britton 1960, GB53.28); Isle of Harty hoard, Kent (Smith 1956, GB 18.17–21).

48 Socketed axe: looped, double mouth-moulding, upper one bulbous; sub-rectangular mouth and body section; parallel body expanding widely towards blade

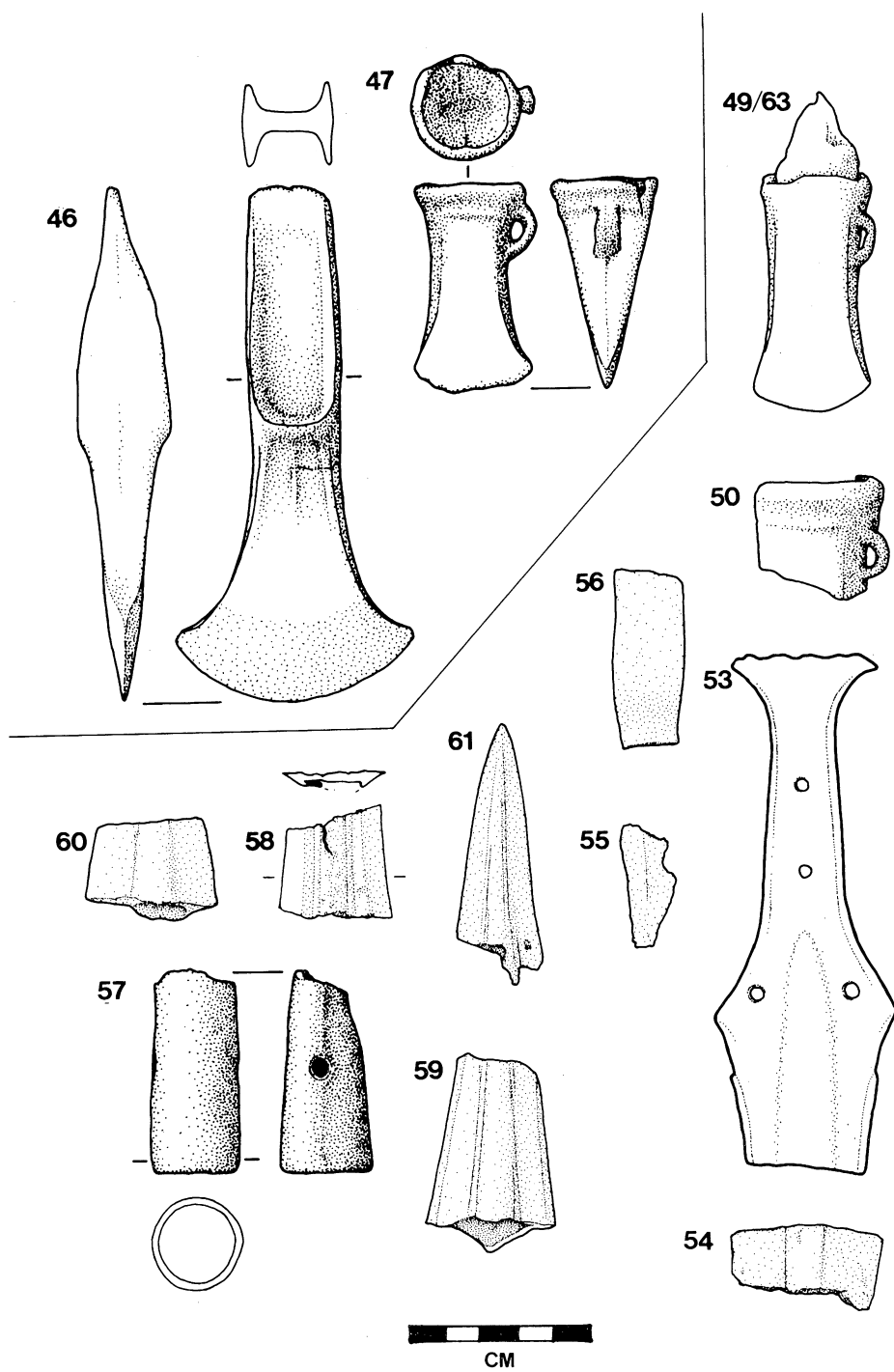


Fig 6. Metalwork: single finds (46-47); the probable 1869 hoard (49-50, 53-61, 63). Scale  $\frac{1}{2}$



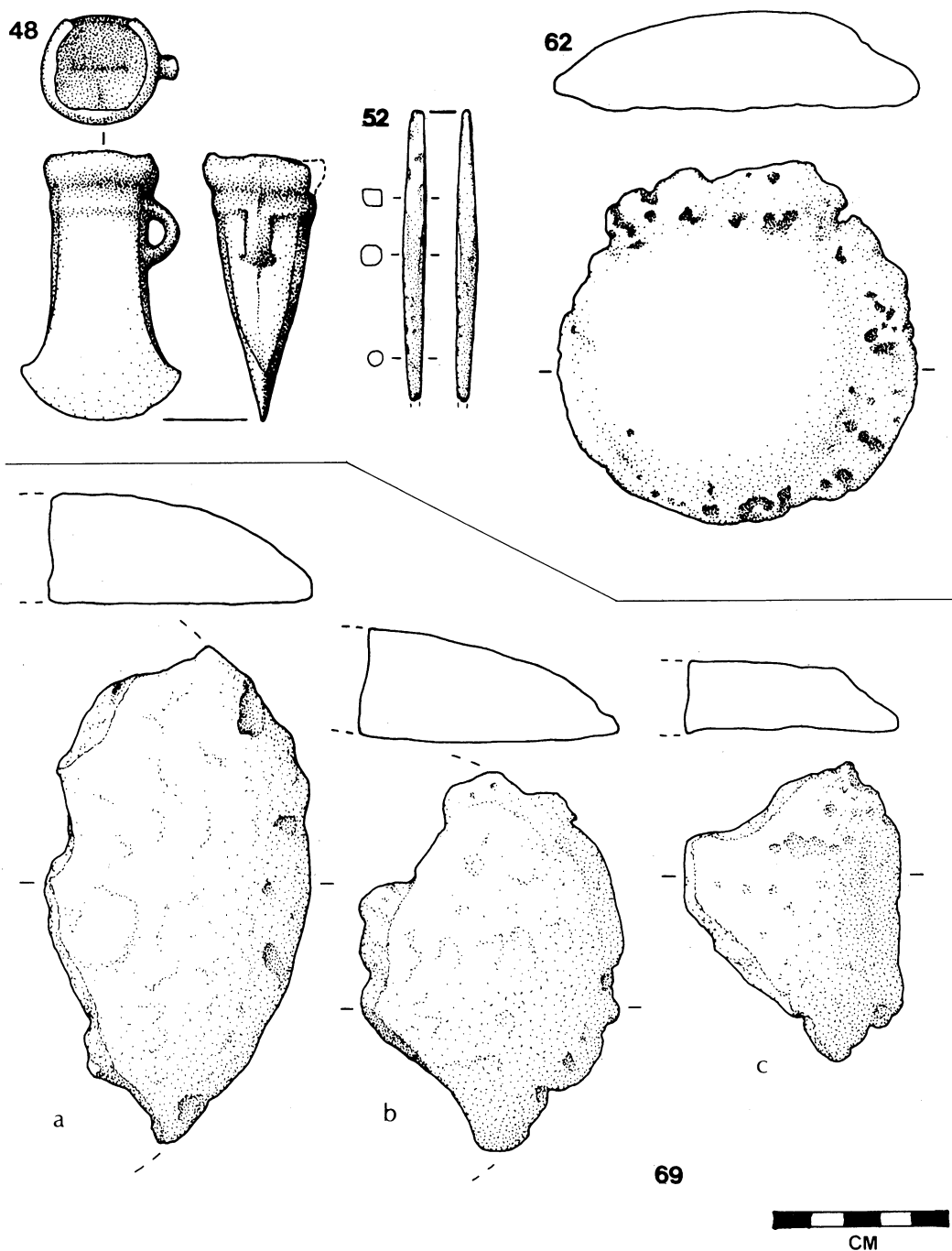


Fig 7. Metalwork: undocumented pieces from the Christ's Hospital School Collection (48, 52, 62); part of the Kingston Museum ingot group (69 a-c). Scale  $\frac{1}{2}$

tips, which have hollowed sides; cutting edge intact and thinned in profile by hammering, slight longitudinal ridge inside socket; traces of casting flash; socket mouth broken on one side; length 76mm; width cutting edge 47mm; weight 140g.

Presumed Kingston Hill; part of the Christ's Hospital School group (Devenish 1964, 1–2), but not known from any early illustration or description. Phillips lists under 'hoard' from Coombe Warren (1967, 16). Kingston Museum KM 1094, presented by Finney at unknown date (for earlier history see Devenish 1964, 1). Comparisons: plain south-eastern type (Butler 1963); variant Shoebury (Schmidt & Burgess, 1981 nos 1272–4).

49 Socketed axe: description based on watercolour by W H Tregellas (Way MSS) annotated 'Bronze celt into which a fragment of cake copper has been forced' (see no 63); loop, possibly a little squashed; no mouth mouldings depicted but suggested by swelling at top; suggestion of waisted body; only moderately expanded blade; length (axe) 65mm; width cutting edge 33mm.

Kingston Hill, George gravel pits; found about 1869; possibly part of a hoard; present location unknown; exhibited on 4 May 1869 at meeting of the Royal Archaeological Institute by Mr W H Tregellas by permission of HRH the Duke of Cambridge (Tregellas 1869), who presumably retained ownership; drawn on same occasion by Tregellas (Way MSS). Comparisons: probably of plain south-eastern type and not dissimilar from axe no 47 above.

50 Socketed axe: description based on watercolour by W H Tregellas (Way MSS), annotated 'Fragment of bronze celt'; mouth fragment; loop and double mouth-moulding present; no decoration shown on surviving part of face; length 33mm.

Kingston Hill, George gravel pits; found about 1869; possibly part of hoard; present location unknown; history as for no 49. Comparisons: probably of south-eastern type.

51 Socketed axe: description based on an axe from the Thames which was of 'exactly the same size and pattern' (Roots 1860, 83 no 7; NBI); looped; double mouth-moulding, the lower moulding a rib from which descends a rib design; this has three short vertical ribs separated by a horizontal bar from two longer ribs each terminating in a ring; body gently flared and blade tips minimally expanded.

Kingston Hill; present location unknown; no early record apart from Roots comment (1860, 83). The exact matching Thames specimen formed part of the Roots collection (no 7) which was presented to the Society of Antiquaries in 1860, but it has since gone missing. Comparisons: Sompting type (Burgess 1968a); similar motifs amongst the north British examples (eg Schmidt & Burgess 1981, nos 1275–1584, 1628).

52 Awl: tapering to both ends; rectangular-sectioned tang end and round-sectioned working end with point lacking; section change effected in middle by long tapered facets which bevel off corners; length 84mm; weight 15g.

Presumed Kingston Hill; part of Christ's Hospital

School group (Devenish 1964, 1–2) but not known from any early documentation. Phillips lists under 'hoard' from Coombe Warren (1967, 16). Kingston Museum 1093A, presented by Finney at unknown date (for earlier history see Devenish 1964, 1). Comparisons: Thomas' type 3 (1968); Grimes Graves, Norfolk (Mercer 1981, 74–5 M1); Blackpatch, Sussex (Drewett 1980, 382, 386 figs 6.6 & 6.7).

53 Sword hilt: description based on watercolour by W H Tregellas (Way MSS); hilt and shoulder fragment broken across upper blade below slight ricassos; suggestion of rounded midrib tapering out at top of shoulders; edge bevels along blade; diamond shaped shoulders with rivet hole either side; two rivet holes along straight flanged hilt ending in expanded finials and irregular butt; length 145mm; width 50mm.

Kingston Hill, George gravel pits; found about 1869; possibly part of a hoard; present location unknown; history as for no 49. Comparisons: Ewart Park type (Burgess 1968b, 17ff).

54 Blade fragment: description based on watercolour by W H Tregellas (Way MSS), who considered it to be a sword fragment; short fragment with midrib apparently broken at both ends; length 22mm.

Kingston Hill, George gravel pits; found about 1869; possibly part of a hoard; present location unknown; history as for no 49. Comparisons: if solid (ie no socket), should be sword blade.

55 Blade fragment: description based on watercolour by W H Tregellas (Way MSS), who considered it to be a sword fragment; likely broken along midrib and thus only one side of blade; length 32mm.

Kingston Hill, George gravel pits; found about 1869; possibly part of a hoard; present location unknown; history as for no 49. Comparisons: unclear whether sword, spearhead, knife, etc.

56 Blade fragment: description based on watercolour by W H Tregellas (Way MSS), who considered it to be a sword fragment; presumably broken at either end and slightly contorted; long edges smooth and likely original giving narrow blade appropriate to knife forms; length 48mm; width 19mm.

Kingston Hill, George gravel pits; found about 1869; possibly part of a hoard; present location unknown; history as for no 49. Comparisons: blades of Middle-Late Bronze Age tanged and socketed knives, or MBA rapiers.

57 Spearhead socket: socket fragment of round section with a pair of peg holes on the line of casting flashes which survive as bumps; broken and crushed one side; length 56mm; maximum diameter 25mm.

Kingston Hill, George gravel pits; found about 1869 (Tregellas 1869) and drawn by Tregellas (Way MSS) when exhibited to Royal Archaeological Institute; Kingston Museum KM 1093B, part of the Christ's Hospital School group; presented by Finney at unknown date (for earlier history see Devenish 1964, 1). Comparisons: peg-hole spearheads of the Later Bronze Age; evidently from a large example.

58 Spearhead blade: blade fragment with one midrib crushed flat and cracked, the other broken and partly missing; in section socket may have penetrated blade wings; midrib originally rounded with flanking fillets, broad bevels backing concave edges which suggest ogival blade form; length 31mm; width 31mm.

Kingston Hill, George gravel pits; found about 1869 (Tregellas 1869) and drawn by Tregellas (Way MSS) when exhibited to the Royal Archaeological Institute; Kingston Museum 1093C, history as for no 51. Comparisons: spearheads with fillet-defined midribs (Burgess *et al* 1972, 213–14).

59 Spearhead blade: description based on watercolour by W H Tregellas (Way MSS) annotated 'fragment of a bronze javelin'; indication of a socket entrant at broader broken end, possibly penetrating blade wings as well as midrib; latter evidently flanked by fillets; narrow bevels along marginally concave edges suggesting ogival blade shape; length 55mm.

Kingston Hill, George gravel pits; found about 1869; possibly part of a hoard; present location unknown; history as for no 49. Comparisons: spearheads with fillet-defined midribs (Burgess *et al* 1972, 213–14).

60 Spearhead blade: description based on a watercolour by W H Tregellas (Way MSS), one of four 'fragments of a bronze javelin', this one 'crushed flat'; despite this there is the suggestion of a socket entrant at one break; midrib not shown with any additional mouldings; length 28mm.

Kingston Hill, George gravel pits; found about 1869; possibly part of a hoard; present location unknown; history as for no 49. Comparisons: undiagnostic blade fragment.

61 Spearhead blade tip: description based on watercolour by W H Tregellas (Way MSS), annotation as for no 60; blade fragment extending to tip; suggestion of socket entrant at break; midrib probably flanked by fillets; length 71mm.

Kingston Hill, George gravel pits; found about 1869; possibly part of a hoard; present location unknown; history as for no 49. Comparisons: spearheads with fillet-defined midribs (Burgess *et al* 1972, 213–14).

62 Ingot: intact, circular with irregular edges due to porosity holes, which are concentrated around the perimeter of the underside; plano-convex in section, not regular; diameter 105–111mm; weight 970g.

Presumed Kingston Hill; part of the Christ's Hospital School group (Devenish 1964, 1–2), but not known from any early illustration or description. Phillips lists under 'hoard' from Coombe Warren (1967, 16). Kingston Museum 1092, presented by Finney at unknown date (for earlier history see Devenish 1964, 1). Comparisons: rough plano-convex ingots in LBA contexts.

63 Ingot fragment: known only from watercolour by W H Tregellas (Way MSS), who described it as 'a fragment of cake copper'; small irregular lump projecting from socket of axe no 49; presumed fragment of plano-convex ingot.

Kingston Hill, George gravel pits; found about 1869; possibly part of a hoard; present location unknown; history as for no 49.

64 Ingot fragment: small quadrangular lump, without any original edge, probably fragment of plano-convex ingot.

Kingston Hill; found about 1863, possibly with others (no 65); probably the fragment exhibited in July 1863 (Tregellas 1863, 372); British Museum 1864.2.83) presented by Tregellas and given to him by Gulliver, 10 May 1863.

65 'Cakes of copper': no information.

Kingston Hill, George gravel pits; found about 1863, mentioned with no 64 and possibly associated (Tregellas 1863, 372); present location unknown.

66 'Cakes of copper': 'in very small pieces'.

Kingston Hill, George gravel pits; examples found in 1858 and 1861; present location unknown; said to have been given to the British Museum by the Duke of Cambridge (Tregellas 1863, 372), but no trace in the registers or collections.

67 'Cake of copper': 'some pieces of a circular cake of copper'; the diameter of the entire cake may have been about 9in '... the metal had been submitted ... to Dr Percy, the Museum of Economic Geology, and ... found to be pure copper, probably obtained from the grey carbonate' (Tregellas 1868, 155).

Kingston Hill, George gravel pits; 'recently' found in February 1868 and said to be discovered in a 'pot-hole'; present location unknown; exhibited by Tregellas in 1868 with the permission of HRH the Duke of Cambridge, who presumably retained ownership; possibly same as no 69.

68 'Bronze weapons and large masses of bronze': Dr Roots informed of this find by a brazier who said that the metal 'was composed of copper and tin, the latter being in much smaller proportion than usual in modern brass' (Anon 1848, 326); likely on this basis to be implements rather than ingot material.

The rising ground of Kingston; found a 'few years' before 1848; purchased from the 'gravel diggers' by a brazier in Kingston; probably melted down.

69 Ingot fragments: (a) Edge fragment of plano-convex ingot; rough, but slightly smoother on one face; maximum dimension 145mm; estimated original diameter 200mm; weight 1325g; Kingston Museum KM 506. (b) Edge fragment of plano-convex ingot; maximum dimension 110mm; estimated original diameter 140mm; weight 870g; KM 507. (c) Edge fragment of plano-convex ingot; near parallel faces; maximum dimension 87mm; weight 420g; KM 508. (d) Small fragment of ingot; weight 175g; KM 509. (e) Small fragment of ingot; weight 95g; KM 510. (f) Small fragment of ingot; weight 160g; KM 511. (g) Small fragment of ingot; weight 90g; KM 512. (h) Small fragment of ingot; weight 60g; KM 513. (i) Small fragment of ingot; weight 130g; KM 514. (j) Small fragment of ingot; weight 120g; KM 515. (k)

Small fragment of ingot; weight unknown; KM 516. (l) Small fragment of ingot; weight 110g; KM 517. (m) Small fragment of ingot; weight 60g; KM 518. (n) Small fragment of ingot; weight 40g; KM 519. (o) Small fragment of ingot; weight 95g; KM 520.

Possibly Kingston Hill; described as 'probably local', they could for example be the missing group no 67; Kingston Museum KM 506–520, donated 28 September 1904 as part of the late Alderman F Gould's collection (Devenish 1964, 1). Listed by Phillips (1967, 26), who erroneously references Tregellas 1863. Comparisons: rough plano-convex ingots in LBA contexts.

70 Lead plate: 'a small oblong plate of lead' (Tregellas 1863, 372–3).

Kingston Hill, George gravel pits; found during 'recent diggings' about 1863; present location unknown. Comparisons: piece was probably not diagnostic; however, lead is becoming better known in LBA contexts; neat sub-rectangular blocks for example have been found with the Caister-by-Norwich hoard (Lawson 1979, 176) and stratified in LBA level at Runnymede Bridge settlement (unpublished excavations). Other lead finds occur at Runnymede and Potterne (Needham & Longley 1980, 405; A J Lawson, pers comm).

### *Metalwork associations at Kingston Hill*

Overlooking those records which merely state close proximity between finds at Kingston Hill, there are nevertheless a number of possible hoard associations. The difficulties of reconstructing closed groups begin with the generally inadequate primary accounts and are compounded by unfounded assumptions or assertions regarding the existence of hoards by successive writers. In order to disentangle the resulting confusion it is practicable to deal with potential associations in order of discovery.

Pre-1848: 'Large masses of unwrought metal' in 'considerable quantity' found a 'few years' before 1848 (no 23; Anon 1848, 326). Suggestive of a hoard or hoards and probably referred to again as 'several masses of unwrought bronze' found in the neighbourhood of palstave no 46.

Pre-1852: Phillips (1967, 21) lists a 'hoard' from the vicinity of Kingston; the reader is referred to SyAC 1 (1858), xv, which in turn cites Biden (1852) and Brayley (1878). Clearly therefore various bronze finds are involved, including some from the Thames as well as our nos 46 & 47.

1858 and 1861: Tregellas (1863, 372) specifically referred to two earlier examples of 'cakes of copper . . . in very small pieces'. Assuming the finds were not of single pieces, these are likely but unprovable associated groups (no 66).

1863: 'Cakes of copper', recent finds in July 1863, (Tregellas 1863, 372). A likely association, but none specified (nos 64–65).

1868: Some pieces of circular cake of copper, recently found in February 1868 and possibly from one or more dug features, 'pot-holes' (Tregellas 1868, 155). A likely association, but none specified (no 67).

1869: This is the find most often quoted as a hoard, but the original contents are far from clear. The primary account (Tregellas 1869), backed up by contemporary drawings in the Way MSS, included the following bronzes: nos 49, 50, 53–61 & 63. Unfortunately the circumstances are not well recorded, an association only being implied by Tregellas. After listing the bronze objects, he refers to 'the find' in the singular and goes on to liken it 'to the numerous instances of deposits of mutilated objects with crude metal, doubtless concealed by some bronze founder' (Tregellas 1869, 288). Tregellas obviously regarded the find as a hoard. In terms of a recent scheme for classifying contexts, based on rigorous criteria, this find would fall under the 1b hoard category (Needham *et al* 1985, vi).

Neither in print nor in manuscript does Tregellas refer to any bronzes additional to those sketched and described; severe reservations should therefore be held over the other pieces linked to the hoard by historical circumstance.

The objects exhibited by Henry Clutton in April 1881 (Clutton 1881, 188), seem to include a number of the items from the 1869 hoard: nos 53, 57, possibly 49 & 61. In addition there were 'several masses of bronze ready for working into articles'. However there is no suggestion of an association and these were probably grouped (under item 8) with some of the foregoing objects

merely for convenience. It is clear that the exhibit on this occasion represented a selection of the Kingston Hill finds made over an extended period of time. The 'several masses of bronze' could therefore be amongst the earlier finds listed above.

Evans (1881, 423) and Malden (1902, 241) evidently based their itemisation of the Kingston Hill hoard on existing published accounts. Thereafter new complications arose as a result of the resurfacing of two of the 1869 hoard (nos 57 and 58) along with other previously undocumented bronzes. This group was saved by Finney for Kingston Museum when collections of the Museum of Christ's Hospital School, Horsham were being disbanded. The known details, based on a contemporary newspaper cutting, were published by Devenish (1964, 1).

The new objects to emerge with those attributable to the 1869 hoard, a socketed axe (no 48), a complete ingot (no 62) and an awl (no 52) are effectively unprovenanced, and may only be presumed to come from Kingston Hill on circumstantial evidence. What little is known of their intervening history allows ample latitude for the mixing of different finds. On being disbanded 'the Kingston specimens *among others* passed into the hands of a local builder . . .' (authors' italics). Furthermore we know from the 1881 exhibition that Clutton and/or the Duke of Cambridge had accumulated a variety of Kingston Hill discoveries made at different times.

The modified hoard, actually comprising a mixture of genuine and questionable components, has become enshrined in the literature by Devenish (1964) and Phillips (1967, 16).

Pre-1904: A group of ingot pieces lacking any circumstances of deposition and indeed having only a supposed provenance. They are perhaps likely to have been found together and, if really from Kingston Hill, they could represent any one of the earlier missing finds.

### *Discussion of the metalwork*

With the exception of the palstave (no 46), which belongs to the early Middle Bronze Age according to Schmidt & Burgess' scheme (1981, 128), all the diagnostic bronzes recorded from Kingston Hill belong to the Late Bronze Age, in one case (no 51) to LBA 3, while the remainder date to LBA 2, c 900–700 BC (Burgess 1979). The known contents of the 1869 implied hoard suggest a mixed composition in which weapon fragments predominate over tool items. However, as it is unclear whether this is the entire hoard, its relationship to the Broadward Series hoards, with their emphasis on spearheads (Burgess *et al* 1972) remains uncertain.

The character of the finds is rather more revealing in terms of industrial activity. Different classes of find combine to make a strong case for the practice of metalworking on Kingston Hill and possibly, if the many records of ingot deposits are to be taken at face value, this would be on an extensive scale. Well-scattered deposits of ingot, including single pieces and closed groups, may occur elsewhere, perhaps being best documented at Hertford Heath (Partridge 1979). The geographical spread does not in that instance appear to be due to dispersal by the plough. Other hoarding at Kingston Hill could also be connected with metalworkers, for the 1869 hoard was evidently predominantly made up of scrapped bronzes, suitable for recycling. The stone mould (no 45) would have been a vital piece of evidence regarding the nature of production at the site, but its early loss, without so much as a useful description, is a matter of deep regret. The same is true of the lead plate (no 70) which could, on the basis of new excavations, easily be a component of the LBA metallurgical assemblage. On settlement sites such as Runnymede, lead was available as a raw constituent for use in patterns or for mixing with bronze.

One final aspect of the metalwork merits comment, and that is the absence of material appropriate to a classic settlement assemblage (Needham 1980). After excluding the ingot finds, the 1869 hoard and objects of uncertain provenances, only three bronze implements are left as potential finds spread amidst occupation debris (nos 46, 47 and 51). At least two, and possibly all three, are complete axes, not to be expected as 'casual' losses on a regular basis, although some sites may not conform to the usual settlement pattern (eg Beeston Castle, Hough 1984). The alternative and more probable explanation in our case however is that the complete axes represent just a fraction of a total assemblage dominated by much more fragmentary metalwork, which either suffered preferentially due to weathering and disturbance, or was easily

overlooked by, or worthless to, the 19th century gravel diggers. To conclude, it is unlikely that the extant metalwork is representative of the settlement context at Kingston Hill and as a partial record it could therefore leave certain aspects of the site in darkness.

## Discussion

A miscellany of pre-Late Bronze Age finds, stone and flint axes, a bronze palstave and collared urns, are perhaps representative of intermittent activity during the Neolithic, Early and Middle Bronze Age. The collared urns may well have been originally covered by round barrows set on the false crest of Kingston Hill and visible from the valley below, a situation frequently encountered. Collared urns from Ham (Field 1983, 180) and a sherd from Eden Walk, Kingston (D Hinton pers comm), testify to activity on the riverside at this state. It is not until the Late Bronze Age however that a convincing case can be made for settlement on Kingston Hill based on a good quantity and range of diagnostic artefacts.

Despite the inadequate level of recording, it is important to try to ascertain the nature of the site responsible for these finds. It is worth reflecting first on possible agencies of destruction and the mode of artefact recovery. Soil conditions on the hill are somewhat acidic which will doubtless have had a detrimental effect on the bone remains and may also account for the observed deterioration of pottery surfaces. In addition ploughing is known to have taken place on and around the hill; its destructive effects do not need to be spelled out. It will also have encouraged the downslope movement of top soil. Given these problems, we might predict that a prehistoric settlement site on Kingston Hill would have been stripped of any occupation levels, leaving only the truncated sub-surface features familiar on many hilltop and gravel terrace sites. The 19th century accounts frequently describe or imply features sometimes called 'pot-holes' (Tregellas 1863; 1868) in association with the artefacts. The contents of such features should include plentiful general domestic rubbish, which is in fact poorly represented in the extant Kingston Hill assemblage. Certain early observations, however, encourage us in the view that it was present in the ground and we have argued above, for both the pottery and metalwork evidence, that positive selection by gravel diggers and collectors is likely to have grossly distorted the character of the assemblage. Our hypothesis that the remains represent a standard settlement also wins support from the presence of different types of material refuse, namely loomweights, spindlewhorls and perforated clay plaques, as well as caches of charred grain.

The distribution of finds, in so far as it can be reconstructed, suggests that domestic activity extended over a large part of the south-western side of Kingston Hill. Recent excavation close to the edge of the gravel pit along George Road (Field 1981) and Warren Road (Field & Nicolaysen 1983) produced no evidence of Later Bronze Age occupation debris and it might be inferred that any concentrated settlement did not extend that far to the north or east. Unfortunately the extent of the site cannot be further narrowed down especially in the north-west though the total area under consideration seems unlikely to amount to less than 20ha. A mixed farming economy is inherently likely, given what is known from contemporary sites. Some indications of the arable side comes from the charred grain, in more than one instance reported as wheat; it was sometimes located in pits (Roots 1845, 67–8; Clutton 1858, 171; Tregellas 1863, 372), sometimes in pottery vessels (nos 12, 30). None of this survives for re-identification and the descriptions may not therefore be relied on. Grain storage could anyway have been one function of the pits as is widely inferred for sites of the 1st millennium BC. The presence of weaving equipment, spindlewhorls and 'loomweights' suggest that sheep were amongst the livestock kept.

We have already suggested that the Kingston Hill community was engaged in metalworking, possibly on a large scale. This assumes more than usual importance, since the west London stretch of the Thames has been prolific in archaeological finds, in particular bronze metalwork of the Middle and Late Bronze Age. Major concentrations of material occur at Battersea,

Wandsworth, Hammersmith, Barnes, a major group at Syon Park, at Richmond and Kingston (Rowlands 1976, 207; Needham & Burgess 1980, 453–5). While the circumstances of the deposition in the Thames, whether from votive acts, settlement erosion, loss from boats or during battle, remains under discussion, the concentrations to some degree must reflect long-term activity on the adjacent banks and imply not far distant distributive and manufacturing centres. It is tempting to suggest that the Kingston settlement might represent one of the workshops supplying much of this material. The enclosure on Wimbledon Common (Lowther 1945b) to the east, could well have had a comparable role in the regional economy.

A number of accounts indicated that some vessels contained ashes, and the inference is that these were human. The urn found by the gallows half-filled with ashes and 'something at the Bottom like coarse hair' (Nevinson 1975, 17) is suggestive of a burial deposit though Aubrey's sketch of this, recently published by Wakeford (1984, 252) suggests that it may equally be placed in an Iron Age/Roman context. Suggestive of burial too is the shouldered jar (no 22) found half-full of ashes and with the small knobbed 'incense' cup (no 21) in its mouth. Tregellas (1863, 372) noted that no barrows were visible, though ploughing may have taken its toll. Barrett & Bradley (1980a, 251) considered some of the Kingston Hill pottery to represent a Deverel–Rimbury cemetery. Our study suggests that this was not the case and that, with the possible exceptions described above, it is difficult to find any unequivocal evidence of burials. The 'orderly' lay-out of pits and pots noted from time to time is ambiguous evidence and could just as easily have non-funerary implications (Tregellas 1868, 155; Roots 1845, 67–8).

Although at first there might appear to be only a limited overlap in the 9th century BC between the preferred dating of the pottery (11th–9th centuries BC) and the metalwork (9th–7th centuries BC), this is possibly misleading. It is more important to stress a consistent pattern of association between 'plain-ware' assemblages and Ewart Park metalwork on a number of sites in the south-east, including modern excavations. Indeed it may be time to question whether sporadic anomalous radiocarbon dates are falsely pointing to a premature beginning to classic post Deverel–Rimbury assemblages.

Kingston Hill represents one of a number of Later Bronze Age settlement sites now recognised in the Lower Thames Valley and largely based on the Thames tributary communication system. Towards the estuary these include the North and South Rings at Mucking (Jones & Bond 1980, 471–82), and Syon Park (Wheeler 1929, 20–32) in West London. Upstream from Kingston is the Runnymede–Egham complex (Longley & Needham 1979; Longley 1980) and the sites of Knights Farm and Aldermaston on the river Kennet tributary (Bradley *et al* 1980, 217–95). Immediately to the north-west of Kingston the sites at Heathrow (Grimes 1958, 25; Canham 1978, 1–44), as well as more recently discovered sites, utilise the Taplow terrace gravels. In Surrey the sites at both Queen Mary's Hospital, Carshalton (Adkins & Needham 1985) and Green Lane, Farnham (Lowther 1939, 153–217; Elsdon 1982), are at the headwaters of the Wandle and Wey tributaries respectively and a further site of this period, Weston Wood (Harding 1964, 10–17) had access to the Wey via the Tillingbourne. Perhaps slightly later the Early Iron Age sites at Wisley (Lowther 1945a) and Brooklands (Hanworth & Tomalin 1977) also lie adjacent to the Wey.

Some of these sites are unequivocally of defensible status, either hill-top enclosures (Mucking, Carshalton), or stockaded valley-bottom compounds (Runnymede), but others seem to belong to a straggling continuum of rural settlement (eg Aldermaston) which focused above all on the suitable gravel, brickearth and alluvial ribbon of the valley floor. The extent of disturbance of Kingston Hill may prevent our ever discovering the nature of its Later Bronze Age settlement. Nevertheless we may end by speculating that the location and surviving material remains do much to favour another enclosure site in the lower Thames chain. Weight might be added to speculation if the 15th century references to 'Burghditches' could be better located. Suffice it to say that the late medieval evidence (Wakeford 1984) does suggest the survival of earthworks on the south-western side of Kingston Hill apparently just above the location now fixed for Waleport (TQ 196 697) and therefore possible in the immediate vicinity of our Bronze Age finds.

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## BIBLIOGRAPHY

- Adkins, L & Needham, S, 1985 New research on a Late Bronze Age enclosure at Queen Mary's Hospital, Carshalton, *SyAC*, **76**, 11–50
- Anon, 1848 Archaeological intelligence: Roman period, *Archaeol J*, **5**, 325–9
- Avery, M, 1981 Furrowed bowls and carinated Hawkes A pottery, in *Hillfort studies* (ed G Guilbert), 28–64
- Barrett, J, 1979 Later Bronze Age pottery in southern Britain, *Current Archaeol*, **67**, 230–1
- , 1980 The pottery of the Later Bronze Age in lowland England, *Proc Prehist Soc*, **46**, 297–319
- Barrett, J & Bradley, R, 1980a The Later Bronze Age in the Thames Valley, in Barrett & Bradley 1980b, 247–69
- , & — (eds), 1980b *Settlement and society in the British Later Bronze Age*, *Brit Archaeol Rep*, **83**
- Biden, W, 1852 *A new history of Kingston upon Thames*
- Bishop, M W, 1971 The non-Belgic Iron Age in Surrey, *SyAC*, **68**, 1–30
- Bradley, R, Lobb, S, Richards, J & Robinson, M, 1980 Two Late Bronze Age settlements on the Kennet gravels: excavations at Aldermaston Wharf and Knights Farm, Burghfield, Berkshire, *Proc Prehist Soc*, **46**, 217–95
- Brayley, E W & Walford, E, 1878 *History of Surrey*
- Britton, D, 1960 Bronze Age grave-groups and hoards in the British Museum, *Inventaria Archaeologica*, GB, **48–54**
- Burgess, C, 1968a Some decorated socketed axes in Canon Greenwell's Collection, *Yorkshire Archaeol J*, **42**, 267–72
- , 1968b The Later Bronze Age in the British Isles and northern France, *Archaeol J*, **125**, 1–45
- , 1979 A find from Boyton, Suffolk, and the end of the Bronze Age in Britain and Ireland, in Burgess & Coombs 1979, 269–82
- , & Coombs, D, 1979 *Bronze Age hoards*, *Brit Archaeol Rep*, **67**
- , —, & Davies, D G, 1972 The Broadward complex and barbed spearheads, in *Prehistoric man in Wales and the west* (eds F Lynch & C Burgess), 211–83
- Butler, J J, 1963 Bronze Age connections across the North Sea, *Palaeohistoria*, **9**
- Camden, W, 1589 *Britannia: or a chorographical description of Great Britain and Ireland together with the adjacent islands*
- Canham, R, 1978 Excavation at London (Heathrow) airport 1969, *Trans London Middlesex Archaeol Soc*, **29**, 1–44
- Champion, T, 1980 Settlement and environment in later bronze age Kent, in Barrett & Bradley 1980b, 223–46
- [Clutton, J] 1858 *Proc Soc Antiq*, **4**, 171
- [—,] 1881 *J Brit Archaeol Assoc*, **37**, 188
- Devenish, D C, 1964 Local bronze implements in Kingston upon Thames museum, *SyAC*, **61**, 1–9
- Drewett, P, 1980 Blackpatch and the Later Bronze Age in Sussex, in Barrett & Bradley 1980b, 377–96
- Elsdon, S, 1982 Later Bronze Age pottery from Farnham; a reappraisal, *SyAC*, **73**, 127–39
- Evans, J, 1881 *The ancient bronze implements and ornaments of Great Britain and Ireland*
- Evans, P, 1971 *Towards a pleistocene time-scale. The phanerozoic time-scale—a supplement pt 2*, *Geol Soc, Spec pub*, **6**, 123–356
- Farley, M, 1979 A carps tongue hoard from Aylesbury, Buckinghamshire, in Burgess & Coombs 1979, 137–44
- Field, D, 1980 Ridge and furrow in north east Surrey, *SyAS Bull*, **166**
- , 1981 Kingston Hill: Bruin Wood, George Road, *SyAS Bull*, **175**
- , 1983 Ham: the Edwards collection, *SyAC*, **74**, 169–84
- , & Nicolaysen, P, 1983 Kingston upon Thames, Warren Park, Warren Road, *SyAS Bull*, **187**
- Gent, L E, 1979 *The manor of Coombe or Coombe Nevill*, Kingston upon Thames Archaeol Soc Occas Paper, **3**
- Gibbard, P L, 1979 Middle pleistocene drainage in the Thames Valley, *Geol Mag*, **116**, 35–44
- Gibson, E, 1753 *Revision of Camden* (1581), 2 edn, **1**
- Gough, R, 1789 *Translation and commentary of Camden* (1581)
- Green, S, 1980 *The flint arrowheads of the British Isles*, *Brit Archaeol Rep*, **75**
- Grimes, W F, 1958 Some smaller settlements: a symposium, in *Problems of the Iron Age in southern Britain* (ed S S Frere) Univ London, Inst Archaeol Occas Paper, **11**, 17–28
- Grist, C J, 1917 Excursion to Richmond Park, Kingston Hill, and Wimbledon Common, *Proc Geol Assoc*, **28**, 90–104



- Halstead, P, Hodder, I & Jones, G, 1978 Behavioural archaeology and refuse pattern: a case study, *Norwegian Archaeol Rev*, **11**, 118–31
- Hanworth, R & Tomalin, D J, 1977 *Brooklands, Weybridge: the excavation of an Iron Age and medieval site 1964–5 and 1970–1*, SyAS Res Vol, **4**
- Harding, J, 1964 Interim report on the excavation of a Late Bronze Age homestead in Weston Wood, Albury, Surrey, *SyAC*, **61**, 10–17
- Hawkes, C F C & Fell, C I, 1943 The Early Iron Age settlement at Fengate, Peterborough, *Archaeol J*, **100**, 188–223
- Hough, P, 1984 Beeston Castle, *Current Archaeol*, **91**, 245–9
- Jones, M U & Bond, D, 1980 Later Bronze Age settlement at Mucking, Essex, in Barrett & Bradley 1980b, 471–82
- Lawson, A, 1979 A Late Bronze Age hoard from West Caister, Norfolk, in Burgess & Coombs 1979, 173–9
- Lindus-Forge, J W, 1959 Coombe Hill conduit houses and the water supply system of Hampton Court Palace, *SyAC*, **56**, 3–14
- Longley, D, 1980 *Runnymede Bridge 1976: excavations on the site of a Late Bronze Age settlement*, SyAS Res Vol, **6**
- , & Needham S, 1979 Egham: a Late Bronze Age settlement and waterfront, *Current Archaeol*, **68**, 262–7
- Longworth, I H, 1961 Origins and development of the collared urn in England and Wales, *Proc Prehist Soc*, **27**, 263–306
- Lowther, A W G, 1939 Bronze and Iron Age, in *Survey of the prehistory of the Farnham district* (eds K P Oakley, W F Rankine, A W G Lowther, SyAS Spec Vol, 153–217
- , 1944–5 Report on excavations at the site of the Early Iron Age camp in the grounds of Queen Mary's Hospital, Carshalton, Surrey, *SyAC*, **49**, 56–74
- , 1945a Iron Age pottery from Wisley, *Proc Prehist Soc*, **11**, 32–8
- , 1945b Caesar's Camp, Wimbledon, Surrey: excavation of 1937, *Archaeol J*, **102**, 15–20
- Malden, H E, 1902–11 *Victoria County History, Surrey*, **1–3**
- Manning, O & Bray, W, 1804 *History and antiquities of the County of Surrey*, **1**
- Mercer, R J, 1981 *Grimes Graves, Norfolk; excavation 1971–72*
- Musson, C R, 1954 An illustrated catalogue of Sussex beaker and Bronze Age pottery, *Sussex Archaeol Collect*, **92**, 106–24
- Needham, S, 1980 The bronzes, in Longley 1980, 13–27
- , forthcoming, The Bronze Age, in *The archaeology of Surrey to 1540* (eds D G & J Bird)
- , & Burgess, C, 1980 The Later Bronze Age in the lower Thames Valley: the metalwork evidence, in Barrett & Bradley 1980b, 437–69
- , & Longley, D, 1980 Runnymede Bridge, Egham: a Late Bronze Age riverside settlement, in Barrett & Bradley 1980b, 397–436
- , Lawson, A J & Green, H S, 1985 *Early Bronze Age hoards*, British Bronze Age metalwork A1–6, Brit Mus
- Nevinson, J L (ed), 1975 *The natural history and antiquities of the county of Surrey by J Aubrey*
- Partridge, C, 1979 Late Bronze Age artefacts from Hertford Heath, Hertfordshire, *Hertfordshire Archaeol*, **7**, 1–9
- Penn, J, Field, D & Serjeantson, D, 1984 Evidence of Neolithic occupation in Kingston: excavations at Eden Walk. 1965, *SyAC*, **75**, 207–24
- Phillips, W E, 1967 Bronze Age metal objects in Surrey, *SyAC*, **64**, 1–34
- Robarts, N F, 1905 Notes on a recently discovered British camp near Wallington, *J Roy Anthropol Inst*, **35**, 387–97
- Rocque, J, 1741–5 *An exact survey of the city's of London, Westminster, the Borough of Southwark and the county near ten miles round begun in 1741 and ended 1745*, Sheet **16**
- [Roots, S] 1860 *Proc Soc Antiq Lond*, 2 ser, **1**, 82–6
- [Roots, W] 1845 *Proc Soc Antiq Lond*, 1 ser, **1**, 67–8
- Rowlands, M J, 1976 *The organisation of Middle Bronze Age metalworking*, Brit Archaeol Rep, **31**
- Schmidt, P K & Burgess, C B, 1981 The axes of Scotland and Northern England, *Prähistorische Bronzefunde*, **9**, 7 (Munich)
- Smith, L T (ed), 1964 *Leland's Itinerary*
- Smith, M A, 1956 Grave-groups and hoards of the British Bronze Age, *Inventaria Archaeologica*, GB **14–18**
- , 1958 Late bronze hoards in the British Museum, *Inventaria Archaeologica*, GB **35–41**
- Thomas, N, 1968 App 1: Note on the Carrickinab Awl, *Ulster J Archaeol*, **31**, 23–4
- [Tregellas, W H] 1863 *Archaeol J*, **20**, 372–3
- [—,] 1868 *Archaeol J*, **25**, 154–5
- [—,] 1869 *Archaeol J*, **26**, 288
- Wakeford, J, 1984 Two walk-names in the fields of Kingston, *SyAC*, **75**, 251–6
- Walford, E, 1894 *Greater London*, **2**
- Wheeler, R E M, 1929 Old England, Brentford, *Antiquity*, **3**, 20–32
- Worsfold, F H, 1943 A report on the Late Bronze Age site excavated at Minnis Bay, Birchington, Kent, 1938–40, *Proc Prehist Soc*, **9**, 28–59
- Zeuner, F E, 1959 *The Pleistocene period*, 2 edn