

THE EXCAVATION OF A NEOLITHIC CAUSEWAYED ENCLOSURE ON BARKHALE DOWN, BIGNOR HILL, WEST SUSSEX

by Peter E. Leach

with reports by I. F. Smith, J. Clipson, C. R. Cartwright and K. D. Thomas

Barkhale was first noted by Professor Ryle in 1929 and was identified by him as a Neolithic causewayed enclosure in the Windmill Hill tradition. Excavation took place in 1958–1961 under the direction of Dr. Seton-Williams, and in 1978, on a limited scale, under my direction, prior to clearance work in order that the site may be permanently protected and displayed to the public.

INTRODUCTION

Barkhale is sited on Bignor Down (SU 976 127) four miles northwest of Arundel, West Sussex. The site, between the two summits of Bignor Hill, slopes gently to the south with a distant view of the sea. The name derives from the O. E. 'beorc halk' meaning the corner where birch trees grow. In 1420 Court Rolls referred to the area as Berkehale (Glover, 1975, 10).

The enclosure, first noted in 1929 by Professor Ryle was surveyed in 1930 by Dr. E. C. Curwen and Mr. G. P. Burstow and the line of a single interrupted ditch was established by auger boreholes round the northern segment of the site. The southern part was not accessible because of dense undergrowth. Severe plough damage occurred during and after the war to the northern segment above the trackway and excavation was therefore undertaken by Dr. Seton-Williams from 1958–1961. Her reports, unpublished, have been collated by J. Clipson, 1976 in an M.A. Thesis on which this account of the excavations is based.

The southern segment, used as part of a conifer plantation, was later cleared by the owners, the National Trust, and in 1978 the Sussex Archaeological Field Unit was asked by them to investigate features within the enclosure and to establish the line of bank and ditch before final clearance and display. These excavations were in September 1978 under my direction. The site is now scheduled; all finds and site records are in Barbican House, Lewes, Sussex.

EXCAVATIONS 1958–1961

In 1930 Professor Ryle excavated a small trench 'diagonally across one of the ditches' but no records survive other than a comment that 'no worked flints, no pottery, no bones or shells were found'. In 1958 work resumed, with Dr. Seton-Williams undertaking the work as training excavations for extra-mural students from London University. Twenty trenches were dug in the four seasons of excavation on the perimeter or in the enclosure. A trench was dug into one of the nearby barrows but is not included in this report. The trenches were generally very narrow, making later interpretation exceptionally difficult; their designation in alphabetical order reflects roughly the order of excavation (Fig. 2). Clipson's re-assessment does not follow this sequence but considers similar trenches together. His drawings, on which those printed here are based, were his interpretation of the original site

drawings, but using common conventions and metric scales; the descriptions on these drawings are necessarily those of the excavator.

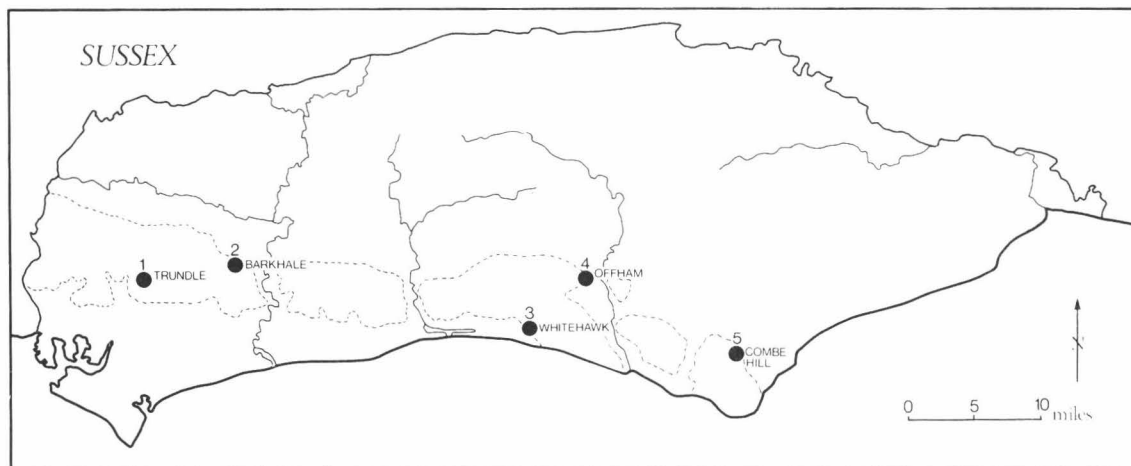


Fig. 1. Barkhale 1958–61 and 1978. Location of Barkhale in relation to other causewayed enclosures.

Trenches through ditch and bank

Trench K (Fig. 3)

The following layers were found in the ditch fill.

1. Topsoil.
2. Sandy loam and chalk rubble.
3. Sandy loam.
4. Clay.

The ditch, 4.87 m wide and 1.52 m deep towards the northern end of the trench was largely filled with sandy loam. A clay lining on the trench side may be due to the slumping of the bank. The fill contained four possible hearths set one above the other, described by the excavator as 'circles of packed flints cracked by fire set in dark burnt earth and covered with scattered charcoal'. The modern trench seen in the section may be that dug by Professor Ryle in 1930. The plough-damaged bank contains a preserved rise in the chalk capped with thin layers of clay suggesting an original width of the bank here of 4.60 m.

Trench T (Fig. 3)

The fill of the ditch and the formation of the bank are similar to Trench K above, with solution holes in the ditch bottom and under the bank. The trench seems to have been extended down into the natural shattered chalk making it difficult to assess dimensions of the features; the ditch was probably c. 4.00 m wide and 1.20 m deep. The excavator referred to a 'flint floor' in the lee of the bank but no precise description is given. It could be either an occupation layer or merely a layer of compacted flints created by other causes.

Two small trenches (T1 and T2) were dug to the northwest to establish conditions outside the ditch. Natural chalk only was found below c. 30 cm of topsoil which contained a few waste flakes.

BARKHALE CAUSEWAYED ENCLOSURE

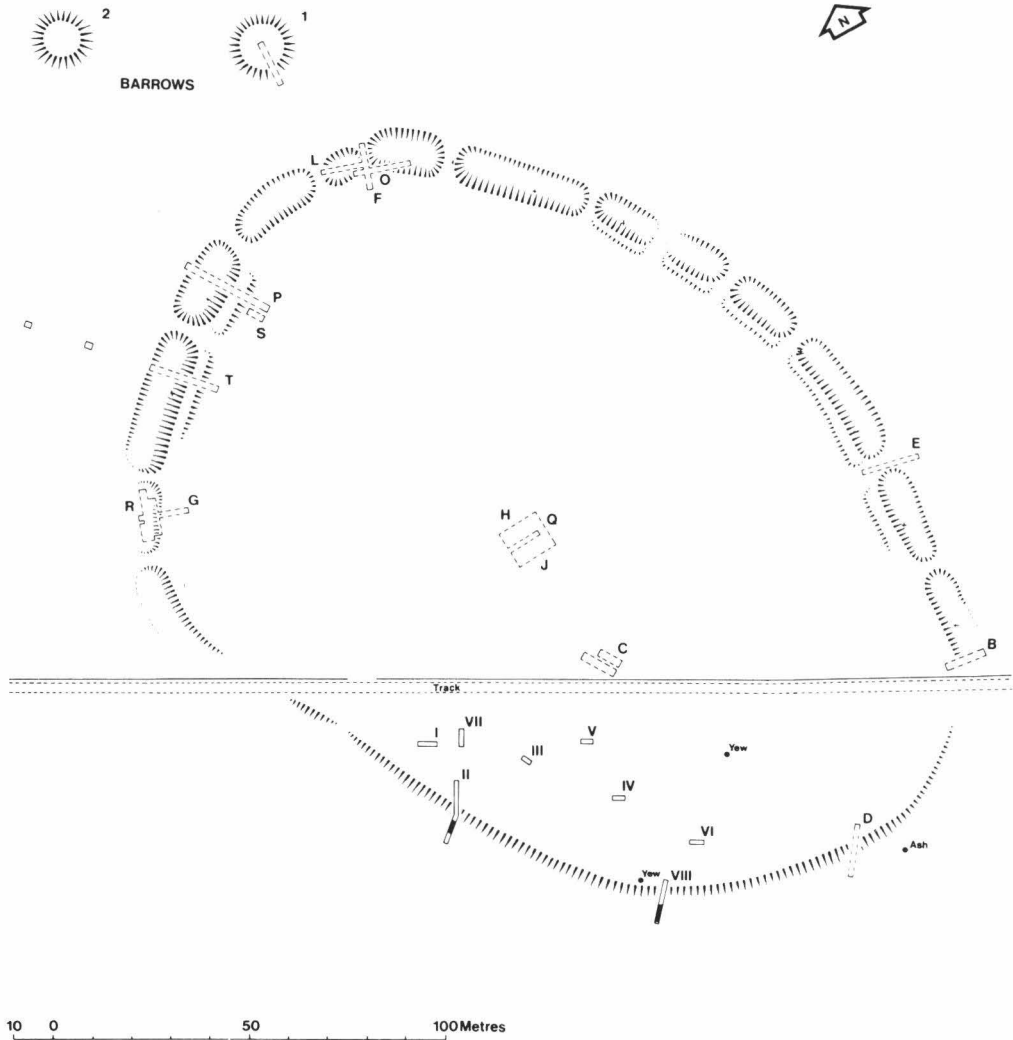


Fig. 2. Barkhale 1958-61 and 1978. Site plan. Survey by F. G. Aldsworth. 1958-61 excavations are shown in broken line, 1978 in continuous.

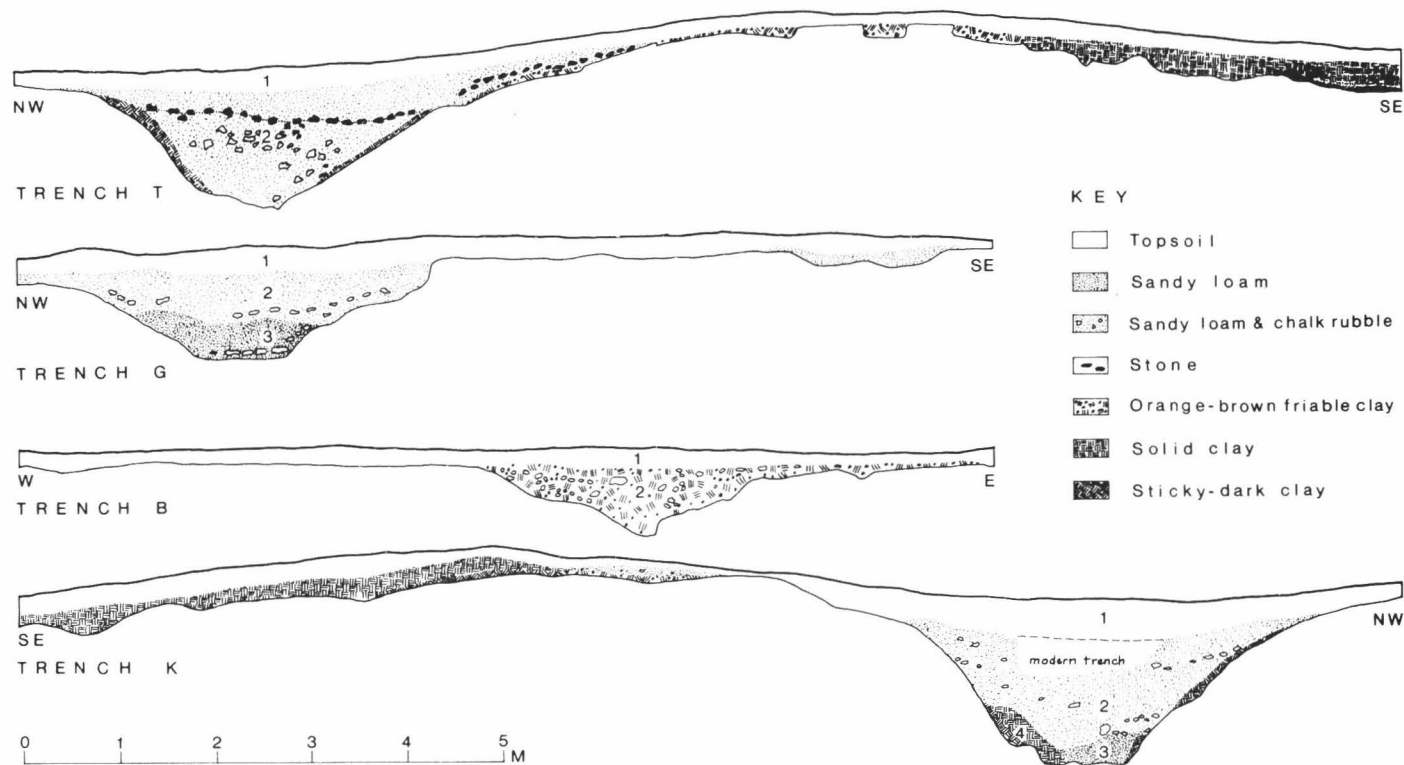


Fig. 3. Barkhale 1958-61. Sections of trenches through ditch and banks.

Trench G (Fig. 3)

The following layers were found.

1. Topsoil.
2. Red-brown loam.
3. Black silt.

The ditch was 3.96 m wide by 0.91 m deep with an apparently stepped profile. The black silt layer suggests a rapid initial fill of the ditch. No trace of a bank was found. The large numbers of struck flakes found in this trench, particularly in the fill, may indicate the presence of a working area. The trench was extended as R (Fig. 2) to expose the complete ditch seen in section in Trench G. This was 10.05 m long by 3.65 m wide by 0.91 m deep with a fill of homogenous brown loam. No clay was found, but natural solution holes occurred as elsewhere.

Trench B (Fig. 3)

The following layers were found.

1. Topsoil.
2. Orange-brown clay.

The ditch 2.74 m wide and 0.62 m deep had a shallow U- shaped profile. In its base were 57 small circular holes of varying sizes and depths; interpreted as solution holes (Miss J. Sheldon- pers. comm.). Gullies were found at the sides of the ditch but no reasonable explanation can be found for these.

Trench A.

This was dug in the conifer plantation in the southwest corner of the site to expose a possible bank and ditch there. These were not found. The site notes refer to gullies running east-west which may be caused by modern ploughing. Worked and waste flint and a possible hearth were found but no further record of these exist.

Trench D.

This was sited to locate the southern perimeter, but most of the area opened was badly disturbed by tree roots making interpretation difficult. A slight rise and dip was seen, possibly being the bank and ditch. The fill was yellow clay with chalk rubble being possibly slumped bank material.

Trenches across causeways.

Trench E. (Fig. 4)

This was intended to establish the nature of a causeway identified by Curwen but its purpose was hampered by the narrowness of the trench. Chalk was found at a depth of c. 30 cm and the section drawing shows this to be overlaid by a layer of flint in the eastern half.

Trenches O and F.

These showed a causeway c. 6.10 m wide of flint and clay layers on natural chalk and to the west a ditch 1.62 m deep, with another to the west which was only partly excavated. The fill of these, yellow clay and flint, being possibly slumped bank material.

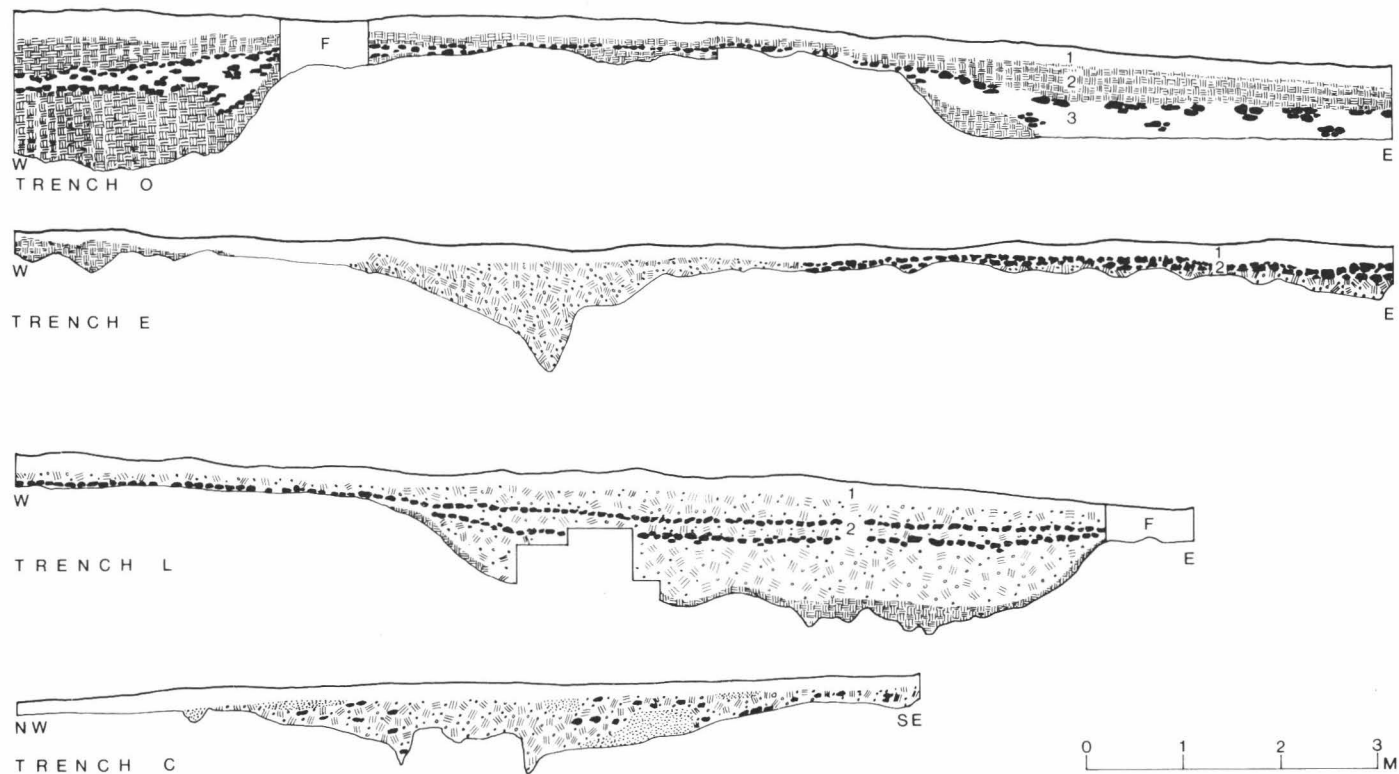


Fig. 4. Barkhale 1958-61. Sections of trenches through causeways, ditch and interior. Key as on Fig. 3.

Trenches along ditch

Trench L (Fig. 4)

This section the full length of a ditch between two causeways, 11.27 m long and 1.52 m max. depth. The layers are

1. Topsoil.
2. Compact yellow clay with two layers of flints.

The layers of flints were seen by the excavator to have been deliberately placed. The regularity shown on the section drawing is not supported by the photographs and a natural origin may be more likely. The numerous pottery and flint finds in this area may suggest a habitation site in the vicinity.

Trenches in interior

Trench C (Fig. 4)

The trench was too small for any conclusions to be drawn from the features found. These were a gully, a layer of flints, and some small holes all of which could be natural. Some waste flakes were found.

Trenches H and J.

The chalk surface exposed was so pitted with small holes and gullies that no interpretation is possible. No evidence for structures was identified although the large number of finds suggest a settlement area in this central position.

Trench O

Evidence for occupation here too is inconclusive, consisting of pottery and worked flint, and also two pits and some possible post holes. These were not sectioned and may be natural features. Finds of iron, and a buried turf line, indicate modern disturbance.

Miscellaneous trenches.

Seven other trenches were dug but for varying reasons provided no evidence of value.

THE FINDS

(i) Pottery by Dr. I. Smith

A total of approximately 200¹ sherds was recovered during the excavations, most of them nondescript and undatable body fragments, often very small. Fourteen or fifteen vessels are represented by rim sherds, a further six or seven by base sherds, and two by ornamented body sherds. Most of them relate to activity on the site in the Bronze Age, Iron Age and the Romano-British period; very few Neolithic pieces can be identified.

The sherds are described below in order of provenance. Featureless prehistoric sherds are not noted unless they come from apparently significant stratigraphical positions. For brevity, flint inclusions, where present, are classed as fine (no particles over 1 mm in size), medium (particles range from 1 mm–3 mm), and coarse (some particles exceed 3 mm).

The Romano-British pottery was kindly identified by Mrs. V. G. Swan.

(a) Sherds from the enclosure bank

Apart from a single body sherd from trench A, layer 3, pottery is recorded only from bank trenches P and S which yielded together some 30 sherds from layers 1–3. The fragments are generally in weathered condition and all but four are indeterminate. Fig. 5, No. 12 is from the rim of a vessel otherwise represented by three fairly large and thick body fragments, two of them possibly from a round bottom. The severely weathered surfaces are reddish buff in colour with brighter red patches; the clay contains abundant coarse flints as well as sparse pellets of marcasite.

(b) Sherds from the enclosure ditch

Trench R, Layer 2

(i) (Fig. 5, No. 13), depth 0.31 m, part of the angle of a thick, flat base; brown surfaces; soft, greasy fabric, no hard inclusions.

(ii) (Fig. 5, No. 6), depth 0.28 m, fragment of a flattened rim with marked external projection; surfaces light brown; compact fabric containing abundant fine flints as well as marcasite pellets.

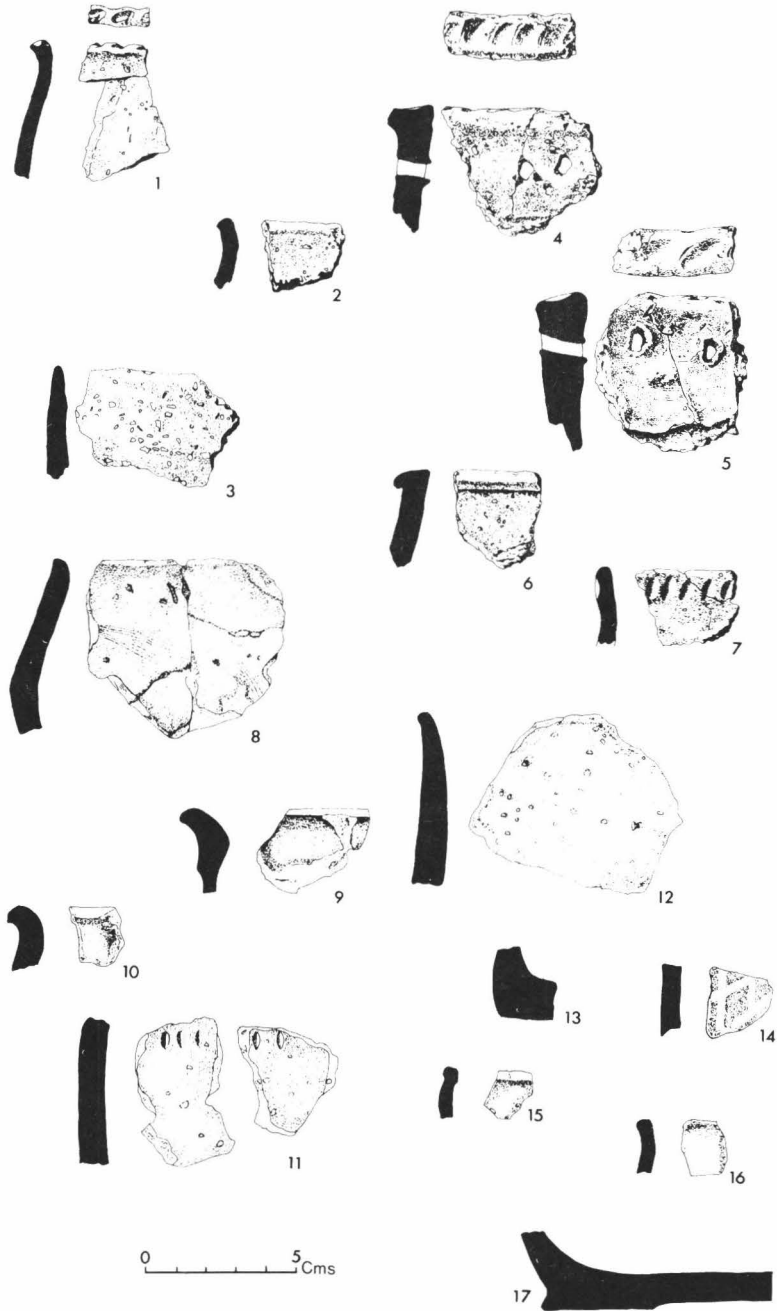


Fig. 5. Barkhale 1958-61. Pottery.

(iii) (Fig. 5, No. 9), depth 0.31 m, part of a sharply everted rim; smoothed grey-brown surfaces; compact fabric with medium flints.

(iv) fragments from the angle of a flat base (P160), depth 0.28 m, and both may come from the same pot.

(v) (Fig. 5, No. 8), shows two joining rim sherds, one found at a depth of 0.56 m (P137), the other (P157) at a depth of 1.14 m under a flint nodule. Together these sherds represent a pot with a prominent rounded shoulder and contracted mouth (rim diameter about 16 cm); dark exterior, reddish brown interior; irregular surfaces; medium flints.

(vi) (Fig. 5, No. 10) is one of eight small sherds, all apparently from a vessel with rolled-over rim and weakly marked shoulder; their recorded depths range from 0.23 m–0.53 m. One of the body sherds (P90), depth 0.46 m, joins another (P194) from layer 3, where it was found in a hole in the chalk rock at a depth of 1.19 m. Surfaces dark and well burnished; compact fabric; sparse fine flints.

Trench R. Layer 3

(Fig. 5, No. 14), depth 0.95 m, body sherd with a lattice pattern lightly drawn with a blunt point on its outer surface; brown exterior, black interior; compact fabric; sparse fine flints.

Trench T. Layer 1

(i) P1a, sherd of Hadrianic/Antonine date.

(ii) P1b, sherd from a cooking-pot, a local imitation of 'Black Burnished Ware', datable from the second century A.D. onwards.

Trench T. Layer 2

P206, depth 0.15 m, small fragment from the angle of a flat base; grey-brown surfaces, abundant fine flints and some sand.

Trench T. Layer 2A

P213, minute fragment from top of a rim comparable in form and fabric with Fig. 5, No. 16 and Fig. 5, No. 2.

Trench T. Layer 3

(Fig. 5, No. 17), depth 0.31 m, large fragment of a flat base 0.15 m in diameter; brown exterior, dark interior, abundant coarse flints, especially on the underside where they form a distinct layer, now partially split away.

Trench K.

All the sherds from this cutting (seven from layer 2, depths 0.23 m–0.75 m; five from layer 3, depths recorded as 0.67 m, 1.78 m and 1.86 m are small, indeterminate body fragments.

Trench L. Layer 2

(i) (Fig. 5, No. 7), depth 0.28 m, sherd from an everted rim with a row of fingernail impressions applied to a slight external thickening; grey-brown surfaces, rather rough; medium flints.

(ii) (Fig. 5, No. 1), depth 0.41 m, sherd from an everted rim with diagonal fingernail impressions along the top; exterior reddish brown, interior dark; well smoothed; medium flints.

(iii) (Fig. 5, No. 11), depth 0.31 m–0.44 m, two body sherds with a row of vertical fingernail impressions apparently set below a slight shoulder; twelve plain sherds, including probable flat base fragments, belong to these; pale brown surfaces with reddish tones; sparse coarse flints and some marcasite pellets.

Trench L. Layer 2B

P29, depth 0.54 m, small fragment from the angle of a flat base; reddish-brown exterior, dark interior; soft greasy fabric, no hard inclusions.

Trench L. Layer 2D

P57, depth 1.24 m. featureless body sherd.

Trench B.

The only ceramic find recorded from this cutting is part of a post-Roman ?jug handle in hard red sandy ware from layer 2.

(c) *Sherds from the causeways*

Pottery finds were recorded only from the contiguous causeway cuttings F and O; all came from layer 2.

(i) P109, body sherd of dark brown wheel-made ware of Roman date but Iron Age tradition.

(ii) (Fig. 5, Nos. 4 and 5), sherds probably from the rim of one vessel; on the flattened rim top, large fingernail impressions with some rustication; below the rim a row of irregularly spaced perforations made before firing; thick reddish brown ware with very coarse flints up to 7 mm.

(iii) (Fig. 5, No. 2), fragment from an everted rim; grey-brown surfaces, rather uneven; medium flints.

(iv) (Fig. 5, No. 16), fragment from an everted rim; pale brown exterior, dark interior; well smoothed; sparse medium flints.

(v) (Fig. 5, No. 15), sherd from a vessel of very small diameter with bead rim; brown surfaces, well smoothed; sparse fine flints.

(vi) P122, P124a, P126, fragments from a flat base; reddish brown exterior, dark interior; well smoothed; medium flints and marcasite pellets.

(d) *Sherds from the interior of the enclosure*

Pottery was recovered from cuttings H, J and Q; only three pieces require comment.

- (i) P131 is a fragment from a pot similar in form to Fig. 9. i., but with a more pronounced eversion of the rim; brown surfaces; thin gritty fabric.
- (ii) P92, sherd from the angle of a flat base; red exterior, buff interior; well smoothed; sparse medium flints.
- (iii) P144, very small fragment, possibly from the base of a collar; brown surfaces, greasy fabric, no hard inclusions.

(e) *Sherds from the 'barrow'*

Layers 2, 3 and 4 produced nineteen sherds (P7, P8, P10a, P16, P226a), including fragments of rim and base, of undatable grey pottery, possibly Romano-British. From layers 3 and 4 were recovered four indeterminate prehistoric body sherds (P10b, P226b). From layer 5, the buried surface under the mound, came (Fig. 5, No. 14) a sherd from a simple upright rim and two body sherds belonging to it, one of them possibly from a round base; light red exterior, grey interior, abundant medium flints and pellets of marcasite.

Discussion

The Roman and post-Roman fragments noted above require no further comment. The difficulty in distinguishing between plain flint-filled prehistoric pottery of different periods is especially acute at this site, where the finds are so fragmentary. The following classifications take into account both morphology and stratification. The profiles of some of the undecorated rim sherds here classed as Iron Age may seem equally appropriate to Neolithic vessels, but the circumstance that they came from superficial deposits has been taken to weight the balance in favour of an Iron Age date.

Iron Age

Eight of nine rim sherds, together with fragments of flat bases in similar fabric, appear to fall within the 'Park Brow-Caesar's Camp' group defined by Cunliffe (1974, 38). Close parallels may be found amongst the earlier Iron Age pottery from the Trundle for the fingernail-decorated rims (Fig. 5, No. 7) and (Fig. 5, No. 1), as also for the plain rims (Fig. 5, No. 2) and (Fig. 5, No. 16) (Curwen, 1929, pl. XI:125, and others; pl. X:84-86). Pottery from a settlement at Fareham, Hampshire, includes, in addition to fingernail-impressed rim-tops, forms comparable to the undecorated sherds (Fig. 6, No. 6), (Fig. 5, No. 10) and (Fig. 5, No. 9) (Hughes, 1974, Fig. 15). The more complete profiles shown by (Fig. 5, No. 8) and P131 indicate that they too most probably belong to this group.

Bronze Age

The soft, greasy, stone-free fabric of (Fig. 5, No. 13), P29 and P144 is reminiscent of that commonly found in collared urns; as mentioned above, P144 may come from the base of a collar. The fingernail-impressed rim top and the row of perforations beneath the rim of (Fig. 5, No. 4 and 5, No. 5) are attributes which, though not usually combined, occur separately on bucket urns (Calkin, 1962, 33 and Fig. 12:6 and 11). The two sherds (Fig. 5, No. 11) seem likely to come from a sub-biconical or bucket urn with fingernail impressions applied directly to shoulder or body (Calkin, 1962, Fig. 12:2, 4, 15), and the thick gritty base fragment (Fig. 5, No. 17) might also be placed in this group.

Neolithic

The simple rims P162 (Fig. 5, No. 12) from the enclosure bank, and (Fig. 5, No. 3) from the buried surface under the 'barrow' with their possible fragments of round bases, together, perhaps, with some of the body sherds from deeper levels in the enclosure ditch now remains as the sparse ceramic evidence of a Neolithic presence. They are, however, so undistinguished as to defy further comment; the fabric and the shallow decorative tooling of the body sherd (Fig. 5, No. 16) both recall the fine ornamented bowl from the causewayed enclosure at Whitehawk (cf. Curwen, 1934, 114), but the lattice-like motif is not matched at that site. In view of the evidence from trench R for downward movement of artefacts in the ditch fill (the two instances of joining sherds separated by vertical intervals of about 0.62 m the lower member of each pair found respectively in a hole in the chalk rock and under a flint, presumably as a result of formation of solution holes), it is questionable whether much reliance should be placed on absolute depth as an indication of date.

(ii) *Flint Report* by John Clipson

The excavations at Barkhale produced large quantities of struck flint flakes, but only a few (c. 15) shown signs of any secondary working (retouch). No work has been done on the waste flakes because it appears that many of them have been mislaid or disposed of during the years between the excavation and the writing of this report. Thus, for the most part, only flints showing evidence of secondary working are included in the present discussion.

Group 1: Blades

Numerous small blades were discovered during the course of the excavation. They were struck from a variety of different flints, the predominant colours being grey and black. These blades rarely exceed five centimetres in length and show only slight evidence of retouch, usually at the proximal end of the dorsal surface. Two examples are illustrated in Fig. 6, Nos. 3 and 4, and a blade core is shown in Fig. 6, No. 2.

Under the general classification of blades one must also include the truncated piece shown in Fig. 6, No. 5. This piece differs from the other blades in that it shows signs of abrupt retouch along both edges and at the tip.

Group 2: Scrapers

Five implements which might loosely be termed scrapers, although this does not imply any function, were discovered. Three convex end scrapers (Fig. 6, Nos. 6, 7 and 8), are on flakes c. 5 × 7 cm of grey to grey/blue flint. All shown signs of abrupt retouch around the proximal edge of the dorsal surface. Fig. 6, No. 9 illustrates a similar implement, but with a concave end. A nose end scraper (not illustrated) was also discovered. This is triangular in shape and has a base 3.5 cm wide. The pointed end shows signs of semi-abrupt retouch.

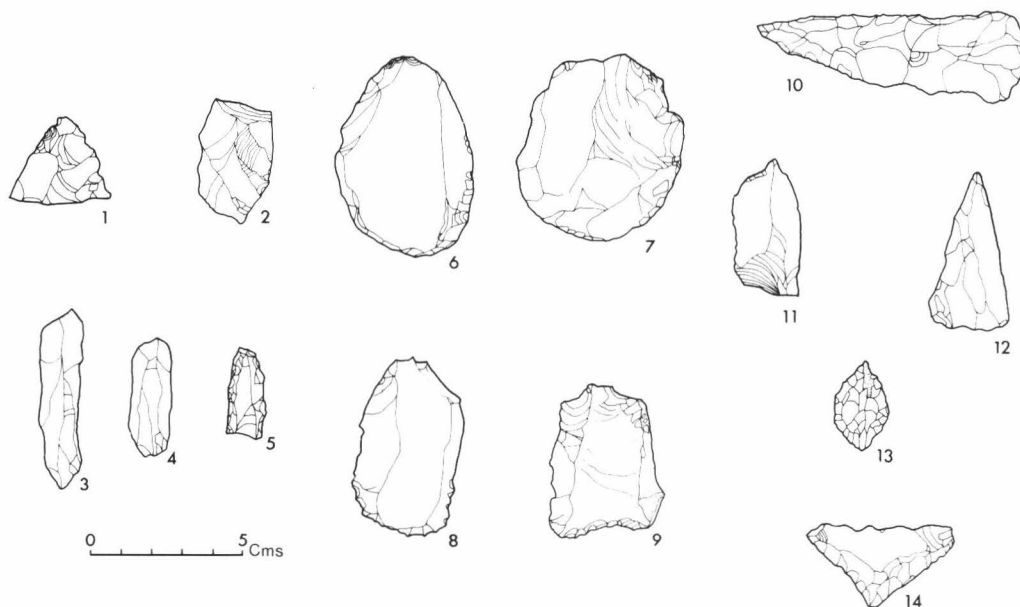


Fig. 6. Barkhale 1958-61. Worked flint.

Group 3: Points

This is a very loose group heading and encompasses a variety of implements:

(i) Arrowheads: two types of arrowhead were discovered. A small bi-facially retouched leaf-shaped type (Fig. 6, No. 13), 3 cm long and almost totally covered with delicate retouch. And secondly a larger transverse arrowhead (Fig. 6, No. 14), worked on a flake and retouched along both sides of two edges.

(ii) Picks: only one implement which could possibly fall into this category was found (Fig. 6, No. 10), this was a small ?axe/pick, 8.5 cm long and 3 cm wide at its broadest point. Both surfaces are extensively retouched.

(iii) True points: only one piece was found in this category and is shown in Fig. 6, No. 12. This is a triangular implement 5 cm long and 2.5 cm wide at the base. It is blunted with semi-abrupt retouch along one edge, and shows signs of wear along the other.

(iv) Borers: this term implies only an accentuated point and does not infer a functional characteristic. The one example is illustrated in Fig. 6, No. 11. The only retouch is on the ventral surface around the point and at the base of the point on the dorsal side.

Group 4: Miscellaneous

Only one actual worked flint falls into this group (Fig. 6, No. 1): a truncated triangular piece showing signs of wear around its point. Additionally, mention must also be made of the several (c. 25) flake cores (not illustrated) discovered. These are between six-ten centimetres in diameter and show evidence of flake removal from prepared surfaces.

The flint assemblage from the excavations at Barkhale reveals a basically early Neolithic assemblage as defined by Smith (1974, 105). Even the presence of a single transverse arrowhead is not without parallel in earlier Neolithic contexts (Wainwright and Longworth, 1974, 257). Whether this implies a corresponding date for the causewayed enclosure is, however, not so clear because few of the objects are recorded as being found in stratified contexts, a majority coming from the upper plough disturbed horizons. Nonetheless, the presence of these flints in the immediate vicinity of the enclosure must lend support to the concept of the enclosure being built sometime within the earlier Neolithic period (4,200-3,300 B.C.).

CONCLUSIONS

The 1958-1961 excavations confirmed much of Curwen's 1930 survey; of his thirteen ditch segments, six were dug and in each case the existence of a ditch was confirmed, the segments varying in length between 3.90-4.90 m and in depth 0.91-1.50 m. Excavation of Trench B showed that it became shallower and narrower towards its ends.

No outlying ditches were identified although these could have been missed owing to the smallness of the trial trenches. It had been hoped by Clipson to investigate further by a

proton-magnetometer survey but the cropping of the field prevented this. Most ditches excavated had some clay in the fill, invariably on the sides of the ditch, which may be due to the clay bank having slumped or alternatively have been deliberately pushed into the ditch. The latter theory may be supported by the homogenous fill above the clay, i.e. brown sandy loam, which suggests a one-period infilling. As Dr. Smith points out in her report, the finds may have moved owing to the formation of solution holes and cannot therefore be used in assessing any sequence of infill. The lack of silt accumulation in the sections other than R and G suggests that infilling took place not long after the ditches were formed.

The percolation of water through the acidic soil has led to the formation of many solution holes in the chalk. Any pits or postholes dug in the chalk where this solutioning has occurred could not be identified without sectioning the fill. This was not done.

The bank has been almost completely destroyed by modern ploughing but was identified in Trenches K and T, where it remains to a height of 0.60 m. It was composed of chalk compacted with clay to a maximum width of c. 6.00 m. It may have been spread by ploughing and was probably narrower; it is difficult to assess its height but taking into account the material likely to have come from the ditches would not have exceeded 1.50 m. The excavations did not establish whether the bank was discontinuous as on Curwen's survey, or otherwise.

The excavations did show however that the ditches were discontinuous and that the chalk in the causeways was covered by a layer of flint and clay. This may be the remains of metalling laid down to improve access to the enclosure.

The absence of organic material in the finds make it impossible to obtain radio-carbon dates for the site, and the paucity and poor quality of the flint and pottery makes any precision in dating difficult. However, the similarity between Barkhale and other, better dated, sites suggests a date in the earlier Neolithic period c. 4000–3,300 B.C.

The ditch, the pottery, and the flints, provide the evidence for the presence of prehistoric man at Barkhale, but does not indicate permanent occupation in the enclosure. This would be best demonstrated by structural remains, of which none were found, other than the 'hearths' noted in some trenches. The authenticity of these features is in doubt however. There is therefore no definite evidence for occupation at Barkhale in the prehistoric period.

ACKNOWLEDGEMENTS

John Clipson, in his paper, thanked Dr. Seton-Williams for providing him with all the original material from her excavations at Barkhale. In addition, gratitude was also extended to the following: Mr. P. L. Drewett, for the initial inspiration and subsequent advice; Dr. I. Smith for her report on the pottery; Glenn Markisson for drawing the flint; and the following members of the Institute of Archaeology, London, staff who provided advice on specific problems: Dr. M. Newcomer and Miss F. Healy for their help with the flint artifacts; Mrs. S. Denford for visiting the site and commenting on its environmental archaeological potential, and Miss J. Sheldon for advice on the local geology.

THE 1978 EXCAVATIONS by Peter E. Leach

In August 1978 the Sussex Archaeological Field Unit was invited by the National Trust, at the suggestion of F. G. Aldsworth, West Sussex County Council Archaeology Officer, to investigate mounds within the southern segment prior to clearance work, and also to establish the precise line of bank and ditch on its perimeter. Excavation took place in September under my direction.

Trenches were excavated through five mounds and one hollow within the enclosure, and through the perimeter in two places (Fig. 2).

The Mounds and Hollow

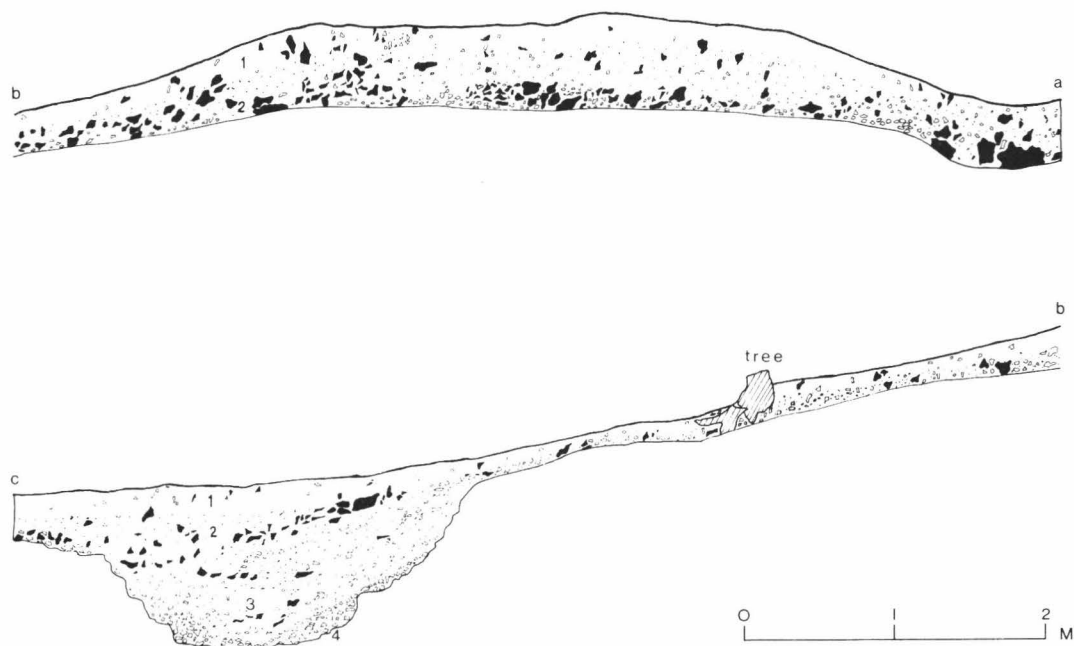
The first mound excavated, No. I, disclosed the following layers (Fig. 8):

- (1) Dark brown friable topsoil.
- (2) (a) Orangey-brown soil of clayey consistency with a layer of large flints at the bottom.
- (2) (b) Pocket of very orangey-yellow natural clay-with-flints. This overlaid conical solution holes in the chalk.
- (3) Natural chalk.

The other mounds excavated, Nos. III, IV, V and VI showed fewer layers. In some cases layer 1, of topsoil, extended down to layer 3 of natural chalk. Trench III disclosed an oak bole in good condition lying well below the surface and in the centre of the mound, and Trench V a burnt layer approximately halfway down to the natural chalk.

Although struck flint was found at all levels in the mound, it is probable that, as they consist largely of topsoil of unknown provenance, they are recent.

The trench, No. VII, excavated across a shallow hollow, disclosed only a thin layer of topsoil on natural chalk.



TRENCH II

Fig. 7. Barkhale 1978. Trench II.

*Bank and Ditch**Trench II (Fig. 7)*

The following layers were found:

- (1) Topsoil (as for Trench I).
- (2) Orangey-brown soil of clayey consistency.
- (3) Chalk silting layers with light brown soil.
- (4) Chalk rubble in chalk dust.

The chalk underneath the bank shows a preserved rise. It had periglacial features in its surface and was confirmed as natural chalk by sectioning just prior to backfilling. The ditch, cut into hard chalk, was approximately 2 m wide and 1 m deep. It was situated at the foot of the bank. The bottom of the ditch and the face below the bank showed no weathering, suggesting therefore a rapid silting from the bank, whereas the outer face is weathered to some degree.

Trench VIII (Fig. 8)

- (1) Topsoil.
 - (a) Chalky layer within Layer 1.
- (2) Orangey-brown clayey soil with large flint nodules.
- (3) Chalky silting layers as follows:
 - (a) Irregular chalk lumps in dark brown soil,
 - (b) more granulated chalk lumps than (a) in light brown soil,
 - (c) small chalk lumps in chalky fill.

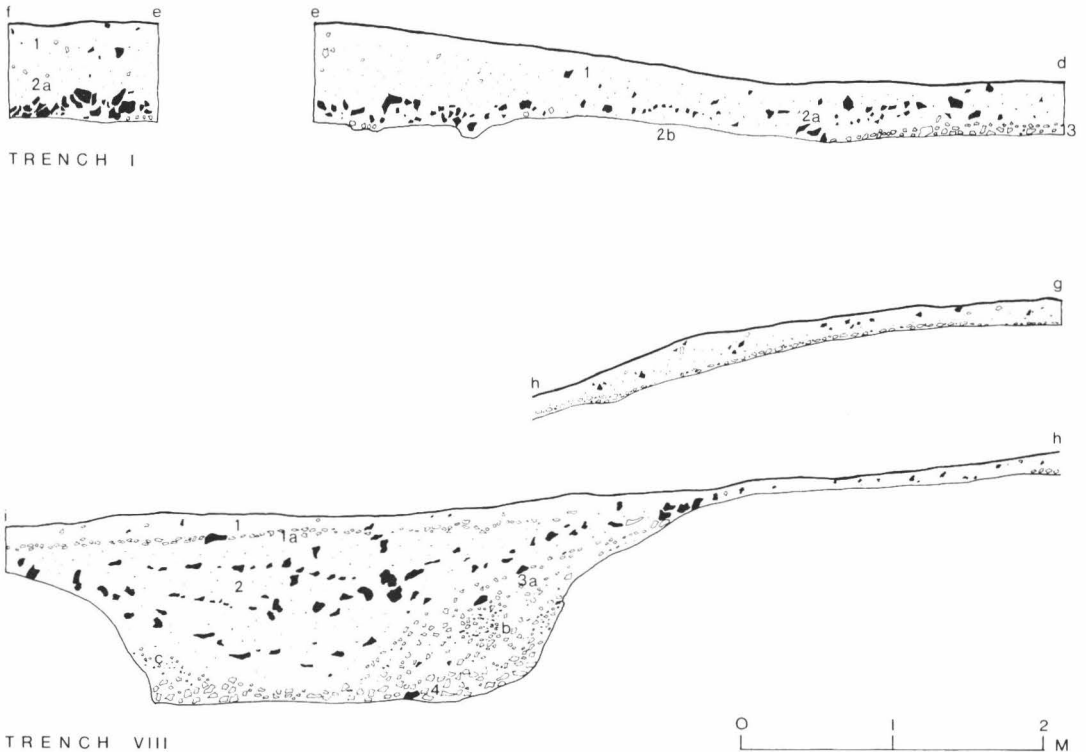


Fig. 8. Barkhale 1978. Trenches I and VIII.

(4) Platy chalk rubble above chalk natural.

The trench was not continued beyond the crest of the bank. The natural chalk revealed was similar to that underneath the bank in Trench II and it is assumed that a preserved rise in the chalk exists here also.

The ditch, cut into what is now very shattered chalk towards the bottom, is about 3 m wide and more than 1 m deep. A berm some 2.5 m wide separates the bank and ditch at this point. The appearance of the natural chalk suggests this to have been so always, although the chalky layer 1 (a) within the topsoil mentioned above shows some agricultural or forestry work within the locality.

ACKNOWLEDGEMENTS

I wish to thank Mr. P. Mansfield and Mr. G. Jones, both of the National Trust, for the opportunity to excavate, and Mr. F. G. Aldsworth for suggesting that the Sussex Archaeological Field Unit should do so. He also kindly prepared the site plan. Thanks are due also to those, especially volunteers, who dug on site.

My thanks are due to Mr. P. L. Drewett, B.Sc., F.S.A., for his guidance, and to Dr. K. D. Thomas for preparing his report on molluscan analysis in the ditch fill.

Especial thanks are due to Caroline Cartwright, M.A., not only for her section drawing on site, her help with the flint and pottery reports, and identification of charcoal, but particularly for her help and guidance during the excavation.

THE FLINT INDUSTRY by Caroline Cartwright and Peter E. Leach

The provenance of the mound soil is uncertain and the flintwork found therein cannot be definitely related to the site. All surface finds within the enclosure are also included. A total of 176 struck flints, mostly waste material, were found (Table 1). They were generally scattered through soil layers, the only exception being a concentration of 44 fire cracked flints in Trench V in a burnt layer of probable modern origin.

TABLE 1 FLINTWORK FROM MOUNDS BY TRENCH AND LAYER NUMBERS

| Trench and Layer | CORES | | | | | | | | | | | | |
|------------------|--------|-------------|----------------|----------------|---|--------------------|--------|------------------|---------------------|--------------------|--------|----------------------|--------|
| | Flakes | Rough Waste | A ² | B ² | C Core on Flake A ¹ Scrapers | Serrated Flakes | Blades | Blade Segment | Retouched Flakes | Retouched Blade | C.R.F. | F.C. Waste Flakes | F.C.F. |
| Surface | 7 | | | | 1 | | | 1 | 2 | | 1 | | 1 |
| I L1 | 6 | | | | 1 | | | | 2 | | | | 1 |
| I L2 | 7 | | | 1 | | | 1 | | 3 | | | | |
| I L3 | 4 | | | | | | | | 1 | | | | |
| III L1 | 8 | | 1 | | | | 1 | | 1 | | | | |
| III L2 | | | | | | 1 | | | | | | | |
| IV L1 | 3 | | | | | | | | | | | | 3 |
| IV L3 | 3 | | | | | | | | | | | | |
| V L1 | 11 | 1 | | | | | | | | | | 1 | 44 |
| VI L1 | 7 | | | | | | | | 2 | | | | 2 |
| VI L3 | 7 | | | | | | | | | 1 | | | 2 |
| VII L1 | 29 | 1 | | | 1 | | 1 | | 3 | | | | 1 |

Cores

Class A², in Trench III, layer 1. A large nodule of poor quality flint, several flakes have been removed, but much cortex remains.

Class B², in Trench I, layer 2. Most of the cortex remains, only a few flakes have been removed.

Class C — two were found: a surface find near Trench III is small, used for removal of small blades, with one small area of cortex remaining (Fig. 9, No. 5), and in Trench I, layer 1 was an irregular core, partially used for removal of small flakes.

Core on Flake — found in Trench VII, layer 1.

Scrapers (Fig. 9, No. 6)

Only one scraper was found, from Trench III, layer 2. It is of oval shape with deep retouch on approximately half its circumference, and is truncated at its head.

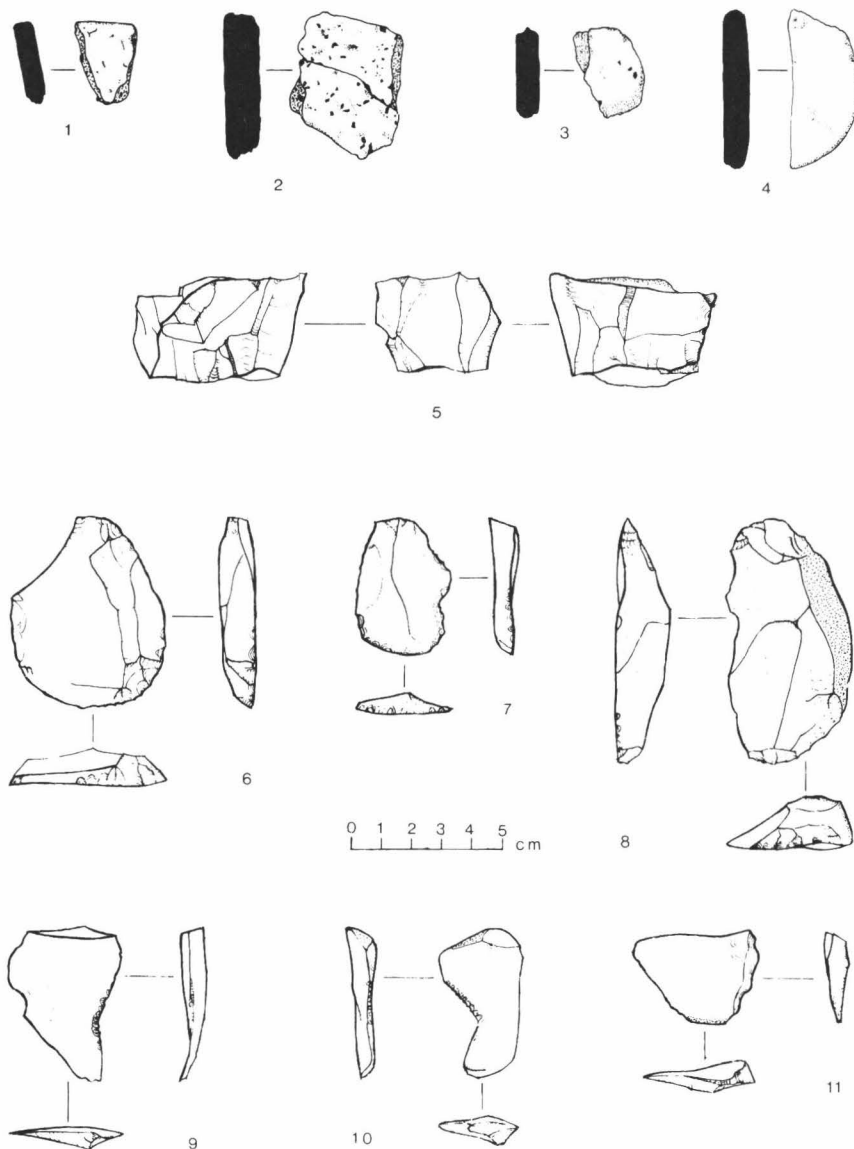


Fig. 9. Barkhale 1978. Pottery and worked flint.

Retouched Flakes

Fourteen retouched flakes were found, with small areas of retouch.

Core Rejuvenation Flake

Only one core rejuvenation flake, a surface find near the trackway, was recovered.

TABLE 2 FLINTWORK FROM TRENCH II BY LAYER NUMBERS

| Layer | Flakes | CORES | | | | | Core on Flake | SCRAPERS | | Notched Flakes | Retouched Flakes | F.C.F. |
|---------|--------|----------------|----------------|----------------|----------------|---|---------------|----------------|----------------|----------------|------------------|--------|
| | | A ² | B ¹ | B ² | B ³ | C | | A ² | B ¹ | | | |
| 1 | 16 | | | | | | | 1 | | | 6 | 3 |
| 2 Bank | 17 | | 1 | | | | 1 | | 1 | 1 | 3 | |
| 2 Ditch | 32 | | | | | | | | | | 3 | |
| 3 | 24 | 1 | | | | | 1 | | | 1 | | 3 |
| 4 | 22 | 1 | 2 | 1 | 1 | 1 | | | | | | 2 |
| 5 | 1 | | | | | | | | | | 1 | 1 |

Struck flints found (Table 2) total 149, of which 51 were found in layer 1 and bank layer 2 which showed some disturbance. Ditch layer 2 contained 35 struck flints, and layers 3, 4 and 5, of primary fill and relating presumably to activities associated with the causewayed enclosure, contained 63.

Cores

Of the ten cores found, two are on flakes with no cortex. One, of Class A², is small with little cortex remaining, used for striking of small flakes, and the remaining seven are rough and irregular with heavy white patination. Most have some cortex remaining with a few large flakes removed. That six of these were found in layer 4 is indicative of flint knapping in the vicinity.

Hammerstone

One hammerstone was found, in layer 1. It is a round nodule with complete cortex, but signs of utilisation at one end.

Scrapers (Fig. 9, Nos. 7 and 8)

Class A² found in layer 1 is a small end scraper with steep retouch. Class B¹, found in bank layer 2, is double ended with steep retouch at one end. Cortex remains along one side of the scraper.

Notched Flakes (Fig. 9, Nos. 10 and 11)

Two notched flakes were found, of which one (bank layer 2) is basically triangular with steep retouch along one side; the other (layer 3) is angled with small regular retouch on the inside edge.

Retouched Flakes

Thirteen retouched flakes were found, most with irregular areas of retouch down one side.

TABLE 3 FLINTWORK FROM TRENCH VIII BY LAYER NUMBERS

| | Flakes | CORES | | | | | Blade Segment | Notched Flakes | Retouched Flakes | F.C. Waste Flakes | F.C.P. |
|---------|--------|-------------|----------------|----------------|----------------|----------------|---------------|----------------|------------------|-------------------|--------|
| | | Rough Waste | A ¹ | A ² | B ² | B ³ | | | | | |
| L 1 | 10 | | | | | | | | 1 | | 1 |
| L 2 | 153 | 7 | | 1 | 2 | 1 | 1 | 1 | 4 | 1 | 3 |
| L 3 | 5 | | | | | | | | | | |
| L 4 Pit | 122 | 5 | 1 | 1 | | | 1 | | 5 | | |

The bulk of the 326 struck flints (Table 3) found are waste flakes, 153 from layer 2, and 122 from a possible pit in the shattered chalk in layer 4. The general similarity of these and their concentration are suggestive of flint working within the enclosure, a view reinforced by those found in the layer 4 pit, some of which fit together and clearly form an assemblage.

Cores

The seven cores found are similar. They are large, irregular, have much cortex remaining, and have had large flakes removed.

Notched Flake (Fig. 9, No. 9)

One notched flake, angled in shape, with steep retouch on the inside angle.

Retouched Flakes

Ten retouched flakes were found, one in layer 1, four in layer 2, and five in layer 4; most have irregular small areas of retouch on one edge.

A surface scatter of struck flint can be seen within the enclosure and also in the plantation to the south. The excavated flint, although considerable in quantity bearing in mind the limited areas excavated, must nevertheless represent a very small proportion of that in the total enclosure.

POTTERY by Caroline Cartwright and Peter E. Leach

Trench VIII, layer 2—Neolithic (Fig. 9, No. 2)

Twelve body sherds of 'coarse' fabric with some large, angular calcined flint fragments and a number of small, angular, and sub-rounded crushed flint and quartz fragments and chips. The surface of the sherds varies from dark brown and reddish brown to light ochre according to the firing temperature.

Two sherds of fine fabric (including one rim—Fig. 4, No. 1) are ascribed to the Neolithic because of the rim form (rounded bowl). The large angular flint fragments characteristic of the 'coarse' fabric described above are almost completely absent. There is, however, a regular inclusion of small, angular and sub-rounded quartz and flint fragments.

Trench II Surface Find—Iron Age (Fig. 9, No. 3)

One black, well fired, sherd with generally sub-rounded flint and quartz inclusions.

Trench III, layer 1—Roman (Fig. 9, No. 4)

One abraded, and perhaps artificially rounded, undecorated Samian sherd.

CHARCOAL—identified by Caroline Cartwright, M.A.

Trench VIII, layer 2

Five grams of very fragmented *Quercus* sp. (oak) charcoal.

Trench V, layer 1

Fifty grams of recent *Taxus baccata* (yew) charcoal fragments.

Trench II (ditch), layer 1

Twenty grams of recent *Taxus baccata* charcoal fragments.

MOLLUSC ANALYSIS OF SAMPLES FROM THE DITCH-FILL OF TRENCH II by K. D. Thomas

Three bulk samples from the lowest three layers of the ditch (layers 2, 3 and 4) were analysed for land snails. Few specimens were extracted, so this report is necessarily brief.

TABLE 4 BARKHALE CAUSEWAYED ENCLOSURE: THE SAMPLES ANALYSED

| Ditch Layer | Munsell colour (moist) | Organic matter | Carbonized materials | Percentage by weight passing through sieves: | | | pH* | |
|-------------|------------------------|----------------|----------------------|--|------|--------|------|------|
| | | | | 6 mm | 2 mm | 0.5 mm | A | B |
| 2 | 7.5 YR 5/6 | +++ | ++ | 98.9 | 97.9 | 97.3 | 7.70 | 6.95 |
| 3 | 7.5 YR 5.5/6 | ++ | + | 53.4 | 46.7 | 44.0 | 8.50 | 8.25 |
| 4 | 10 YR 6/4 | + | + | 67.1 | 48.4 | 41.4 | 8.50 | 8.30 |

* 10 g of sieved soil (<2 mm) in 50 ml distilled water. Stirred.

(A) Left for 20 minutes, stirred, reading taken

(B) Left for a further 2 hours, stirred, reading taken

The Samples

One kilogram sub-samples were extracted for land snails, the material being washed through a series of sieves down to 0.5 mm mesh aperture. The sample descriptions are shown in Table 4.

Results

The sample from layer 2 produced no land snails and only a few carbonized and unburnt seeds, and much uncarbonised root and stem material. The soil sample from layer 3 contained a meagre assemblage of snails, as shown in Table 5. Some roots were present in this sample, as well as a few small carbonized seeds. The sample from layer 4 again contained no mollusc shells which could be identified, although three unidentifiable fragments were recovered. This sample also yielded a few carbonized seeds, a few roots, and one adult beetle (Coleoptera; Staphylinidae) with its legs and the right antenna missing. Otherwise, the insect was perfectly articulated and is almost certainly an intrusive burrower.

The presence of this beetle in the lowest deposits of the ditch, and of roots throughout the ditch profile, shows how very disturbed the sediments have been by biological activities. It is not likely that the snails are intrusive, for reasons outlined below.

Conclusions

The data are so sparse that it is not possible to draw any firm conclusions from them. However, although depauperate, the assemblage of land snails from layer 3 of the ditch fill is of some interest in that the species present are mainly shade-loving in their ecological preferences. This is not, perhaps, very surprising in view of the shaded microhabitat which can occur in ditches (as discussed by Evans 1972). What is surprising is the absence of any open-country species.

Where a ditch is dug in open-country, the sediments and snails which occur in its fill may reflect both the ditch micro-environment and the surrounding environment; as a result, the land snail assemblage will be 'mixed' in the ecological sense (e.g. Evans 1972, 328–44). Some species will have been living in the sheltered, perhaps overgrown, ditch, while others will have been living in the surrounding environment and become incorporated into the sediments of the ditch-fill.

The assemblage of species considered here is very restricted, in that it contains no decidedly open-country species, nor does it contain species which are obligate shade-lovers, or indicators of woodland conditions. All the species listed in Table 5 have been recorded in long grassland habitats on the chalk (Cameron and Morgan-Huws 1975), but usually in association with species indicative of grassland habitats (such as *Vallonia* species, as well as *Pupilla muscorum* and helicellids). The assemblage is not indicative of scrub habitats, as these mosaic environments contain micro-habitats suitable for shade-loving and open-country species, and on the chalk *Pomatias elegans* is often very common in scrub environments, but is absent from the assemblage in layer 3.

The assemblage in layer 3 closely resembles some assemblages from the ditch fills at the Offham causewayed enclosure (Thomas, in Drewett 1977). In the case of Offham, it was suggested that the assemblages of molluscs from the ditch fills, and the buried soil under the bank associated with the outer ditch, indicated that the enclosure was constructed in a temporary clearance in woodland. The data from Barkhale are so inadequate that they cannot sustain such an interpretation for this site; however, it is worthwhile drawing attention to the resemblance between the Barkhale and Offham ditch assemblages.

A quite different interpretation of the assemblage from layer 3 at Barkhale is that no shells from the surrounding area became incorporated into the ditch deposits and that the assemblage is wholly representative of a snail fauna which was living in the sheltered conditions of the ditch. This would be most likely to arise if the soils around the ditch were too acid to support a thriving community of snails. Certainly, clay-with-flints does occur in some areas on and around the site. The absence of molluscs in the soils of layer 2 may be due to soil acidity, although the pH of this layer is on the alkaline side of neutral (Table 5), so the absence of shells is not readily explained by this factor. Layers 2 and 1 are certainly derived from soil material, in the

TABLE 5 BARKHALE CAUSEWAYED ENCLOSURE: The Land Snails from a 1 kg sample from Ditch Layer 3

| <i>Species</i> | <i>Number of Individuals</i> |
|--------------------------------------|------------------------------|
| <i>Carychium tridentatum</i> (Risso) | 5 |
| <i>Cochlicopa</i> sp. | 1 |
| <i>Discus rotundatus</i> (Müller) | 3 |
| <i>Vitrea contracta</i> (Westerlund) | 5 |
| <i>Nesovitrea hammonis</i> (Ström) | 4 |
| <i>Oxychilus cellarius</i> (Müller) | 1 |
| <i>Limacidae</i> | 4 |
| TOTAL | 23 |

strict sense, whereas layers 3 and 4 are weathered chalk rubble from the bank and the sides of the ditch. This is probably especially true of layer 4, which appears to have rapidly slumped into the ditch from the bank. The absence of snails in this layer supports this idea of very rapid accumulation. Layer 3 probably accumulated more slowly, while layers 1 and 2 may have been produced by later ploughing. This ploughing phase may have been much later than the phase of infill represented by layer 3, but no time scale can be surmised from the available data.

The part of the enclosure excavated is adjacent to existing woodland. Is it likely that these shells from layer 3 are intrusive? I think not—firstly because they are absent from the overlying layer 2, as well as from layer 4, even though bioturbation was

active in this layer (judging by the presence of roots and the dead beetle). Secondly, the species of snails involved are not known to be active burrowers. It is interesting to note that the burrowing species *Cecilioides acicula* is absent from these deposits.

Summary

A very limited assemblage of land snails was extracted from layer 3 of the ditch fill. The species present are generally found in shaded micro-habitats. Alternative explanations for such an assemblage are considered, based on ecological and taphonomic reasoning.

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¹ Numbers assigned to separately recorded sherds in the excavation finds book run from P1 to P226, but sherds corresponding to 25 of these numbers are not now present in the collection. Some, which proved after cleaning not to be pottery, were discarded by the excavator; the remainder are not accounted for. Three of the serial numbers are duplicated, each having been given to two separate finds; seven sherds have no serial number, though provenance and stratification are recorded.

The Society is grateful to the Department of the Environment for a generous grant towards the cost of publishing this article.