EXCAVATION AT HILL ROAD, WOULDHAM

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INTRODUCTION

During scrub clearance on the summit of the North Downs ridge in Wouldham parish, a quantity of Romano-British pottery and four Constantinian coins were discovered. At the request of the owner, Mr. B.E. Banfield, an investigation of the site was carried out by the Maidstone Area Archaeological Group, under the direction of Mr. A.C. Harrison, assisted by Mr. A.J. Daniels during the summer and autumn of 1982. The following members gave valuable assistance: Mr. A. Bishop, Mrs. J. Branch, Miss W.A.B. Fillery, Mr. W. Frost, Mrs. J. Homewood, Mr. C.A. Law, Miss S. Manser, and Mr. and Mrs. B.W. Terry. Finds from the site have been deposited in Rochester Museum on loan from Mr. Banfield. The interest and co-operation that he and his family showed throughout the excavation are most gratefully acknowledged. We are especially grateful to Sarah Gretton, Janet Henderson, Janet Ridout Sharpe, Gillian Wilson, Dr. J.P. Hayes and Mr. E.H. Redfern for their expert assistance.

LOCATION

Situated upon the Upper Chalk ridge, the site (N.G.R. TQ 72456445) overlooks the fertile soils of the Medway Valley (Fig. 1). Some 800 m. to the north there is a possible bowl barrow (Appendix I), and 40 m. to the south-east there is evidence of a further small ditched enclosure. This prehistoric activity may also be reflected in the local place names of Rings Hill Place and the adjacent medieval manor of Rings. Below the site to the south, the Pilgrims' Way, often assumed to be prehistoric in origin, winds its way between a series of prehistoric funerary monuments.

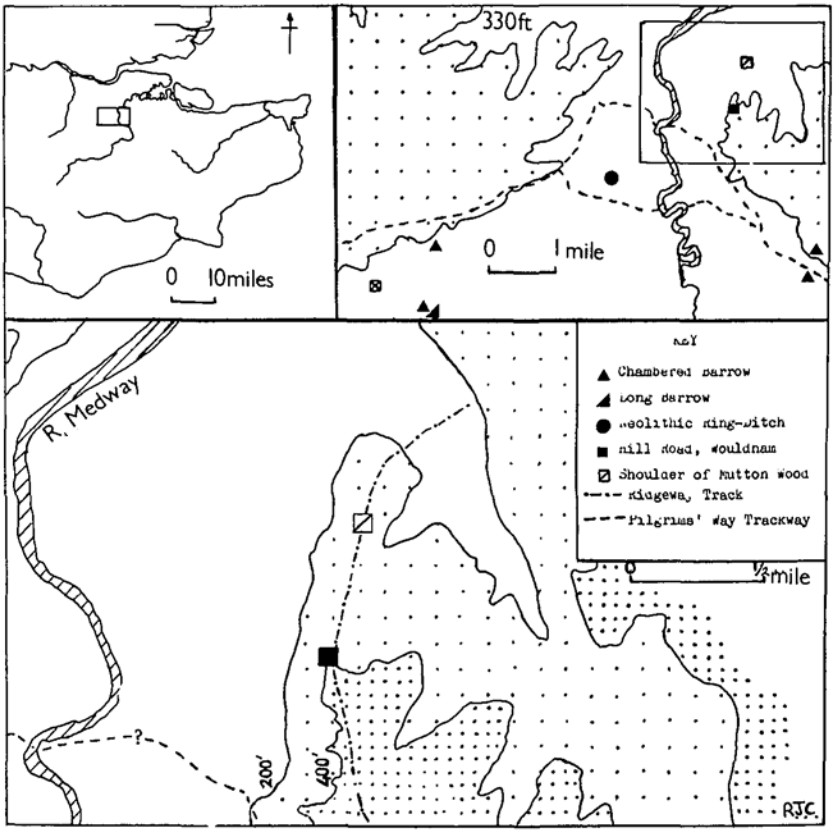


Fig. 1. Hill Road Barrow, Wouldham: Site Location (*Crown copyright reserved*).

SITE DESCRIPTION

A penannular ditch (Fig. 2) was constructed in a series of arcs with an average diameter of 13 m. and possessed a 7.5 m. wide entrance facing north-west. In section (a–b), the ditch was V-shaped, narrowing rapidly to a flat bottomed slot 15–25 cm. wide (Plates I and II). The initial 20 cm. of the slot were filled with earthy chalk covered by clean unweathered chalk debris, without any evidence of the direction of back filling. Along the southern circumference of the ditch, this chalk fillling had a capping of natural flints. No original land surface had survived and thus it was not possible to observe either an inner or an outer bank. The ditch avoided the solution holes in the chalk, which were filled by Clay-with-Flints.

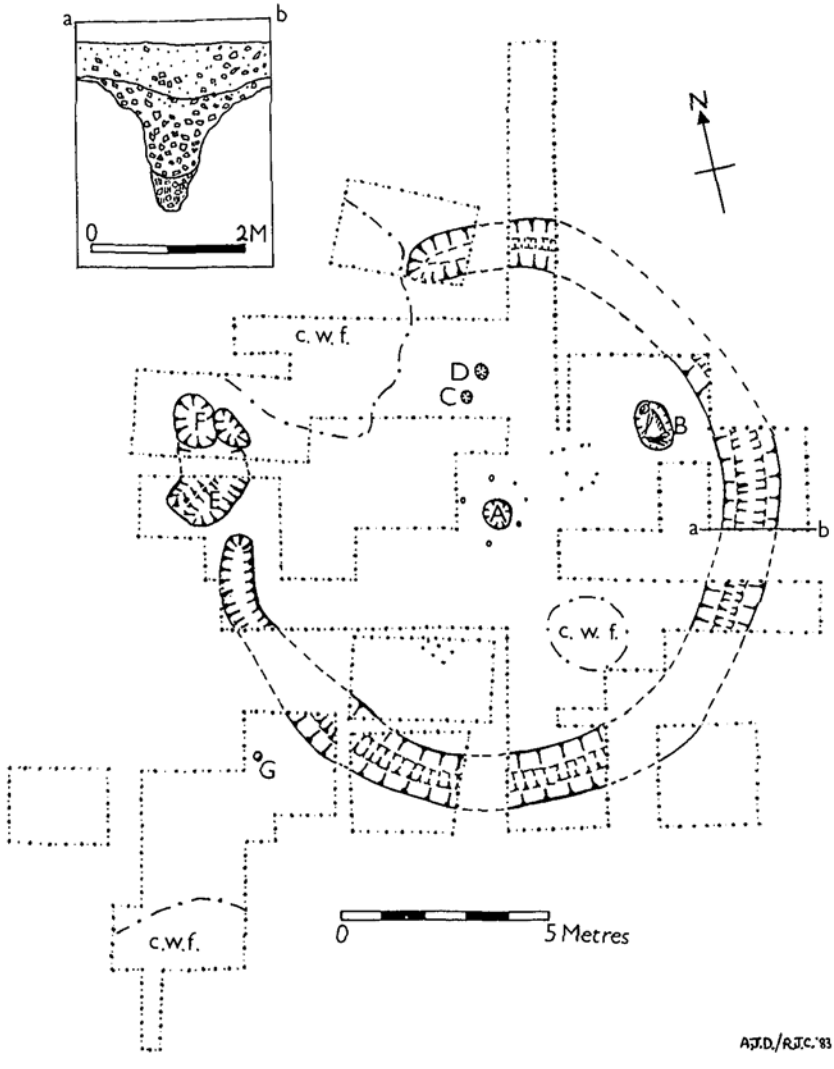


Fig. 2. Hill Road Barrow, Wouldham: Site Plan.

In the centre of the area enclosed by the ditch was a circular pit (A), 75 cm. in diameter and 38 cm. deep, dug into the chalk. This contained a Wessex biconical urn (Plates III and IV), inverted over a cremation. The urn had been packed around with earth and was covered by a layer of flint nodules. Around the pit were four stakeholes, 7–8 cm. in diameter and 15–20 cm. deep which contained

chalk rubble and formed a rectangle 0.9 m. wide and 1.2 m. long (Plate V).

To the east of the central cremation was an oval pit (B) capped with natural flints. This was 105 by 60 cm. and 45 cm. deep containing an inhumation (Plate VI). The body was in a contracted position, with its head to the north, lying on its right side facing west. The hands were placed on the knees, but the pit was clearly too small for the occupant, whose head was jammed vertically against the side of the pit. The only object associated with the body was a naturally flaked flint on the pelvis, the shape of which was reminiscent of a small Early Bronze Age dagger.

Within the central area were two shallow pits in the chalk (C and D) which were covered with natural flints but only contained chalk backfill. The chalk surface south-west and east of the central cremation produced some slight depressions 3–5 cm. deep which may represent the vestigial remains of former stake-holes.

Outside the ditch a single well defined post-hole (G) 20 cm. in diameter was noted and a series of pits (E and F) were also found in the entrance area. These pits were scooped 50 cm. into the chalk and the chalk backfill included local concentrations of flint-knapping debris. A resistivity survey of the field to the north was carried out, but this only identified a shallow scoop with a flint capping about 30 m. north of the ditch entrance.

CENTRAL CREMATION

The contents of the biconical urn were cremated human bone (1474 gm.), small chalk pellets (230 gm.), flint debris (98 gm.), soil (72 gm.), together with unburnt animal bone and snail shells (5 gm.). There was no evidence of charcoal debris from the pyre.

The human bone was very dense and had been efficiently burnt before being broken into small fragments (37 per cent wt. passed through a 15 mm. sieve). The identifiable bones were consistent with the cremation of a single individual.

	Weight (gm.)	% of those identified
Long bones	395	54.5
Ribs	115	16
Hands/Feet	7	1
Soft Bone (Pelvis, etc.)	55	7.5
Vertebrae	32	4.5
Skull	120	16.5
Fragments >15 mm.	200	–
Fragments <15 mm.	550	–

As most of the soft bone was destroyed and diagnostic items were few specialist advice was obtained from Janet Henderson, Ancient Monuments Laboratory, Department of the Environment. She confirmed that the deceased had been an adult and suggested that the unfused skull sutures suggested an age between 20–45 years. Whilst no clear indication of sex survived, the general size of the pelvis, metacarpal and metatarsal fragments, together with the slim proportions of the long bones, indicated that the deceased was probably female.

A small sample of residual carbon was recovered from the long bones for possible C^{14} dating by Dr. R. Burleigh of the British Museum Research Laboratory.

The animal bones were examined by Sarah Gretton, who identified:

Mouse – 3 adult, 1 immature, individuals from jaw, long bone and vertebra fragments
Amphibian – 13 bones of large frog or toad
Bird – Metacarpal and L/R proximal humeri of a bird the size of chaffinch
Fish – 2 vertebrae
Other – a rabbit-sized rib and vertebral fragment

Jane Ridout Sharpe identified the following minimum number of individuals amongst the snail shells: *Pomatias elegans* 12, *Discus rotundatus* 10, *Helicigona lapicida* 9, *Oxychilus callarius* 8, and *Helicella* sp. (poss. *itala*) 5. She commented that most of the species indicate a shaded or open woodland habitat, which was possibly disturbed. The *Helicella* sp. is the exception, as *H. itala* characterises a very open, dry environment.

As the mouse, amphibian and rabbit (?) bones were lustrous and in good condition, it was suggested that they are intrusive. No evidence of disturbance was noted in Pit A and no complete animal skeletons were found. The bird and fish bones are difficult to envisage as intrusive and are probably most economically explained as deliberate additions to the urn when the cremated bone was buried. If the snails are also contemporary with the burial, they suggest a wooded environment around the site and add to our rather limited understanding of the local landscape in the Bronze Age.

THE INHUMATION

In his examination of the skeleton, Dr. J.P. Hayes concluded that the deceased was an apparently healthy 19-year-old male, whose height was 174 cm. (5 ft. 9 in.). (Appendix 2)

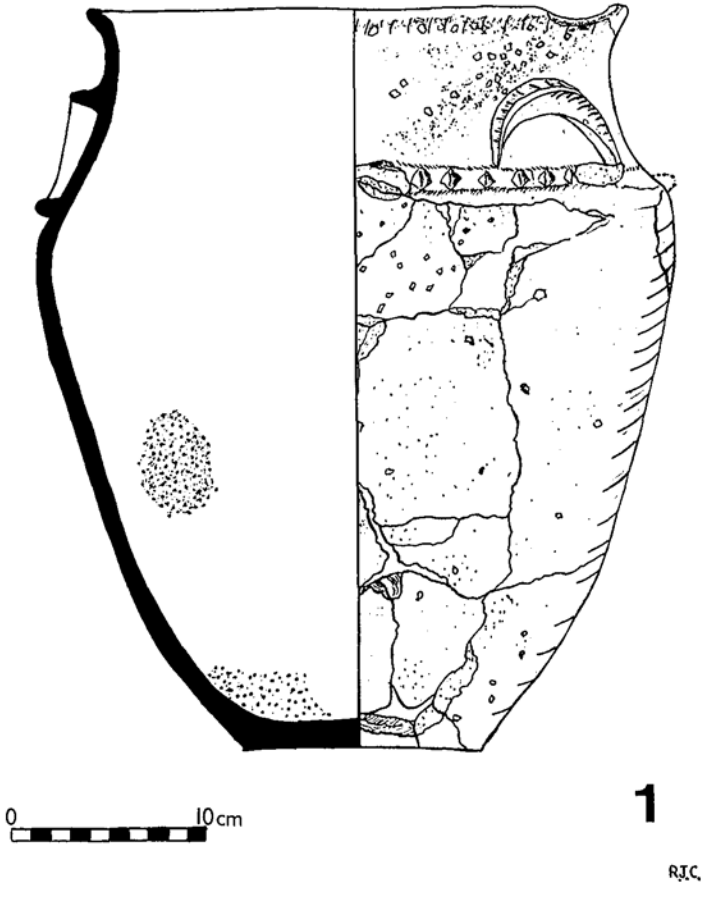


Fig. 3. Hill Road Barrow, Wouldham: Urn 1 from central Pit (Scale: ¼).

THE FINDS

Pottery.

A. Bronze Age

1. Biconical Urn (Fig. 3.1, Plates III and IV)

The urn from the central pit has a reconstructed height of 38 cm., with a slightly oval rim and an applied cordon some 1–2 cm. above the maximum diameter. This cordon has been decorated at 1.5–2 cm. intervals with fingertip impressions showing vertical nail markings. There are three applied 'horseshoe-handles' spaced equally around

the neck and the rim has a circular section, with no indication of an internal bevel. The urn now weighs 4.5 kg.

The exterior colour varies between reddish brown and pink with the blackened core showing at fractures. The extensive use of crushed flint as a filler has given the urn a coarse texture, especially in the rim area. The fabric is classified as 2/3LF, by the method suggested by Ann Ellison.[1] Examination of the interior reveals three darkened areas, around 8 cm. in diameter, one 0–8 cm. from the base with the others 10–15 cm. from the base.

Other Sherds – unstratified from the top soil (Fig. 4)

2 and 3. Rim sherd, black fabric, soapy feel 2LF/G.

4. Rim sherd, black fabric, 1MF.

5. Bucket urn (?), slightly everted rim sherd (*c.* 30 cm. diam.) of red ware with black core, 2MF.

6. Bucket urn (?) rim sherd (*c.* 30 cm. diam.) of hard blackware, 1MF.

7. Jar (?), rim sherd, black fabric smoothed on exterior, 2MF.

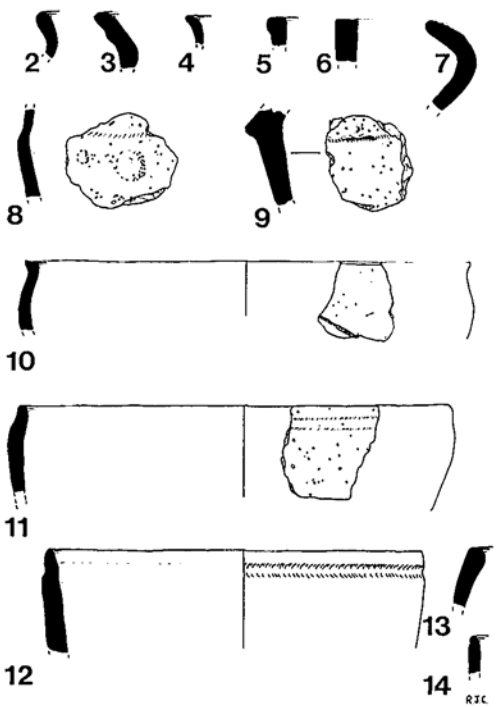


Fig. 4. Hill Road Barrow, Wouldham: Unstratified Sherds (Scale: ¼).

8. Weakly shouldered body sherd (*c.* 24 cm. diam.), black fabric with organic tempering and at least one slight thumb impression, 2LF.
9. Collared urn (?), wall sherd, red/brown exterior with black interior surface, 1MF.
10. Bowl, rim sherd (diam. 22 cm.), hard black ware with organic tempering. The rim has an intermittent slight groove on top.
11. Bowl, rim sherd (*c.* 2 cm. diam.) with black soapy exterior and orange/brown interior, 2LF/G.
12. Bowl, rim sherd (*c.* 20 cm. diam.) black fabric, 1SF.
13. Bowl (?), rim sherd, orange exterior with black core, 1MF.
14. Bowl (?), rim sherd, dark brown 1S/MF, G with slight groove below rim.

DISCUSSION

The urn containing the cremation is a 'Wessex' biconical urn as defined by Smith.[2] The relative dimensions compare reasonably well with a sample group of 23 biconical urns analysed by ApSimon[3] (Table 1).

Table 1 – Comparative Dimensions of Urns

	Rim Height Shoulder Diam.	Shoulder Height Rim Height	Base Diam. Shoulder Diam.	Rim Diam. Shoulder Diam.
Urn 1, Wouldham	1.17	0.75	0.40	0.85
Average of 23 Biconical Urns	1.14±0.08	0.75±0.04	0.50±0.06	0.84±0.05

The three equally-spaced applied horseshoes on the Wouldham urn are an unusual feature. The impractical, non-opposed layout of the three handles seems to suggest the decorative survival of a previous functional trait, which could indicate the vessel is not early in the biconical sequence.

[1] A. Ellison, in M. Dacre, 'A Bronze Age Urn Cemetery at Kimpton, Hampshire', *PPS*, xlvii (1981), 147–204.

[2] I.F. Smith, 'An Essay towards the Reformation of the British Bronze Age', *Helenium*, i (1961), 94–118.

[3] A. ApSimon, in Lynch and Burgess (Eds.), *Prehistoric Man in Wales and the West*, Bath 1972, 141–57.

The absence of an internal bevel on the rim of urn 1 is not typical but can be paralleled by the biconical urn from a secondary cremation in Amesbury 71, a bowl barrow in Wiltshire.[4] This Amesbury vessel also shares another characteristic with the Wouldham urn in that it lacks any cord-impressed decoration on its neck. A similar urn from a bowl barrow at Great Bircham, Norfolk, considered by Smith[5] to be 'almost identical with that from Amesbury', contained a cremation with associated gold-cased beads. Each of the Suffolk biconical urns published by Smedley and Owles[6] also lack the internal bevel. In particular, the female cremations at Semer (with two faience beads) and at Hollesley are closely comparable with Wouldham.

More local examples of biconical urns were the four vessels found by C.H. Woodruff[7] in the excavation of the West Tumulus at Ringwould, near Dover. The associated grave goods included four faience beads indicating 'a contemporaneity with the latter half of the Wessex culture'.[8] (The vessel normally illustrated[9] has recently been reconstructed and inspection in Maidstone Museum indicates the revised base is now narrower than any in the ApSimon sample). A possible further Kentish urn with a horseshoe handle was mentioned in the excavation report of the Saxon cemetery at Stowting.[10] Two sherds were found, 'one has the handle of a vase on it and the other appears to have been the upper part of a vase ornamented with diagonal lines' (Fig. 5.16). The barrow can be identified as that investigated by Brent (N.G.R. TR 12784254) who records it being 'accidentally explored some years previously and that some earthen vessels had been found'.[11] The sherds, since lost, may be from a Wessex biconical and perhaps a collared urn, respectively.

Although Wessex biconical urns frequently lack associations, those that are recorded indicate the vessel was well established before the

[4] C.N. Moore and M. Rowlands, *Bronze Age Metalwork in Salisbury Museum*, Salisbury and South Wiltshire Museum Occasional Publication 1972, 50, Pl. V.

[5] Smith, *op. cit.*, 107.

[6] N. Smedley and E. Owles, 'Bronze Age Pottery in Suffolk', *Proc. Suffolk Inst. of Arch.*, xxix (1963), 192. (Hilary Ross of Ipswich Museum confirms that the Leiston urn has only two handles and not four, as described on p. 195).

[7] C.H. Woodruff, 'On Celtic Tumuli in East Kent', *Arch. Cant.*, ix (1874), 16–30.

[8] J.V.S. Megaw and D.D.A. Simpson, *Introduction to British Prehistory*, Leicester 1979, 241.

[9] P. Ashbee and G.C. Dunning, 'The Round Barrows of East Kent', *Arch. Cant.*, lxxiv (1960), 51, fig. 3.

[10] F. Wrench, *A brief Account of the Parish of Stowting, Kent, and the Antiquities lately discovered there*, London 1845, 10. We are indebted to Mr. J. Bradshaw for this reference.

[11] Woodruff, *op. cit.*, 20.

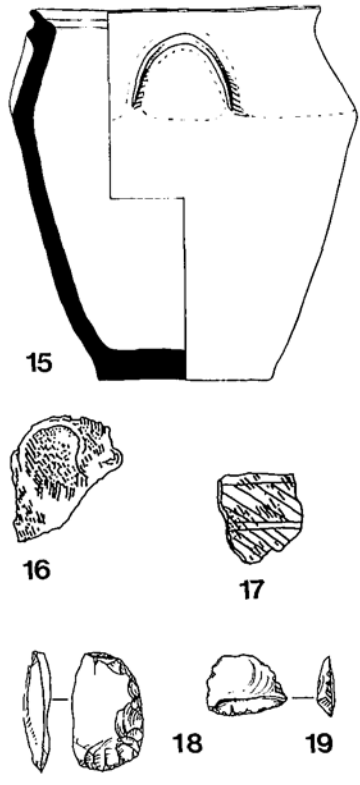


Fig. 5. Guildford Urn (15), Stowting Sherds (16, 17), and Wouldham Flint Implements (18, 19) (Scale: ¼).

end of the Early Bronze Age. Burgess has placed the bulk of the biconical urns in his Bedd Branwen phase, with the possibility of some slightly earlier examples (i.e. a span of *c.* 1700–1400 B.C. in calendar years)[12] whilst Savory[13] has quoted a range of 1800–1600 B.C. On this basis, a dating in the middle of the second millenium B.C. would seem appropriate for the Wouldham urn.

The presence of beads with the Ringwould, Semer and Gt. Bircham burials and the recognition of female cremations in urns at Charmandean (Sussex), Hollesley, Semer and Wouldham (?) con-

[12] C. Burgess, *The Age of Stonehenge*, London 1980, 96.
[13] H.N. Savory, *Guide Catalogue of the Bronze Age Collections*, National Museum of Wales, Cardiff 1980, 84.

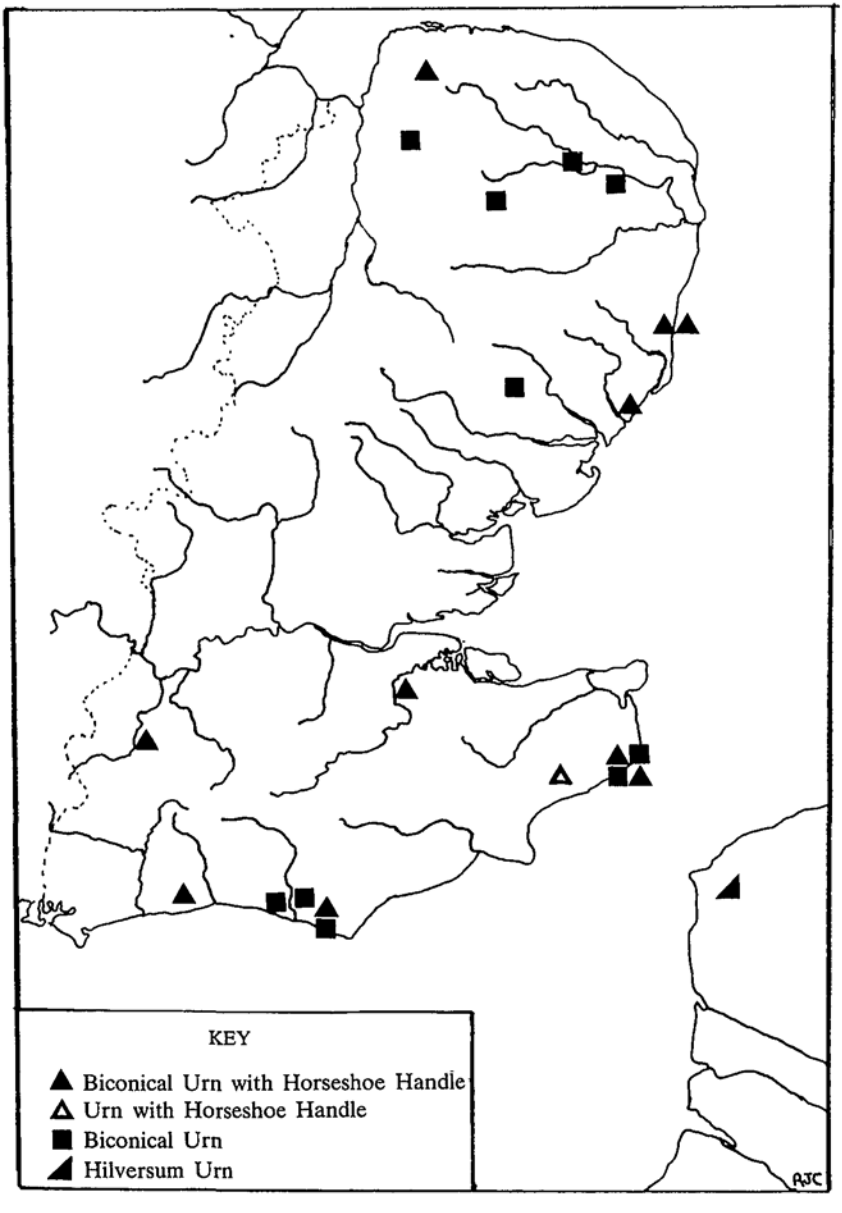


Fig. 6. Biconical Urns in east and south-east England.

trast with the single example of a male cremation in a biconical urn at East Walton (Norfolk) and a general absence of any specific male grave goods. This would seem to indicate that a biconical urn was considered to be a more suitable receptacle for containing the ashes of a woman.

Another close parallel to the Wouldham urn is currently in Birchington Museum (Fig. 5.15). As this is previously unpublished, a brief description is given in Appendix 4.

Using the recent summaries of biconical urns in Sussex[14] and Norfolk,[15] it is possible to indicate the distribution of published biconical urns in eastern England (Fig. 6). Dr. I.H. Longworth has commented upon the absence of biconical urns from Essex where the Ardleigh tradition seems to be fully entrenched (pers. comm.). A similar ceramic distinction between Essex and the rest of eastern England is also discernible in late-Neolithic pottery several centuries earlier, with the separate Clacton and Durrington Walls sub-styles of Grooved Ware.[16]

UNSTRATIFIED SHERDS

The earliest sherd is a collar fragment (Fig. 4.9) which although small, can probably be attributed to Longworth's Secondary Series of Collared Urns. Similarities between the sherds with flattened rims (Fig. 4.5 and 6) with those from bucket urns would also suggest funerary activity on the site during the Middle Bronze Age.

The remaining material is largely derived from bowls and jars. The finger-impressed body sherd (Fig. 4.8) is comparable with a bucket jar from Runnymede Bridge,[17] dated to the eighth/ninth century B.C., whilst the rims (Fig. 4.7 and 10) have parallels from Bray and Cambridge in the vessels selected by Barrett to illustrate post-Deverel Rimbury ware.[18] The general similarity of the bowls and jars with those found at Mill Hill, Deal,[19] also supports a date early in the first millenium B.C.

[14] A. Ellison, 'The Bronze Age', *Sussex Arch. Coll.*, cxviii (1980), 33.

[15] A.J. Lawson, 'The Evidence for Later Bronze Age Settlement and Burial in Norfolk', in J. Barrett and J. Bradley (Eds.), *The British Later Bronze Age*, BAR 83, Oxford 1980, 290.

[16] R.M.J. Cleal, 'Ring-ditch Site at Playden', *Sussex Arch. Coll.*, cxx (1982), 16.

[17] S. Needham and D. Longley, 'Runnymede Bridge, Egham: A Late Bronze Age Riverside Settlement', in Barrett and Bradley, *op. cit.*, 408, fig. 5.10.

[18] J. Barrett, 'Late Bronze Age Pottery', *PPS* xlvi (1980), 304–5, figs. 6.3 and 5.14.

[19] T.C Champion, 'Settlement and Environment in Later Bronze Age Kent', in Barrett and Bradley, *op. cit.*, 236, fig. 6.

B. Romano-British

In view of the coin evidence and the lack of any stratification it has not been thought necessary to illustrate any of the Romano-British pottery which included late colour-coated wares, white-slipped wares and red mortaria, all well established types of the third and fourth centuries.

Coins. By E.H. Redfern

1. VRBS ROMA A.D. 330–337. No mint mark.
2. Obv. (FL IVL HE) LENAE AVG. Commemorative coin of Helena, mother of Constantine I, struck under his sons, A.D. 337–341. Probably minted at Trier.
   Rev. (PA)X PV(BLICA)
   Pax standing left, holding branch and spear.

FOUR-POST STRUCTURE

Four stake-holes around the central pit are generally interpreted as being the remains of a temporary structure used in the burial ritual. Similar four-post structures are relatively common features of Dutch barrows and are becoming increasingly familiar in recent British barrow excavations. A summary of published examples around cremations is given in Table 2.

One explanation of the stake-holes is that they are the remains of an exposure platform, which enabled the corpse to be exposed to the elements before the dried remains were burnt in the pyre. Whilst this would explain the efficient combustion of the bones, there is little in Table 2 to indicate a correlation between the age of the deceased and the size of the platform. There is however a consistent pattern of the burial pit being within the area enclosed by the stake-holes, whose dimensions are typically 1.5 by 1 m. In Holland, where stake-holes are also found around inhumations, the larger size of the burial pit is reflected in the larger dimension of the stake structure, typically 2.0 by 1.5 m. This suggests that the stakes were constructed over the burial pit after the body was cremated and thus formed part of a temporary mortuary house which was then burnt down in a subsequent phase of the funerary ritual.

DISCUSSION – THE SITE

The loss of the original land surface makes it difficult to sort the features into successive phases, but the following hypothetical sequ-

Table 2. Comparison of British four-post structures with Dutch cremation sites

A. British Sites	Four-post Dimension (m.)	Stake	Associated with	C^{14} Date b.c.
Trelystan,[20] Barrow 1, Burial 4	1.5 × 1.1	Burnt	Cremation in Food Vessel	1695±70
Sproxton[21]	2.8 × 2 (?)	Burnt	Male cremation (disturbed)	1550±80
Brenig,[22/23] Barrow 40	1.3 × 1.0	Burnt	Cremation in Collared Urn	1425±45
Brenig,[22/23] Barrow 42	1.3 × 1.0	Burnt	(Disturbed)	1660±70
Simons Ground,[24] Site B	1.5 × 0.8	Burnt	(Disturbed)	1250±90
Simons Ground,[24] Site G	1.5 × 0.8	Burnt	(Non-central) Cremation in Barrel Urn	604±47
Winterbourne[25] Kingston 14	N.A.	Burnt	N.A.	1020±95
Wouldham	1.2 × 0.9	—	Adult female (?) cremation in Biconical Urn	—
B. Dutch Sites				
Toterfout-Halve Mijl[26]				
Tumulus 1B	1.5 × 1.1	Burnt	Adult male cremation in Hilversum Urn	1500±100
Tumulus 5	1.5 × 0.9	Burnt	Infant cremation	Early MBA
Tumulus 8	1.6 × 0.8	Burnt	Infant cremation	1105±90
Tumulus 19	1.0 × 0.9	—	Cremation	M/LBA

[20] W. Britnell, 'The Excavation of two Round Barrows at Trelystan, Powys', *PPS*, xlviii (1982), 133–201.

[21] P. Clay, *Two Multiphase Barrow Sites at Sproxton and Eaton*, Leicester Museum Report no. 2, Leicester 1981.

[22] F. Lynch, 'Brenig Valley Excavations 1973', *Denbighs. Hist. Soc. Trans.*, xxiii (1974), 9–64.

[23] F. Lynch, 'Brenig Valley Excavations 1974', *Denbighs. Hist. Soc. Trans.*, xxiv (1975), 36–7.

[24] D.A. White, *Bronze Age Cremation Cemeteries at Simons Ground*, Dorset Nat. Hist. and Arch. Soc. Monograph 3, Dorchester 1982.

[25] L.V. Grinsell, *Dorset Barrows Supplement*, Dorchester 1982, 6.

[26] W. Glassbergen, 'Barrow Excavations in the Eight Beatitudes', *Palaeohistoria*, iii (1954), 36.

ence can be advanced.

After the cremation of an adult female (?), the bones were separated from the charcoal in the pyre debris and were broken into small pieces. The Wessex biconical urn was probably initially cleansed with fire before it received its mixture of contents. The presence of earth, flint, chalk and perhaps animal remains with the cremation could echo the earlier Neolithic practice of depositing occupational debris with the dead in earthen long barrows.[27] After the urn had been buried inverted in a small pit, a temporary four-post structure was probably erected over it. The radiocarbon dates for similar structures in Table 2 are not inconsistent with the mid-second millenium date given to the urn, especially if the structure was built of timber 100–200 years old.[28]

The burial pit appears to have been demarcated from its surroundings by a penannular ditch cut into the chalk. As the ditch carefully avoids the areas of Clay-with-Flints, this may indicate that the topsoil had been initially stripped from the site. The similarity of the ditch profile with those found around Deverel Rimbury domestic sites such as Down Farm, Woodcutts,[29] would suggest that it was cut to act as a boundary ditch. Alternatively, but less likely, the flat bottom could indicate that the ditch contained a palisade, as in Barrows 40 and 45 at Brenig.[30] In either case the ditch's function was only temporary, as it was soon backfilled. A similar phenomenon was found locally at Chalk, where the modest inner ring ditch of 13 m. diameter was soon back-filled and an exterior quarry ditch dug around the site to provide the material for the presumed barrow.[31]

In view of the absence of a quarry ditch at Wouldham, it is possible that turves were used to build up a modest central mound and/or circular bank, which were subsequently eroded away. Champion has pointed out that Kentish barrows were often quickly reduced by later agriculture, with some sites being levelled before the end of the Iron Age.[32] If this phase of the site were a disc barrow (with a secondary inhumation under the presumed bank), then this would be consistent with Grinsell's observation that disc barrows are often associated with primary female burials in a late 'Wessex' context.[33]

[27] P. Ashbee, *The Ancient British*, Norwich 1978, 76.
[28] J. Coles, 'Timber and Radiocarbon Dates', *Antiquity*, xlix (1975), 124.
[29] J. Barrett, R. Bradley and H. Green, 'South Lodge Camp and Down Farm', *Current Archaeology*, 67 (1979), 243.
[30] Lynch 1974, *op. cit.*, 27, 12.
[31] A.F. Allen, 'Chalk', *Arch. Cant.*, lxxxvi (1971), 226.
[32] Champion, *op. cit.*, 226.
[33] L.V. Grinsell, 'Disc Barrows', *PPS*, xl (1974), 90.

The inhumation is assumed to be secondary but roughly contemporary with the central burial. It closely parallels similar examples from the Thanet barrows, where there are 'predominantly crouched inhumations, occurring regularly on the edge of ditches and piles of flint were sometimes heaped over the bodies'.[34] Whilst crouched burials are commonly found throughout the Early Bronze Age, the tendency for male heads to be oriented towards the north (and female heads south) has been claimed to be an early Beaker trait.[35]

The flint debris capping the ditch presumably reflects a subsequent sealing of the monument and analysis of the worked flints by Gillian Wilson (Appendix 3) indicates that this activity and the digging of pits E and F took place in the Middle Bronze Age. The sealing of the central cremation, which presumably took place at this time, makes subsequent animal incursions less than probable in the opinion of the excavators. The presence of frog bones, snail shells and worm casts with primary burials in a barrow at West Overton, Wilts., has already provided an example of a contemporary site where the burials were initially only given a loose filling before being sealed with a clay layer a few years later.[36]

A final funerary phase extending into the Late Bronze Age is hinted at by the fragment of collared urn and other sherds found in the topsoil. Such re-use could either suggest an urn field outside the penannular ditch or reflect further secondary burials in a mound which has since been destroyed. A similar Late Bronze Age re-use of an earlier barrow is suggested by the sherds found in the ditch of the Holborough barrow, across the valley from Wouldham.[37]

The Roman sherds in the topsoil which led to the original discovery of the site are largely fourth-century in date, as are the two unassociated Constantinian coins. These slight remains suggest a Roman site is located in the vicinity.

DISCUSSION – THE BROADER CONTEXT

Continental archaeologists have argued that people using biconical urns were the agents for transmitting novel burial practices from

[34] T.C. Champion, 'The Bronze Age in Kent', in P.E. Leach (Ed.), *Archaeology in Kent to AD 1500*, CBA Research Report no. 48, London 1982, 32.

[35] I.J. Thorpe, 'Prehistoric British Astronomy – Towards a Social Context', *Scottish Arch. Rev.*, ii (1983), 7.

[36] I.F. Smith and D.D.A. Simpson, 'Excavation of a Round Barrow on Overton Hill, N. Wilts.', *PPS*, xxxiii (1966), 133.

[37] V.I. Evison, 'An Anglo-Saxon Cemetery at Holborough, Kent', *Arch. Cant.*, lxx (1956), 89.

England into northern France and the Low Countries and that this influence continued throughout the Middle Bronze Age.[38] Similar evidence of cross-Channel contacts is also provided by the cargo of continental bronze implements, lost from a presumed Middle Bronze Age shipwreck in Langdon Bay, Dover.[39] Does the Wouldham site provide any additional evidence of such contacts?

In his excavations of the Toterfout-Halve Mijl cemetery in Holland, Glassbergen[40] identified Tumulus 1B as being a disc barrow erected by British immigrants. The central primary burial was an adult male cremation in an Hilversum urn, with a C^{14} date of 1500±100 b.c. This was buried on its side, in an oval pit surrounded by a four-post 'mortuary' structure, with an adjacent burnt area perhaps being the pyre. The primary burial was surrounded by a ring ditch (internal diameter 12 m.), whose profile was V-shaped with a flat bottom 0.2 m. wide and dug about 1 m. below the old land surface. The sand excavated from the ditch was constructed into an inner bank, which retained a turf barrow and subsequently attracted secondary cremations into the eastern side of the bank.

The Wouldham site clearly provides many parallels to this Dutch site and, for the first time, offers a Kentish example of the burial practices which seem to have been subsequently adopted across the Channel. If this broad contemporaneity is accepted, then the Dutch C^{14} date would also support an Early Bronze Age dating for the Wouldham urn.

APPENDIX 1

A reassessment of the mound in Shoulder of Mutton Wood, Rochester

INTRODUCTION

On the spine of a chalk ridge overlooking the nearby River Medway (N.G.R. TQ 72706525) is a mound whose origins have been the subject of some speculation. In an attempt to clarify the purpose of the feature, several members of the Lower Medway Archaeological Research Group dug two exploratory trenches in November 1968 with the permission of the owner, Mr. Gore of Rings Hill Farm,

[38] W. Glassbergen, 'The Dutch Cordoned Cinerary Urns of the Middle and Late Bronze Age', *Helenium*, iv (1954), 122.

[39] K. Muckelroy, 'Middle Bronze Age Trade between Britain and Europe: A maritime Perspective', *PPS*, xlvii (1981), 275–98.

[40] Glassbergen, *op. cit.* in n. 38 above, 176.

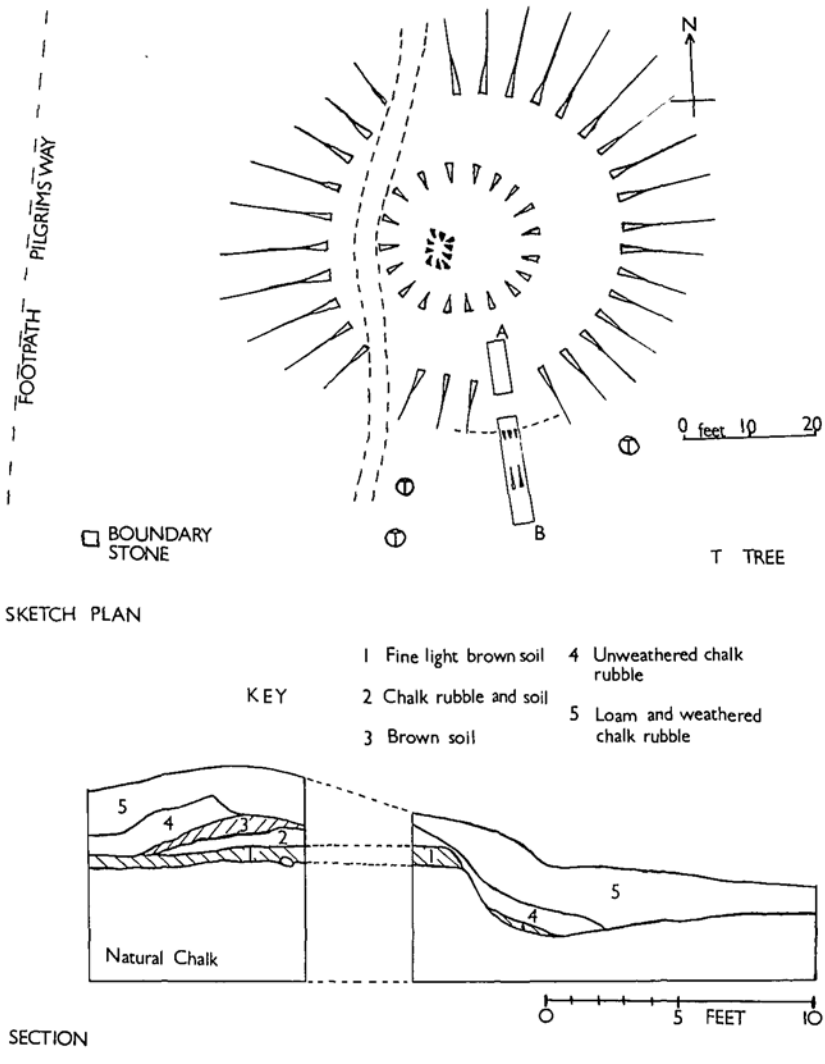


Fig. 7. Shoulder of Mutton Wood, Rochester.

Wouldham. This note summarises the surviving excavation notes, kindly provided by Mr. D.T. Jackson.

EXCAVATION

The mound, called the Old Fort on the 1869 O.S. map, survives to a

height of 6–7 ft. It is scrub-covered with its central area clearly disturbed and is surrounded by the trees of Shoulder of Mutton Wood. The trenches were laid out on a bearing of 354°, to be radial to the roughly circular mound and equidistant from the nearest trees (Fig. 7). The section shows a ditch about 2 ft. deep and 7 ft. wide, with a steep inner face and a more gradual slope away from the mound. The inner face of the ditch was 31 ft. from the current centre of the mound.

The mound was artificial with a clear stratigraphy. The lowest level was a fine creamy brown soil, presumably the original land surface and had been subsequently disturbed by animal burrows. This was covered by a layer of chalk rubble intermixed with soil, a further layer of brown soil and then a layer of unweathered chalk rubble. Overlying these layers was a final covering of loamy soil and weathered chalk rubble. In the bottom of the ditch was a lens of light-brown soil, covered by unweathered chalk rubble and sealed with a similar topsoil to that found on the mound. No sherds or diagnostic items were obtained from the small area examined.

DISCUSSION

The section confirmed that the mound was man-made, with a quarry ditch which had remained open for long enough to silt up before being backfilled with unweathered chalk.

Earlier investigators[41] have noted the presence of the ditch around the mound but 'were tempted to suggest that it was an outpost of the Norman work at Rochester'. In his article on the mound,[42] our Vice-President, Mr. R.F. Jessup, noted the proximity of the parish boundary to the site. He concluded that the mound was probably used as a boundary marker and that 'it may well be that advantage was taken of an earthen mound which may already have been in use as a Manorial meeting place'. It may also be noted that the hedgerow running south-west up the ridge from Nashenden valley is apparently also oriented on the mound.

In June 1959, an Ordnance Survey investigator also noted the faint signs of a ditch in the south-east quadrant of the mound and commented that 'the feature is too small for a castle mound and from its general appearance and topographic position, there would seem to be little doubt that it is a bowl barrow'.[43]

[41] VCH (Kent), i (1908), 411.
[42] R.F. Jessup, 'An earthen Mound near Rochester', *Arch. Cant.*, lv (1942), 71.
[43] C.F. Wardale, Ordnance Survey Site Index (23.6.59).

The section from the 1968 excavation is not inconsistent with such a conclusion, although positive dating evidence was absent. The recent discovery of the Wouldham barrow only 900 yds. to the south in a comparable position can only reinforce the probability that the mound in Shoulder of Mutton Wood is also a barrow. Recent research in Suffolk[44] has shown that where light, easily cultivated soils are restricted to alluvial soils of the river vallleys, then the Bronze Age barrows tend to be tightly grouped on the poorer clay soils along the sides of the valleys. Such a pattern would also seem to be emerging along the Medway Valley.

APPENDIX 2

The Inhumation. By Dr. J.P. Hayes

Skull

The skull was rather lightly built with not very obvious muscular ridges. None of the sutures in the vault were fused. Although the external occipital protuberance was not strikingly well developed, the posterior root of the zygomatic processes formed a definite ridge above the external auditory meatuses. The mastoid processes were large. The skull was largely complete apart from some minor fragments, the deficiencies mostly being in the base. The right ascending ramus of the mandible together with articular and coronoid processes was completely missing. No teeth had been lost in life.

In the lower jaw all adult teeth as far posterior as the 1st molar were erupted as was the 2nd molar on the left. The right second molar showed signs of impaction against the 1st, and the 3rd molar was unerupted. Wear patterns on the right side from front to rear were 2^+ and 1 and on the left were 2^+ and 2. There was a small carious cavity at the point of contact of the right 1st and 2nd molar and a moderate amount of calculus at the junctions of the crowns and roots of most teeth both bucally and lingually.

In the upper jaw all teeth from the 3rd molars were erupted. The wear patterns on the molars were, grade 3^+ and 1, on both sides. Calculus was more extensive than on the lower teeth and was present in exuberant quantities over the occlusal aspects of both 2nd molars and the right 1st premolars. No carious cavities were found.

[44] E.A. Martin, *The Barrows of Suffolk*, East Anglian Archaeology Report no. 12, 1981, 77.

Cephalic Index = 14 cm. × 100 ÷ 18.7 = 74.9. A dolichocephalic value.

Long Bones

Most of the long bones showed breaks sustained during excavation. However, all were measurable after reconstruction apart from the two fibulae and the right ulna and left radius. It was, however, soon obvious that some of the epiphyses had not fused at the time of death as follows:

(i) *Femora*. Lower ends and greater trochanters. The heads show evidence of recent fusion.
(ii) *Tibiae*. Upper ends only. These have already fused with the tubercules. The lower ends are solidly fused.
(iii) *Humeri*. Heads only. The lower ends are solidly fused.
(iv) *Ulnae*. Lower ends only.
(v) *Radii*. Upper ends show recent fusion.
(vi) Hand and Foot Bone. The bases of the 1st metacarpal and some metatarsal heads.

(a) Bone Lengths (cm.)

	L	R	Mean
Femur	46.9	46.9	46.9
Tibia	39.1	39.1	34.1
Fibula	Too fragmentary for measurement		
Humeri	32.5	32.9	32.7
Ulna	27.3 (lower ep. missing)	Lower end missing	27.3
Radius	Lower end missing	24.5 (lower ep. missing)	24.5

(b) Height estimates from various combinations of bones, as follows:

Femora and *Tibiae*	(i) 1.26 (46.9 + 39.1) + 67.09	= 175.5 cm.
Femora only	(ii) 2.32 × 46.9 + 63.53	= 172.3 cm.
Tibiae only	(iii) 2.42 × 39.1 + 81.93	= 176.6 cm.
Humeri and *Radius*	(iv) 1.82 (32.7 + 24.5) + 67.97	= 172.1 cm.
Humeri and *Ulna*	(v) 1.78 (32.7 + 27.3) + 66.98	= 173.8 cm.
Humeri alone	(vi) 2.84 × 32.7 + 78.1	= 172.6 cm.
Radius alone	(vii) 3.79 × 24.5 + 79.42	= 172.3 cm.
Ulna	(viii) 3.76 × 27.3 + 75.55	= 178.2 cm.

Sum = 1,393.3 cm. Standard Deviation = 2.31 cm.
Mean = 174.26 cm. ± 4.6 cm. to 95% confidence limits.

Age of the Subject.

The fact that many epiphyses had not fused and that the third molars had not erupted points to the fact that the individual was not mature. It is significant that the upper ends of the radii and the lower ends of the humeri had fused with their respective shafts. The former fuse usually between the seventeenth and eighteenth years and the latter from the sixteenth to seventeenth. The lower ends of the tibiae fuse in the eighteenth year as do the femoral heads. The still unfused epiphyses all join between 18 and 20. Since these results point to an age greater than 18 and less than 20, a figure of 19 years would be a reasonable compromise.

Dental Age

The most critical feature here is that the third molars are in the process of eruption. This gives an age range of 17–25 which is confirmed by the degree of wear of the first and second molars. As can be seen the epiphyseal age falls well within these limits.

Sex of the Subject

In view of evidence that the individual was a teenager, many of the distinguishing features associated with greater or lesser muscular development could not be evaluated. However, the large size of the mastoid processes and the fact that the posterior roots of the zygomatic processes extend behind the external auditory meatuses both point to the conclusion that the subject was male. This is amply confirmed by the narrow sciatic notches, the most conclusively characteristic of all. The diagnosis of male sex is further supported by the fact that the subject's height was in the region of 5 ft. 9 in., this being unusually tall for a woman and particularly so in prehistoric terms where heights were less than they are today.

Summary and Conclusion

The skeleton is that of an apparently healthy male subject aged 19 years at the time of death and with a height of 174 cm. No cause of death is suggested from the remains.

References

(i) D.R. Brothwell, *Digging up Bones* – Trustees of the British Museum, London 1972.
(ii) Gray's *Anatomy*, 30th edition, London 1950.

APPENDIX 3

The Flint Assemblage. By Gillian Wilson

A total of 229 struck or burnt flints were retrieved during the excavation of the Hill Road barrow, Wouldham, Kent. Local chalk deposits are the most likely source of the raw material. Most pieces have a blue/white to dense white patina and many are also partially covered by a thick, post-depositional concretion. The flint is of poor quality and contains many impurities.

From a technical point of view the assemblage as a whole displays rather crude workmanship. Most of the struck blanks consist of broad, thick flakes (B:L 4:5<), with very wide platforms and prominent bulbs of percussion. About 95 per cent were detached at an acute angle to the striking platform using a hard hammer. Almost 10 per cent of the flakes exhibit hinged fractures.

The table below shows the provenance of the assemblage:

	%
Inhumation burial B	0.4
Pit E	14.0
Pit F	7.0
Barrow Ditch	28.0
U/S Barrow topsoil	41.4
Unprovenanced	9.2

Unfortunately about half of the flints are derived from unstratified contexts, but just over a quarter come from the ditch and 14 per cent from Pit E. The composition of the assemblage is presented in the table below:

		No.		%
Cores		1		0.4
Struck blanks:		216		94.3
Primary flakes	13		5.6	
Secondary flakes	130		56.8	
Tertiary flakes	73		31.9	
Chips		4		1.8
Worked/burnt fragments		6		2.6
Implements		2		0.9
		229		100.0

It will be seen that the assemblage consists almost exclusively of struck blanks. Only two recognised implements have been identified, both of which derive from the north side of the ditch and are fashioned on tertiary flakes which are smaller and finer than average. One is an end-scraper and the other an edge-retouched knife (Fig. 5). However, a number of other pieces have striations along one edge

which suggests that many more of the flakes were in fact utilised. Ten pieces of flint show evidence of burning. Of these four derive from the barrow ditch and six from the unstratified barrow topsoil. Five of the burnt pieces are unworked fragments and five are struck flakes.

The assemblage as a whole is homogeneous. The same source of raw material has been used; many of the flakes could possibly have come from a limited number of cores. The workmanship is uniformly coarse. Broad, thick flakes predominate, with only two fashioned implements being represented. These features characterize flint technology after bronze implements had become more widely available. The flint assemblage from the Hill Barrow is therefore likely to be of 'middle' Bronze Age date. (e.g. Healy 1981, 165–66).[43]

APPENDIX 4

Biconical Urn from Guildford, Surrey

This urn is currently exhibited at the Powell-Cotton Museum, Birchington and was acquired in 1938 from Mr. A. Hemming (Acc. No. 160/1938). A museum record card suggests that it was probably found during Gen. Pitt Rivers' excavations of a round barrow at Merrow, Guildford. The urn contains some bone fragments which are possibly the remains of a child burial. Mr. D.R. Howlett, Curator of the Museum, has kindly provided this information and the basis for Fig. 3.15, together with the following description:

Guildford Urn 160/1938

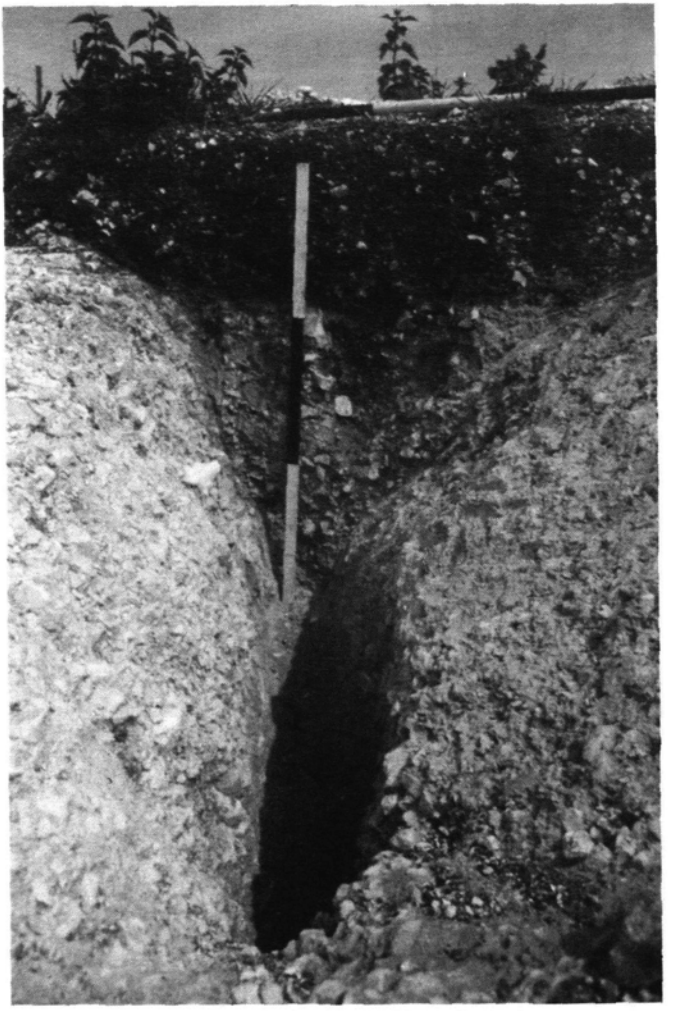
Medium coarse sandy grit with rounded quartz grains and some larger angular and rounded flint fragments, some breaking the surface in places. Very fine mica dust. No apparent evidence of straw, grass or other organic grog. Inner surface smoothed; outside possibly slipped and showing vertical wipe-marks and moulding irregularities. 'Eyebrows' clearly applied separately (as opposed to being drawn up from the pot surface) and well bonded and smoothed to surface. Base shows impressions of probable organic material and of small stones or pebbles as well as smaller grits.

[43] F. Healy, in F.F. Petersen, *The Excavation of a Bronze Age Cemetery on Knighton Heath, Dorset*, BAR 98, Oxford 1981, 165–6.

PLATE I

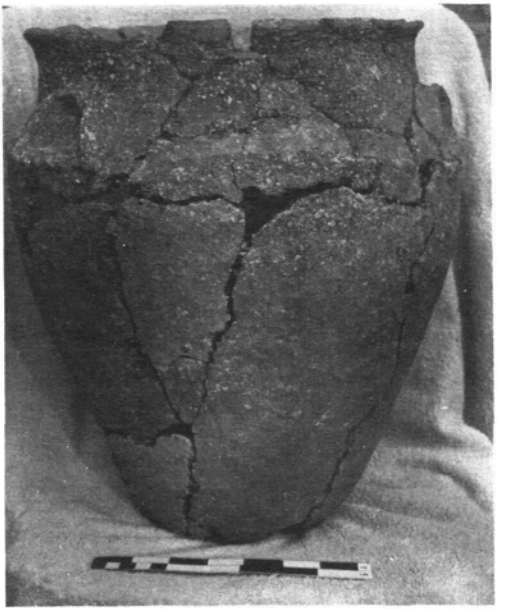
Section of east Ditch (Scale in feet)

PLATE II



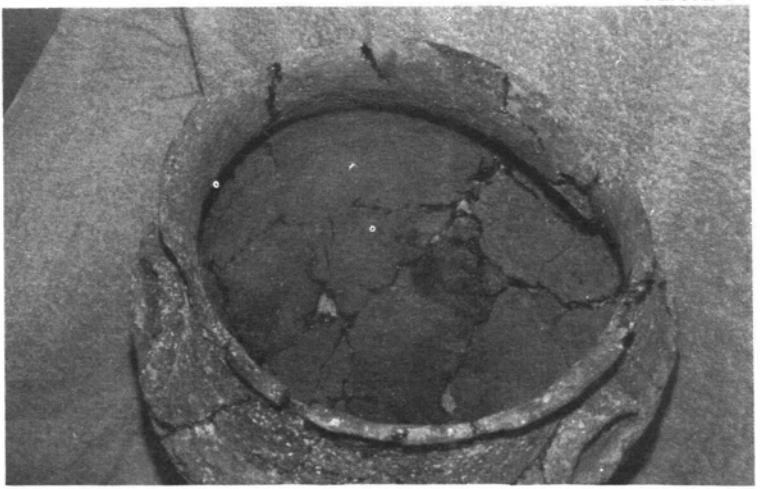
North Terminal of Ditch (Scale in feet)

PLATE III



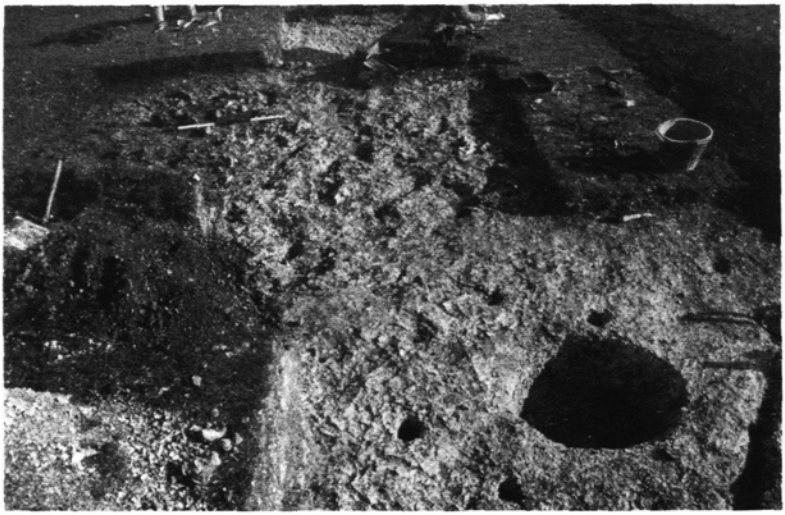
Biconical Urn from Cremation Burial

PLATE IV



Interior of Urn showing Scorch-marks

PLATE V



Central Pit with Post-holes of Mortuary Structure (Scale in feet)

PLATE VI

Inhumation Burial (Scale in feet)