Excavations at City Farm, Hanborough, Oxon.

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With reports by Hl. de Vries, Dennis Harding, D. F. B. Roberts, John Banks, A. J. Cain, G. W. Dimbleby, and Henry Cleere

THE farmhouse of City Farm (SP 430111 ; FIG. 1) is in Eynsham parish, but its fields are also northwards in Church Hanborough. They lie on a strip of Summertown-Radley terraced gravel[1] which stretches south-south-westwards at a mean height probably a little below 230 ft. O.D. for about 4½ miles to Linch Hill, Stanton Harcourt, dissected laterally by the courses of three minor streams. The vertical interval over these gravels probably did not exceed 30 ft. Another patch of similar gravel lies about a further mile south-westwards in Standlake, separated from the Eynsham-Stanton Harcourt strip by the water-courses of the Windrush, and at a slightly higher level, partly on the 250 ft. contour line. These gravels attracted frequent settlement in ancient times and have yielded a great quantity of sites and finds. Numerous archaeological excavations and field-observations have been made during large-scale quarrying of gravel since early in the 1930s.

Most of the archaeological sites at City Farm (FIG. 2) appear in aerial photographs by Mr. D. N. Riley, Dr. J. K. St. Joseph, and Fairey Air Services. This report is concerned with six Bronze Age ring-ditches (sites 1-6), Bronze Age burial-pits nearby, Early Iron Age pits and nearby settlements, and a small Anglo-Saxon cemetery. In the account which follows, evidence from excavation is described taking the sites from south to north irrespective of their original chronological order. This is because the earliest site (site 4) showed unusual features, and it seems best to describe the simpler sites 2 and 3 first. The summary (p. 53 ff.) and catalogue of finds (p. 56 ff.), however, follow chronological order.

In June 1955, Mr. A. G. Fenwick reported to the Ashmolean Museum finds made in stripping topsoil from site 3, during gravel-digging by Messrs. John Brown Ltd. An excavation was quickly arranged by the Ashmolean Museum ; but since the staff was heavily engaged in reorganization of the

[1] Case (1956), FIG. 6.

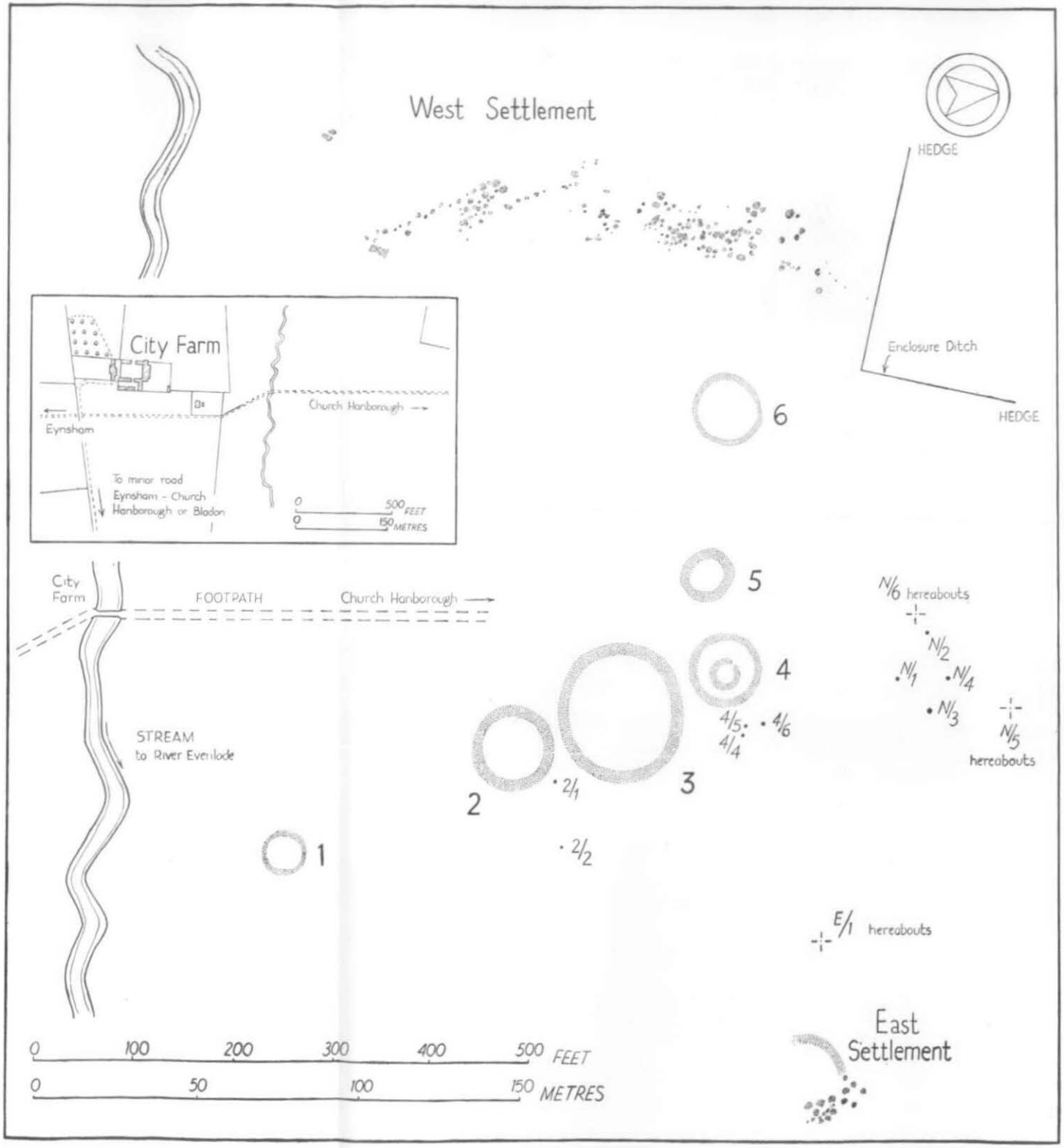

FIG. 2
Archaeological sites at City Farm.

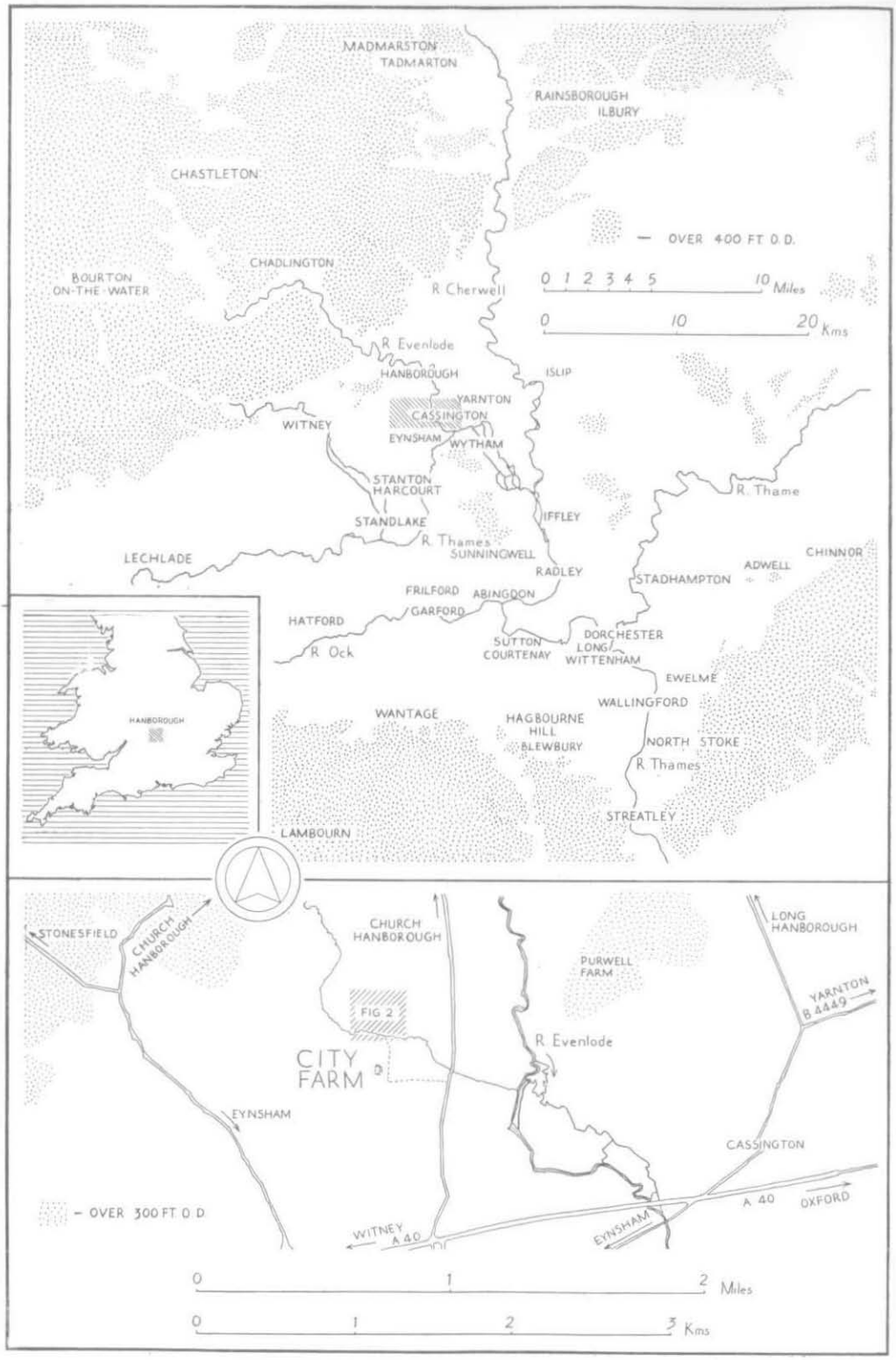

FIG. 1

City Farm in its national and regional setting.

Egyptological Collections, the resources of the University did not permit other than selective excavations at City Farm or field-observations during the course of quarrying ; these activities, however, continued steadily until 1964, keeping pace with the quarrying. Many thanks are due to members of the Oxford University Archaeological Society[2] and others who were active during this period and gave their spare time enthusiastically, whose help is described in the appropriate sections below ; and to Mr. David Sturdy who organized the excavations of sites 5, 6 and the West Settlement. This report has been drafted by Mr. Case, except for the account of the West Settlement which is by Miss Sutermeister and of its finds by Mr. Dennis Harding ; the field-accounts of Mr. Bayne formed the bases for part of the report on site 3 and for much of that on site 4, the account of Miss Steele for site 5, and that of Mr. Avery for site 6. The sections were interpreted and drawn in the field and for publication by Mr. Case except where indicated ; Mr. Harding drew the finds from the West Settlement. The remaining line-drawings and all the lettering have been prepared for publication by Mrs. M. E. Cox, Mrs. P. Clarke and Mrs. P. Pogson, all at various times on the staff of the Ashmolean Museum. Cordial thanks are expressed to the authorities who have contributed specialist reports. The financial support of the Ministry of Public Building and Works and the interest shown by its officers are gratefully acknowledged.

SITE 1 (FIG. 2)

This ring-ditch was destroyed by gravel-quarrying before June 1955. It is shown on FIG. 2, plotted from aerial photographs. It resembles Beaker Culture ring-barrows in its small size and circular form : For example, Cassington 4, Lambourn 17, North Stoke, Stanton Harcourt XV, 4.[3]

SITE 2 ; PITS 2/1, 2/2

(FIGS. 3, 4. Finds, pp. 75 ff, 87; FIGS. 25, 26)

When brought to the notice of the Museum, topsoil had been completely stripped from the outer ditch and the southern half quarried away. No excavations were made apart from searching the exposed horizontal surface of the gravel for graves and other features, and straightening the cross-sections exposed in the face of the quarry. No features were found apart from the inner and outer ditches, and no finds were made. The southern half of the outer ditch on FIG. 3 has been plotted from aerial photographs, but the southern

[2] By 1965 the Society had completed more than 40 years of collaboration with the Ashmolean Museum in rescue excavations in the Upper Thames Valley.

[3] Lambourn 17 in Case (1956/7), 23-5 ; remainder listed in Case (1963), 43 ff. Cp. also possibly Queensford Mill, Dorchester : *Oxoniensia* XXVII (1963), 93-5.

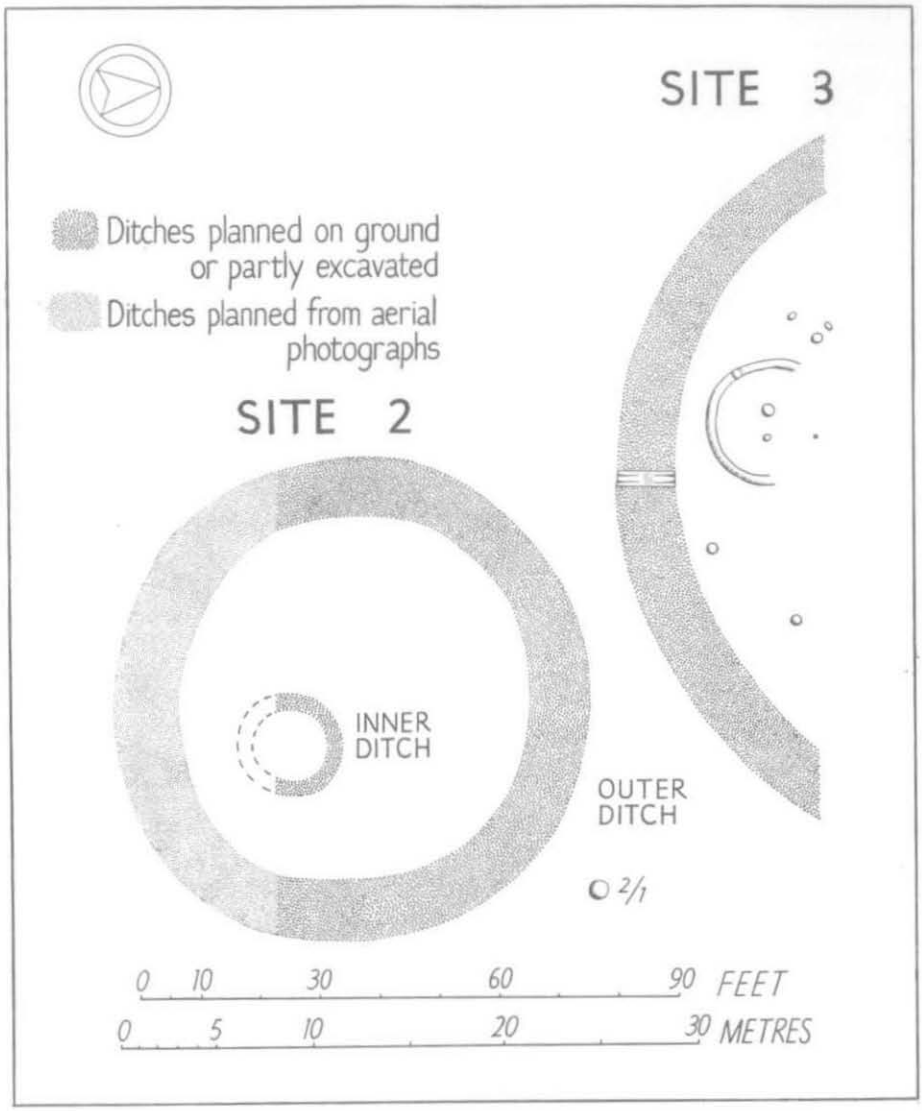

FIG. 3

half of the inner ditch has been conjectured. The inner ditch was 3 ins. deep and filled with featureless stony reddish-brown loam (like the inner ditch on site 3 ; FIG. 7). No traces of posts or other structures were seen in it. The

outline of the base of the outer ditch was well defined by calcareous concretion. The following layers were noted :[4] Layer 6, more or less unweathered yellow gravel with faint reddish-brown humic runs, represented material naturally silted from the freshly-dug sides of the ditch.[4a] Layer 5 comprised mixed runs of reddish-brown loam and weathered and loamy reddish-brown gravel derived probably mainly from the weathered sides of the ditch, and plainly from both sides. The slightly greater volume from the outside, however, suggests a small outer ring-bank standing close to the ditch.

Layer 5 was overlaid by 4 consisting of runs of loam and of more or less unweathered gravel ; both 4 and 5 contained quartzite pebbles. The runs of gravel in layer 4 were derived entirely from the inside of the monument (although intercalated with runs of loam from the outside) and had the effect of transposing the centre of the ditch progressively outwards. They must represent therefore the progressive degradation of an earthwork which had stood near the inner edge of the quarry-ditch. Bearing in mind the depth and circumference of the ditch, this earthwork is more likely to have been a ring-bank than a barrow-mound. Layer 3 consisted of partly wind-blown or rain-washed loam which filled the hollow left by layer 4, but as in other ditches at City Farm earth-movement by cultivation probably contributed. (The layers corresponding to 1 and 2 elsewhere at City Farm had been removed by the gravel-excavations before the section was drawn.)

The ring-ditch is interpreted therefore as having had a major inner ring-bank, and possibly a minor outer one and if so was of the recently defined type 2c.[5] Site 6 was of this type (pp. 36-42) ; both sites also show minor resemblances in flat-bottomed ditches and in concentrations of quartzite pebbles, which may have been deliberately collected. Only a few ring-ditches of type 2c have been recorded from the Oxford region. This type has some similarities to Dorset type disc barrows defined by Grinsell,[6] which may date from the Early Bronze Age and Dutch disc barrows as defined by Glasbergen,[7] which should be equivalent in date to the end of our Early and beginning of our Middle Bronze Age. By analogy with site 6, site 2 should be Middle Bronze Age.

Two pits were found east of site 2. Pit 2/1 was excavated by Mr. Brian Arthur, who drew the section in the field. It was cylindrical, D. 3 ft., d. 1 ft.

4 In FIGS. 4, 6, 7, 10, 11, 12, 14, 16, 19, gravel is indicated by voids, stipple or shaded pebbles, weathering being shown by the relative strength of these symbols. Loam is shown by hatching, and combination of these basic elements by combined symbols.

4a These humic runs may be taken as representing naturally silted topsoil contrasting with the more massive and contorted forms from the outer ditch of the causewayed camp, Abingdon, Berks. representing constructional sods. Case *Ant. J.* XXXVI (1956), 13-4.

5 Case (1963), 39, 46.

6 Grinsell, 18, 168-71.

7 Glasbergen (1954b), 167.

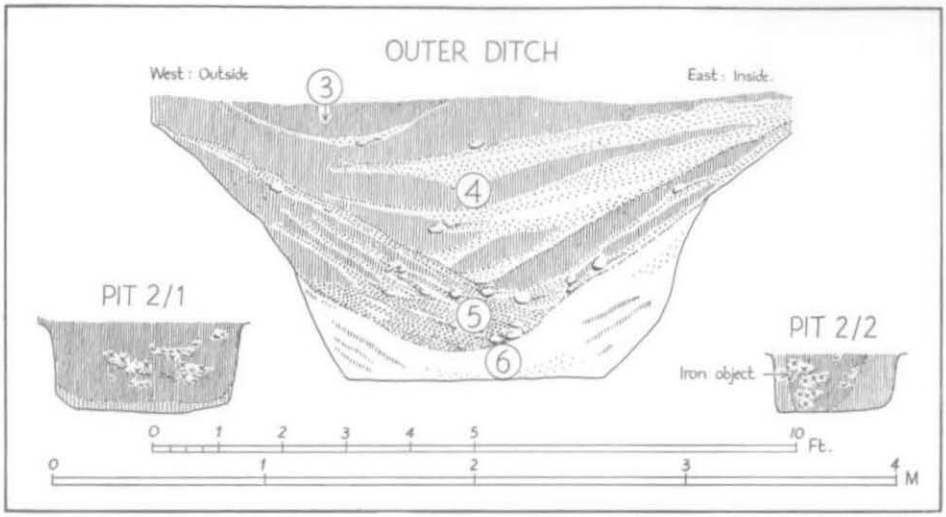

FIG. 4
Sections of outer ditch, site 2, and of pits 2/1 and 2/2.

3½ ins.[8] The floor was covered with gravelly brown loam, and the filling was gravelly brownish-black loam with charcoal dust, becoming stonier towards the centre, containing fragments of cremated bone throughout with sherds and fire-marked pebbles. The sherds were of a mature Middle or possibly Late Bronze Age urn (FIG. 26), broken at insertion, and possibly truncated by cultivation and topsoil-clearance. Fragments of shale or jet were also found. This pit may have been secondary, dug just outside the outer ring-bank of the original monument. The north sector is unusual for secondary burials, but again there is an apparent parallel with site 6 (p. 41).

Pit 2/2 was also excavated by Mr. Brian Arthur who drew the section in the field. It was cylindrical, D. 2 ft., d. 9 ins. A funnel-shaped deposit of brownish-black loam containing cremated bones, an iron object, sherds, a bronze strap-binding and buckle (FIG. 25, nos. 1-4), and fire-cracked quartzite pebbles was found lying eccentrically in a matrix of brown loam. The sherds were of more than one Anglo-Saxon vessel. The grave was part of a small linear Anglo-Saxon cemetery which is best interpreted as pagan (p. 22).

SITE 3

(FIGS. 5-8. Finds, pp. 66-71; FIGS. 25, 26)

This site was found by excavation to consist of a ring-ditch with outer bank (Type 2a) containing a cremation-cemetery with burials mostly in pits, some

[8] In the descriptions of pits, D. is used to indicate diameter at the surface of the gravel and d. to indicate depth from this surface.

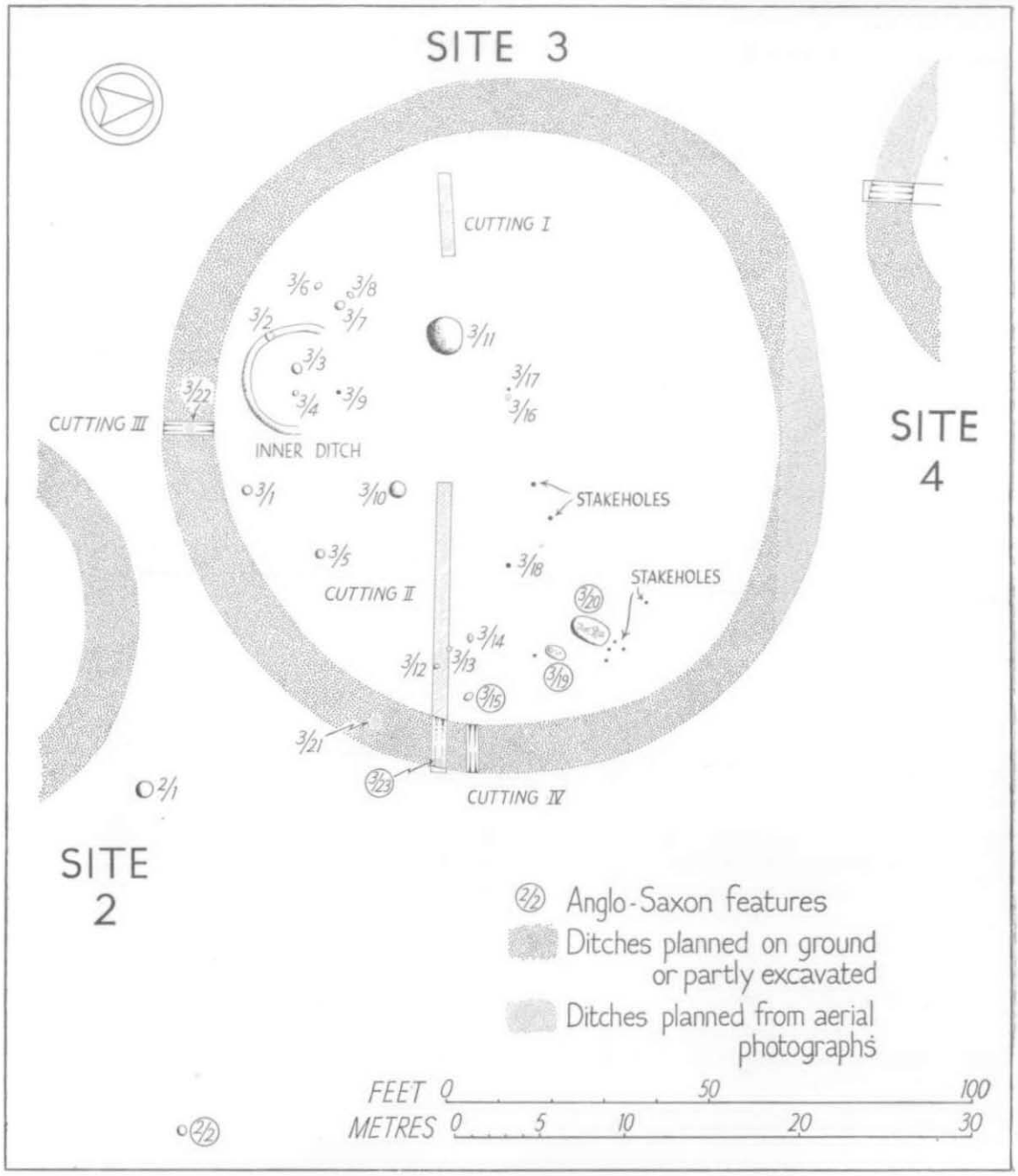
SITE 3
CUTTING I
3/6
3/8
3/7
3/2
3/11
3/3
3/17
3/4
3/9
3/16
3/22
CUTTING III
INNER DITCH
SITE 4
3/1
3/10
STAKEHOLES
3/5
3/18
CUTTING II
STAKEHOLES
3/20
3/14
3/12
3/13
3/19
3/15
3/21
3/23
CUTTING IV
2/1
SITE 2
2/2 Anglo-Saxon features
Ditches planned on ground or partly excavated
Ditches planned from aerial photographs
FEET 0 50 100
METRES 0 5 10 20 30
2/2

FIG. 5

with accessory vessels (collared urns), dated to the close of the Early Bronze Age or onset of the Middle, with a mean radiocarbon date in the early 15th century B.C. Its western part was incorporated in a pagan Anglo-Saxon cemetery, of which pit 2/2 was also part.

When brought to the notice of the Museum, topsoil had been stripped south of pit 3/6 but no gravel had yet been quarried ; pits 3/6, 3/3 and 3/1 had been superficially disturbed ; north of pit 3/6 the site was intact, in a field of barley. But the quarry was advancing rapidly and those qualified to undertake field-work in the middle of the Long Vacation were few. It was decided therefore to use them to obtain as full a record as possible of the internal features by cleaning the surface of the gravel after topsoil had been removed by mechanical earth-scraper; and to dig only sample cuttings before. As soon as the barley had been harvested, cuttings I and II were therefore dug through topsoil to observe stratification in the centre of the site, and III and IV were dug to observe stratification in the ditch (FIG. 5). The excavation of I, II and IV and the recording of finds in their immediate vicinity was undertaken by Mr. Bayne assisted by Mr. Timothy Gee. The remaining work was by Mr. Case assisted by Mr. Fenwick.

CUTTINGS I AND II : THE PLEISTOCENE LOAM LAYER 2 (FIG. 6)

Cuttings I and II were dug to observe whether traces of a mound, ring-bank or buried soil could be found in the interior. No such traces were seen. The following layers were observed : Layer 1, brown loamy topsoil, overlay layer 2, reddish brown generally stoneless loam which in turn overlay terraced gravel.[9] Layer 2 was a natural deposit, probably of Pleistocene age. Little attention seems to have been given to such natural superficial loams in excavation reports of sites on gravel. They may be widespread. Large areas were observed in the southern part of Smith's no. II pit, Cassington,[10] nearby across the Evenlode, by Mr. R. E. Linnington at Stanton Harcourt;[11] and they seem to have occurred, for example, at ring-ditch 16, Radley, Berks., where cremation-pits were noted as found in ' topsoil '.[12] It cannot be emphasized too strongly in view of their normally partial distribution that they might easily be mis-interpreted as ancient buried soils or simply as unusually thick topsoil and give a very misleading impression of the filling of ditches. The section in cutting II shows a characteristic calcareous raft in the gravel associated with local stoniness in layer 2.

[9] Layer 2 is shown unshaded throughout this report.

[10] During excavation of the Big Enclosure Ditch (noted in *Oxoniensia* XVI (1951), 79).

[11] During excavation of Stanton Harcourt XXIX, 1, 3, 4. Listed in Case (1963), 45, 47, and noted in *Oxoniensia* XXV (1960), 135-6.

[12] Leeds (1938b), 36.

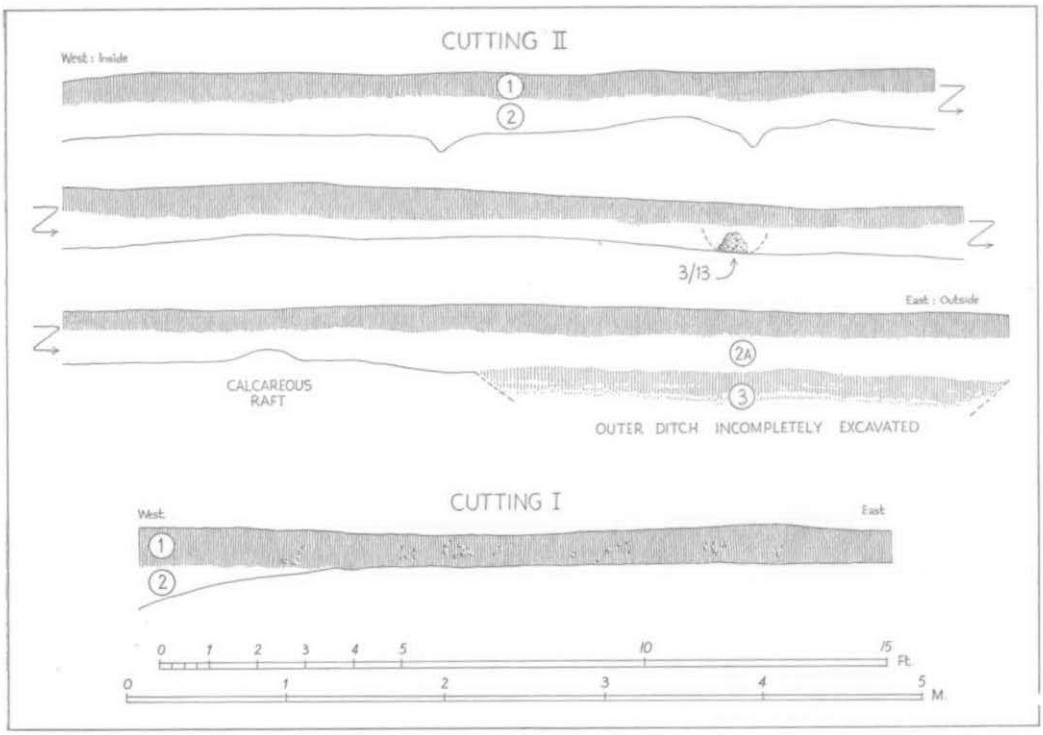

FIG. 6

Sections of Cuttings I and II of site 3.

After the cuttings had been dug, the earth-scraping was undertaken with great care by Messrs. John Brown Ltd., but, as in normal commercial practice, layers 1 and 2 were removed together to expose the surface of the gravel. This meant inevitably that those parts of the undisturbed fillings of ditch and pits which had been dug through layer 2 were also skimmed away ; and the outlines shown on FIG. 5 are thus truncated. The sections show that about 10 ins. of potentially productive loam went unexamined at its observed thickest. Archaeological features were probably truncated by that amount in the extreme east and west of the site, probably less elsewhere and not at all in the centre. It is very unlikely that deposits with charcoal-filling, determinable quantities of cremated bones or reasonably complete pots were overlooked. And, in any event, if layer 1 had been skimmed off separately, layer 2 would

have been so compressed by the machine as to make it impossible to excavate efficiently with hand-tools; a second traverse by heavy machinery would have been necessary.

THE OUTER DITCH : CUTTINGS III AND IV (FIG. 7)

The outline of the outer ditch was planned on the ground, except for the outer edge at the extreme north, which has been drawn on FIG. 5 from a vertical aerial photograph. Sufficient of the filling was seen on the ground, however, to show that the circuit was complete. A causeway apparent in the north here on an aerial photograph was illusory. Cuttings III and IV were dug into the filling of the ditch and other sections were seen in the course of gravel-digging.

Cutting IV was dug by Mr. Bayne through the complete profile and in the area where the Pleistocene loam was observed at its thickest (FIG. 7, top). The bottom of the ditch lacked the rather neatly squared outline of that of the outer ditch of site 2. But the layers matched each other fairly closely, except that layer 4 was here derived from the outside. Layer 6 was yellow gravel similar to the basal layer in the outer ditch of site 2, but more concreted ; layer 5 was yellowish-brown gravel, naturally weathered from the sides, similar to layer 5 of site 2 (FIG. 4) but less loamy and compacted. Layer 4 consisted of two prominent runs of fairly unweathered gravel and of loam derived from the outside of the ditch. These had the effect of transposing the centre of the ditch, which was then filled by layer 3, wind-blown or water-laid material similar to that on site 2 except that it contained a prominent lens of stony gravel derived from the inner edge of the ditch. Layer 3 merged imperceptibly upwards into 2A, which in turn was virtually indistinguishable at its edges from the natural Pleistocene loam layer 2, one having been derived in large measure from the other.[13] Layer 1 was topsoil. Two indeterminate struck flints and a sherd similar in ware to necked-beaker pottery from site 4 were found in the eastern part of layer 3, intermediate between 4 and 2A. The sherd is leached and crazed by weathering and was obviously in derived position.

A small cup-shaped pit, 3/21, D. 6 ins., d. 1 ft. was found in gravel-excavation about 17 ft. south of Cutting IV. It had been dug into the centre of the base of the ditch, and contained brownish-black loam with fragments of cremated bone, charcoal dust and thumb-nail-sized fragments of fired clay. Its upper part had been removed in gravel-digging, but its dimensions preclude it having been dug from a higher level than the surface of layer 6. Deposit 3/23, comprising fragments of cremated bone, was found in layer 2A overlying the outer edge of the ditch in Cutting II, covering an area D. 6 ins. below topsoil, d. 3 ins.

[13] Layer 2A is shown unshaded on FIG. 7 for contrast.

Cutting III was dug by Mr. Case after topsoil had been removed. The ditch was shallower and more rounded at its base than in Cutting IV (FIG. 7). A slightly pointed profile was observed occasionally in gravel-digging, but the depth elsewhere was similar to that in Cutting III.

Layer 6 was missing in Cutting III, and layer 5, yellowish-brown slightly compacted gravel (Munsell colour : 10YR/5/6, dry) was intermediate

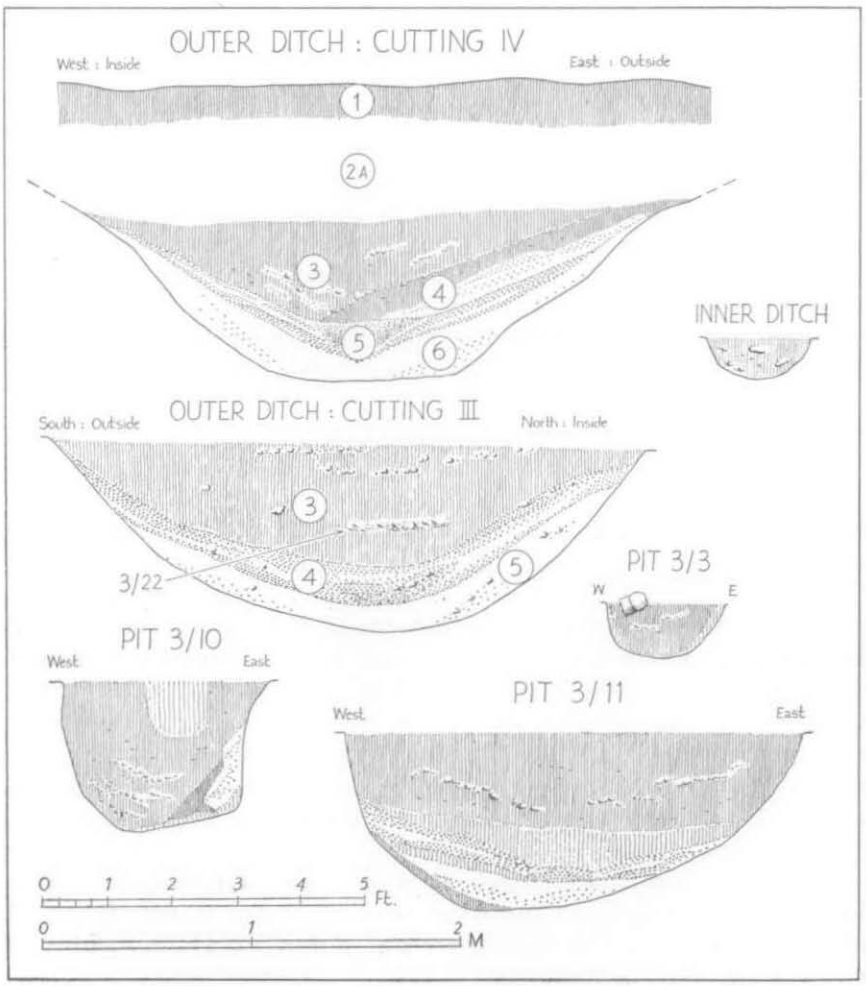

FIG. 7

Sections of outer and inner ditch of site 3 and pits 3/3, 3/10 and 3/11.

in composition between 5 and 6 in previously described sections. Layer 4, yellowish-red gravel (Munsell colour : 5YR/4/6, dry), was similar to the gravel part of layer 4 in Cutting IV, but had spread across the ditch and plainly been derived from both sides. Layer 3, reddish-brown loam (Munsell colour : 10YR/4/3, dry) was as elsewhere, featuring however a run of pebbles extending from the inner face, and a spread of cremated bone and charcoal in a matrix of brown loam (Deposit 3/22 : 7.5YR/4/4, dry) which extended from the section eastwards for about 2 ft. 10 ins. The matrix was slightly reddened in places. The cross-section showed that the deposit had not been buried in a pit dug into layer 3, nor merely spread on the surface ; it had probably therefore been placed under lifted sods. Small crumbs of collared urn ware and a fire-altered fragment of flint were found with the cremation ; and a fragment of fire-altered quartzite in layer 4.

Cutting IV suggests definitely that the upcast from the ditch had been placed on its outer edge. This is consistent with evidence from site 4 (pp. 24-5) and, moreover, no traces of internal bank or mound were seen in Cuttings I and II. The presence of burials close to the inner edge of the ditch and their absence immediately beyond it are also consistent with the monument having had an outer ring-bank. The slightly greater volume of layers 4 and 5 derived from the *inner* edge in Cutting III, may have been due, like the stony inclusion in layer 3 of Cutting IV, to the digging and treading of burial-parties in the interior.

The monument is therefore interpreted as having had an outer ring-bank. The sections suggest that it was somewhat set back from the ditch ; the apparent volume of layers 4-6 which is much less in proportion to the volume of layers 2A and 3 than appears to have been the case in site 2 (cp. FIGS. 4 and 7), suggests that it was set farther away from the ditch than was the case with the banks on site 2. Layer 4 of Cutting IV and evidence from site 4 suggest that the bank of site 3 may have had a core of loam faced on both sides with gravel. To the north the outer edge of this bank must have been set on the edge of the filled-in ditch of site 4 (pp. 24-5) ; to the south, the ditch of site 2 must later have been dug right against it so that for a short length of arc, sites 2 and 3 may have shared a common outer bank and formed a single monument of ' spectacles ' type.

Ring-ditches with outer bank (type 2a) were common throughout the Oxford region, ranging from the Late Neolithic to the mature Bronze Age.[14] Late Neolithic sites, such as Dorchester IV, V and VI, Oxon., and a mature Bronze Age site such as Standlake 2, Oxon., contained secondary cremation cemeteries, whereas here at site 3 the cemetery was primary. Pit 3/21 shows

[14] Case (1963), 43-5.

that burials took place from the foundation of the monument and deposit 3/22 shows that Bronze Age burials continued over an appreciable period of time. Whatever may have been the original purpose of the Dorchester and Standlake sites, there can be little doubt that site 3 was designed as a cemetery enclosure and continued in use as such.

The material culture of the Dorchester and Standlake sites is, of course, different. That of Radley 16, Berks., however, is similar to that of site 3. Well-known Early or Middle Bronze Age cremation-cemeteries, associated with collared urns, like site 3 here and Radley 16, were at Winterbourne Steepleton, Dorset (Pond Barrow),[15] Easton Down, Wilts.,[16] Lancaster Moor, Lancs.[17] Loanhead of Daviot, Aberdeen.[18] In the Oxford region, Middle Bronze Age urn-fields associated with bucket urns, like Standlake 1, were at Long Wittenham[19] and Wytham, Berks.,[20] and Yarnton, Oxon.[21] Long Wittenham had mixed features (see below pp. 19-20); mention is also made below (p. 20) of the cremation-cemetery at Lambourn 1, Berks.[22]

THE INNER DITCH : PITS 3/2-4 ; 3/9 (FIGS. 5, 7)

The inner ditch was completely excavated and found nowhere deeper than 3 ins. The filling consisted of featureless stony loam and showed no traces of posts or bedding-planks. Pits 3/3 and 3/4 were contained within it ; pit 3/2 was dug into its filling. Stake-hole 3/9 was on its approximate circumference. The ditch appears as a miniature ring-ditch enclosing pits 3/3 and 3/4 ; although not itself structural, it may have marked a shrine of turves or saplings, and the inner ditch of site 2 may have been similar. These small inner rings placed eccentrically within much larger ones recall the lay-out of the spectacular Middle Bronze Age timber shrine at Bleasdale, Lancs.[23]

On the other hand, one is not bound to ritual explanations. The inner ditch of site 3 might equally well have been the gutter-trench round a turf or wattle-and-daub hut, 3/9 being the socket for its door-post. Such a hut might have been used in his lifetime by one of these buried in the cemetery, the cemetery having been laid out on its site at his death.

[15] Atkinson, Brailsford and Wakefield.
[16] Stone.
[17] Harker, *JBAA* XXI (1865), 159-61.
[18] Kilbride-Jones, *PSAS* LXX (1936), 278-310.
[19] Leeds (1929).
[20] Manning, 45-6.
[21] Dawkins, 110-12.
[22] Case (1956/7), 16-20.
[23] Varley, *Ant. J* XVIII (1938), 154-71.

Pits 3/1-3/20

The following pits were discovered in the interior:

3/1. Cup-shaped, D. 1 ft. 7 ins., d. 3 ins. containing gravel with very little charcoal. The burial-deposit of fragments of cremated bone (well washed before insertion) was at the top of the filling as found and had been disturbed by topsoil-clearance.

3/2. Cup-shaped, D. 1 ft. 8 ins., d. 6 ins. dug into the filling of the inner ditch, containing cremated bone (fairly well washed) and fire-crazed quartz in a matrix of gravel and charcoal-dust.

3/3. Cup-shaped, D. 1 ft. 10 ins., d. 10 ins., sides lined with rammed brown stony loam, containing blackish-brown loam with charcoal-dust and fire-reddened pebbles (FIG. 7). The urn (FIG. 25) contained fine loamy gravel with charcoal-dust and had been placed radially on its side, with mouth slightly down. Part was removed in topsoil-clearance.

The age of a sample of previously undisturbed blackish-brown loam, packed immediately with minimal exposure to the atmosphere, was most kindly determined by the late Professor Hl. de Vries, Groningen, by radiocarbon, as 1490 B.C.$\pm$60.[24]

3/4. Cup-shaped, D. 1 ft., d. 3 ins., reddish-brown loam. Base of a pit or possibly of a post-hole.

3/5. Cup-shaped, D. 1 ft. 6 ins., d. 6 ins., blackish-brown loam reddened in places, with cremated bone (not completely washed).

3/6. Oval cup-shaped, L. 1 ft. 6 ins., W. 1 ft., d. 3 ins., sides and base lined with rammed brown stony loam, containing blackish-brown loam with cremated bone, charcoal-dust and fire-reddened and crazed pebbles, with sherds of two vessels (FIG. 26), partly *in situ* at top, partly collected from disturbed material by quarrymen.

3/7. Cup-shaped, D. 1 ft. 8 ins., d. 5 ins., containing blackish-brown loam with charcoal-dust and fire-reddened pebble, with urn (FIG. 26) at bottom, upright but in collapsed condition (cp. pit 2/2: p. 6).

3/8. Oval cup-shaped, L. 1 ft. 6 ins., W. 7 ins., d. 3 ins., loamy gravel at sides, containing loose brownish-black loam with fire-reddened pebbles.

3/9. Cup-shaped, base of a stake-hole.

3/10. Cylindrical, D. 3 ft. 3 ins., d. 2 ft. 4 ins. (FIG. 7). Greater part of the filling was stony reddish-brown loam ; at base lenses of gravel, loam with charcoal-dust, loamy gravel, and black loam being replacement-filling of an organic lining. At top, a cylindrical hollow of featureless loam—indicating a partly buried cylindrical object (a tub or possibly a post?) (NB.)[25]

3/11. Cup-shaped, D. 7ft.-7 ft. 6 ins., d. 2 ft. 9 ins. (FIG. 7). North side more nearly perpendicular than the others except 3/10. Lenses of loam, gravel and loamy gravel. Two sherds of collared urn ware (e.g. FIG. 25, no. 5) and two struck flints. (NB.)

3/12. Cup-shaped, D. 10 ins., d. 3 ins., blackish-brown loam with cremated bone (not completely washed) and fire-reddened flint. (NB.)

3/13. D. 7 ins., dug in layer 2 not penetrating gravel, blackish-brown loam with cremated bone. (NB.)

[24] 3440$\pm$60 B.P. (GrN-1686). Vogel and Waterbolk, 356.
[25] NB denotes a pit excavated by Mr. Bayne.

3/14. Oval cup-shaped, L. 1 ft. 6 ins., W. 1 ft. 1 in., d. 3 ins., rammed brown stony loam at base, containing blackish-brown loam with cremated bone. Fragment of stone battle-axe or axe-hammer (FIG. 26) dislodged in topsoil-clearance. (NB.)

3/15. Kidney-shaped as dug through layer 2, L. 3 ft. 7 ins., W. 2 ft. 4 ins., oval cup-shaped penetrating gravel, L. 2 ft., W. 1 ft. 6 ins., d. 5 ins. Rammed brown stony loam at base and sides, containing blackish-brown stony loam with cremated bone, Anglo-Saxon sherds and fire-cracked pebble, sealed by reddish-brown loam with cremated bone ; also sherd, apparently Neolithic (FIG. 25, no. 7). (NB.)

3/16. Patch of blackish-brown loam on surface of gravel, D. 1 ft. 2 ins. Probably base of a pit dug through loam like 3/13.

3/17, 3/18. Cup-shaped, bases of stake-holes.

3/19. Oval cup-shaped, L. 3 ft. 6 ins., W. 2 ft. 3 ins., d. 6 ins., brown stony loam containing contracted inhumation-burial of an adolescent, head south-south-west facing east-south-east. Bones badly crushed and partly displaced in topsoil-clearance. Probably Anglo-Saxon.

3/20. Oval cup-shaped, L. 7 ft. 8 ins., W. 4 ft. 10 ins., d. 1 ft. 4 ins., containing brown stony loam with extended inhumation-burial of a young man on back, head north-north-east slightly inclined to east, knees slightly flexed to east. Bones badly crushed and partly displaced in topsoil-clearance. Probably Anglo-Saxon.

Various unnumbered stake-holes. 4 were found north-north-east of 3/20, and another north-west, two between 3/20 and 3/16 and one south of 3/19.

THE PITS

The blackish-brown loam in the majority of pits except for the exceptional 3/10 and 3/11 appears to have been scrapings from the funeral-pyre. Occasional reddening must have occurred on the pyre and does not indicate that burning material was inserted in the pits. Some of the pits had linings of rammed topsoil. The Anglo-Saxon pits did not differ noticeably in filling from those of the Bronze Age.

The Bronze Age pits were massed towards the south of the enclosure ; similarly burials were only observed in the south part of the ditch (although others may have been destroyed unnoticed in gravel-digging). A similar massing of pits towards the south of the enclosure was seen at Radley 16 and Standlake 1 and in frequent Deveral-Rimbury secondary urnfields in barrows, for instance at Lambourn 1 and at Christchurch, Hants (Latch Farm).[26]

Pits with and without burials were found at site 3. Leaving out of account for the moment the exceptionally large pits 3/10 and 3/11, those without burials were all found in the vicinity of the inner ditch, where we have 3/6 (with a burial and two pots) associated with two apparent accessory pits, 3/8 (with a pot) and 3/7 (without burial or a pot) ; similarly 3/2 (with a burial) may be associated with 3/3 (with a pot) and possibly with 3/4 (without either). In contrast the burial-pits extending eastwards, 3/1, 5, 12, 13, 14 lack accessory-

[26] Piggott, C. M.

pits and also offerings, except for the fragmentary axe-hammer in 3/14. This contrast strengthens the interpretation of the inner ditch as the primary focus of the cemetery.

Some of the more numerous pits without burials at the culturally similar Pond Barrow at Winterbourne Steepleton, Dorset, can be associated with burial-pits and the same kind of association may be seen at Radley 16, where pit A with a pot (FIG. 27, 2) may have been accessory to pit E, which contained the well-known cremation-burial of Wessex Culture phase II with amber, faience, and jet or shale beads, a bronze awl and knife.[27]

A number of other parallels with Radley 16 may be seen at site 3, such as the small size of the pits and their contents of pyre-material, the vessels lying on their sides, and the fire-reduced condition of some of them. All these features except the third were noted at the Middle Bronze Age cremation-cemetery with bucket-urns at Long Wittenham, Berks. Collared urns on their side, shallow pits, and burial of only a few scraps of bone were features noted at the cremation-cemeteries of Easton Down, at Winterslow (Wilts.), at Winterbourne Steepleton and at the isolated burial at the south end of the Cursus at North Stoke (Oxon.).[28]

The larger than average pits 3/10 and 3/11 may be presumed to have been contemporary with the monument ; no Early Iron Age finds were made on the site or nearby and 3/10 would be unusual in an Early Iron Age context. Sherds of collared urn ware were found in 3/11 ; the lining of 3/10 was matched by Pit G at Winterbourne Steepleton. It is possible to consider 3/10 and 3/11 as ' ritual pits ' like apparent examples from Bronze Age barrows.[29] On the other hand, viewing the inner ditch as the site of a hut, they could be seen as having some practical purposes in the lifetime of its inhabitants. Details of settlement from the earlier Bronze Age is disappointingly elusive ; however, pits and hollows were found at the somewhat later settlement site at Shearplace Hill, Sydling St. Nicholas, Dorset, although none were exactly comparable ;[30] but some at Itford Hill, Sussex, were interpreted as storage pits.[31]

THE LAY-OUT OF SITE 3 (FIG. 8)

The site was not seen uncovered at one time, top-soil having been scraped from it in strips as gravel-digging proceeded. Not until measurements were plotted on the drawing-board and checked by means of vertical aerial photographs was it noticed that the plan of the outer ditch was nearly perfectly elliptical (FIG. 8). In experiments on the drawing-board it was then seen that

[27] Hawkes (1955).
[28] Noted in *Oxoniensia* XVI (1951), 81-2.
[29] Ashbee, 51-2. E.g. Latch Farm, pit 1 (Piggott, *loc. cit.*).
[30] Rahtz, *PPS* XXVIII (1962), 289-328.
[31] Burstow and Holleyman, *PPS* XXIII (1957), 177.

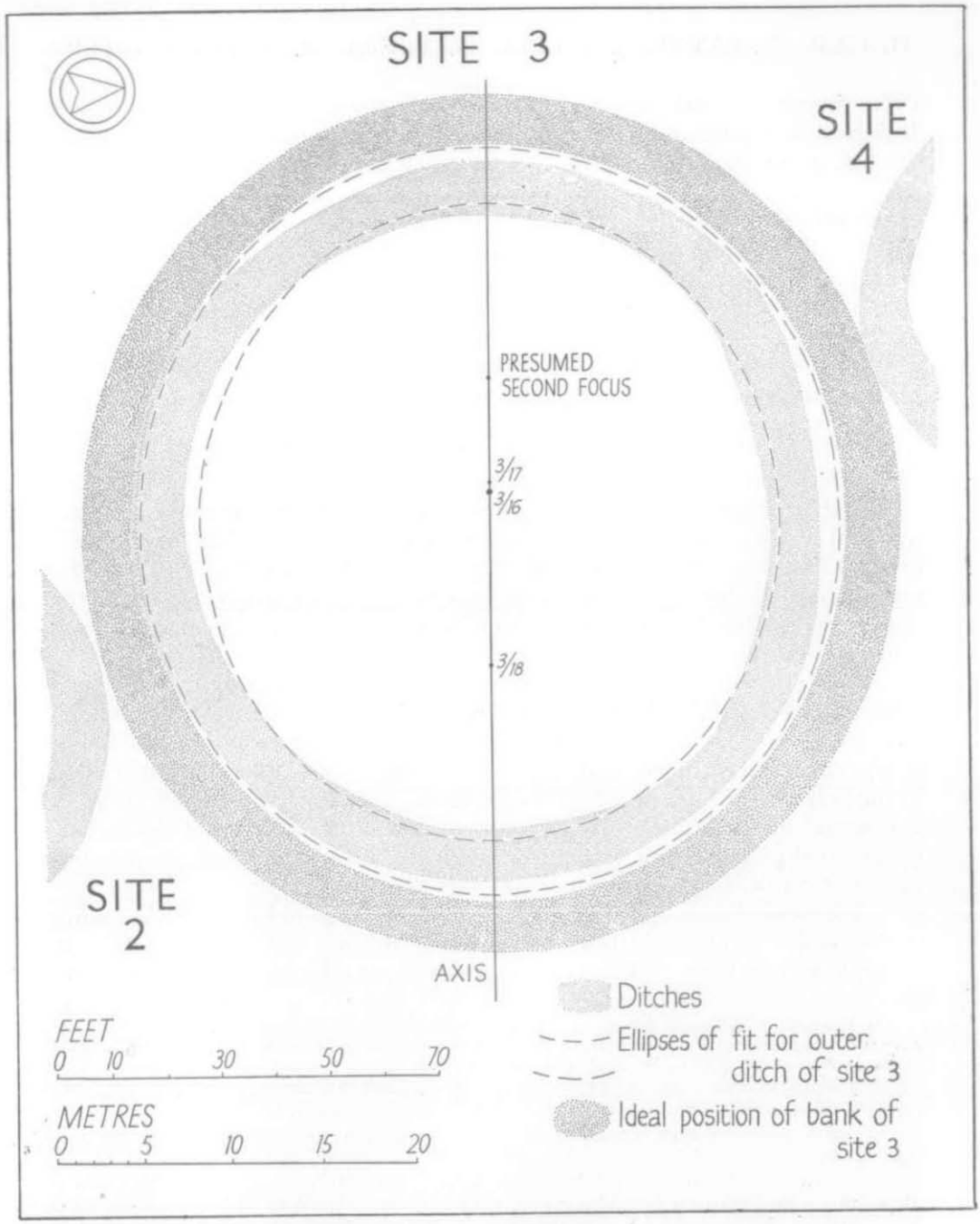

FIG. 8
Hypothetical lay-out of site 3.

a line intersecting stakehole 3/18, deposit 3/16 and stakehole 3/17 was only a degree or two north-east and south-west of true east and west. Then using this line as an axis, elliptical lines of fit to the excavated outline of the ditch were drawn,[32] using 3/18 as one focus and assuming a second focus unmarked in the subsoil. From these foci an ideal position of the outer ring-bank was drawn. It was then found that the radius of a possible outer line of this ideal bank was twice the distance between the two foci.[33]

We may have here merely a misleading series of coincidences, and it seems particularly perverse at first sight to assume a second focus unmarked by any trace in the subsoil. However, in laying-out a regular ellipse on the ground with primitive equipment, it can be found to be most convenient to loop one end of a radial string or rope to a stout circular post, so that it can turn freely about it and to have the other merely held at the second focus by an assistant while the surveyor himself describes the perimeter.

In short there seem some experimental grounds for assuming that the bank was laid out by regular measurement, by means of peg and rope, its limits marked on the ground in some fashion, and then the ditch dug round on the inner side of the marks—the whole lay-out being squeezed in somewhat at the north to avoid going too close to the outer ditch of site 4, with some compensation perhaps at the south.

This may seem a most subjective and fantastic hypothesis, until it is remembered that given the manifest intention of laying-out an oval, the construction of a regular ellipse is the quickest, most effective and elegant method of so doing, and is not a difficult undertaking ; and that cyclic lay-outs were common in the Bronze Age, some excavated examples having been found to be accurate,[34] and would not have been easy to construct without knowledge of elementary geometrical properties, or without some simple conventional unit of measurement having been standardized on any one side.

A few oval lay-outs of barrows have been noted from Dorset and Wiltshire by Grinsell.[35] They tend towards the Early Bronze Age. Radley 16 is an example nearer home. The very summarily published plan shows an oval,

[32] The radii of the lines of fit were approximated visually. Somewhat truer radii could no doubt have been obtained mathematically, but such precision would be pointless since the surviving outlines of the ditch were a degraded version of those dug originally.

[33] For example, if one assumed a foot of about 11¾ (11·69) ins., the foci would be 55 ft. apart, the radius of the outer line of the ideal bank 110 ft. and the inner line 100 ft.

[34] For example, the ditch of Poole 1 was dug as a remarkably regular circle. Case, *PPS* XVIII (1952), 150.

[35] Gussage St. Michael 17a, Wimbourne St. Giles 8. Grinsell, 168, 170. For Wiltshire, *VCH Wilts* I, pt. 1 (1957), 222 gives three other oval twin disk-barrows : (Amesbury 10, Bishop's Cannings 95 and Milton Lilbourne 1). A few other examples (some rather uncertain) may be found in other sections of both gazetteers.

although the figure was described in the text as an ellipse.[36] Marks on an aerial photograph taken before excavation show a figure more nearly elliptical than that published.[37] Radley 16 is also likely to have been a ring-bank monument like site 3, and not a barrow with a substantial mound.[37a] Continental oval barrows which come to mind are Toterfout-Halve Mijl 1, 1A and 2, of which Tumulus 1 should like Radley 16 be close in date to site 3.[38] Ellipses of fit can be approximated to these Dutch sites as has been done for site 3, showing one more highly interesting similarity between England and the Netherlands at the close of the Early Bronze Age (pp. 20, 41).

DATE AND CHRONOLOGY

In comparing various details of the monument, attention has been drawn to sites with rich burials of the second phase of the Wessex Culture (Wessex II or Early Bronze Age 2), such as Radley 16 and the Easton Down cremation-cemetery.[38a] The finds from site 3 (pp. 66-71) point the same way. The urns are deficient in Longworth's primary traits; and through typological comparisons with urns from Radley 16, Easton Down, the Ringwould Barrow near Dover (Kent) and Ox-settle Bottom, Lewes (Sussex) can be placed in the so-called faience-horizon of Wessex II. The fragment of the stone axehead also fits with Wessex II.

Wessex Biconical urns first came into use during this phase, perhaps towards its close.[39] This is shown with direct relevance to site 3 by the finds in the so-called fourth pit at Ringwould (p. 67). Recognition of the early appearance of Wessex Biconical urns together with recognition of a protracted series of Early Bronze Age burials at site 3, City Farm, casts new light on the evidence from Radley 16, where Leeds held that the finds indicated burials of two periods with a definite interval, the first represented by pots in the collared urn tradition comparable to those from site 3 (such as FIG. 27, no. 2 from Pit A and no. 1 from Pit D) and the second by sherds of a different character, at least one pot represented by these sherds being a Wessex Biconical urn (FIG. 27, no 4); others from deposit J Radley 16 (e.g. FIG. 27, no. 3) would not seem out of place with those from the cremation-cemetery at Long Wittenham,

[36] Leeds (1938b), 33.

[37] But the question is hypothetical since excavation showed the ditch to have been mutilated by gravel-pits. *Ibid.*, 32.

[37a] '. . . the greater part of the ground must have remained uncovered . . ., even though the central burial may have been marked by a low mound.' *Loc. cit.*, 39. But cp. the ditch-silting from the inner side. *Loc. cit.*, 33-4.

[38] Palynological investigation by Waterbolk in Glasbergen (1954a), 109-110, 115-16. Tumulus 2 appears to have been Late Neolithic. 1 falls into same phase as 1b (but claimed as slightly later) with radiocarbon date close to City Farm, site 3 (see below p. 21). Tumulus 1 was a Dutch disc barrow (Glasbergen 1954b, 167). 1a is claimed as later.

[38a] The phases of the Bronze Age are those of Hawkes (1960).

[39] Smith (1961), 108.

Berks. (cp. FIG. 28, nos. 5-8). There now seems no need to postulate a long interval at Radley.[40] Leeds in fact elsewhere held that comparable finds to his two periods at Radley 16 came from a *single* urnfield at Long Wittenham and presumably saw good grounds for this view, although the published accounts are not illuminating.[41] Admittedly some of the Long Wittenham urns appear to be Bucket urns (e.g. FIG. 28, nos. 3-4) which Calkin regards in Dorset as having been developments from the Wessex Biconicals.[42] But one may wonder how far development went at Long Wittenham ; for example FIG. 28, nos. 5 or 7 or even FIG. 29, no. 1 seem little different from the rather featureless biconical pot from Radley 14, Berks.,[43] which was found with a class I bronze razor, a type associated according to Isobel Smith with the earliest recognizable stage of the Wessex Biconical urn.[44]

It is arguable then that a cultural change, reflected in the basic craft of potting, may have occurred as part of the development of a single community both at Radley and Long Wittenham, and during the use of site 3 at City Farm. This highly formative phase of change, of transition from Early to Middle Bronze Age, is neatly exemplified locally by Lambourn 1, Berks., where a collared urn, larger than those from site 3, but similarly bipartite, associated with a small riveted bronze knife with midrib, was secondary to a Wessex II burial and preceded a Deverel Rimbury urnfield (with bucket and globular urns) of Middle Bronze Age 2.[45]

The Wessex Biconical urns and their derivatives, predominantly southern English, must represent some powerful cultural re-orientation, perhaps even political, occurring at the close of the Wessex Culture, reflected also in the occurrence of the similar Hilversum urns, in the Netherlands, at Toterfout-Halve Mijl IB.[46] Similarly a social change in southern England seems indicated by the appearance of rich apparently female graves in Wessex II, contrasting with the more martial rich graves of Wessex I, which are presumably exclusively male.[47]

[40] Following Smith, *loc. cit.*, it is interesting to see also that according to notes with the finds in the Ashmolean Museum, some of the pottery of Leeds's second period came from near the bottom of the ditch in the west section. But a sherd of Romano-British ware was also found in basal silt. Leeds 1938b, 33 and cp. FIG. 8.

[41] *Ibid.*, 37. Cp. Savory, 1. Leeds, 1929.

[42] Calkin, 40.

[43] Leeds (1936), 8-13.

[44] Smith (1961), 108.

[45] Case (1956/7), 16-20 and references.

[46] Glasbergen (1954b), 89 ff.

[47] ApSimon, 50, 53. Grinsell (16, 18) similarly analysing grave-furniture suggests with due caution that disc-barrows ' as a class were built for . . . a female aristocracy ' and contrasts ' a strong probability that bell-barrows as a class were . . . for . . . a male aristocracy '. But banked barrows do not seem to have been exclusively for women (e.g. Glasbergen (1954a), 126) and note the axe or axe-hammer here from site 3.

Radiocarbon date GrN-1686 (3440±60) suggests a 95% probability that pit 3/3 was filled between 1610 and 1370, the mean date being 1490 B.C. This date for material occurring at the highly important transition between Early Bronze Age 2 and Middle Bronze Age 1 is confirmed by the similar date for material with the primary burial with a Hilversum urn at Toterfout-Halve Mijl IB, which has recently been recalculated as GrN-1828 (3420±45), 95% probability between 1560 and 1380, mean date 1470 B.C.[48]

The conventional date, 1400 B.C., for the 'faience-horizon' following Stone,[49] the date at which Hawkes recently placed the transition from Early Bronze Age 2 to Middle Bronze Age 1,[50] falls within the 95% range of both radiocarbon dates. This date seems supported by the comparisons made on pp. 67-9, showing collared urns with traits similar to those at site 3 associated both with segmented and oblate faience beads. But the question remains whether the oblate beads can be placed in the same early phase as the segmented.

Stone compared the oblate bead from Ringwould to a specimen from El Amarna—a comparison which seems to imply a date rather later than 1400 B.C., conventionally applied to the segmented examples. Mrs. Joan Crowfoot Payne kindly confirmed that the large perforation of the Ringwould bead appears to prevent its being compared with Egyptian oblate beads earlier than the New Kingdom. A good example in the Ashmolean Museum of the comparative specimen used by Stone indeed came from El Amarna[51] (18th Dynasty : 1372-1354 B.C.), but better stratified slightly smaller examples occurred in one of the foundation deposits of the temple of Thutmose III (1504-1450) at Koptos, to be dated probably early in his reign.[52] Segmented faience beads came from the same deposits, both with large and small perforations.[53]

Bearing in mind the radiocarbon dates from Toterfout-Halve Mijl 1B and City Farm 3, 1450 B.C. seems at least as good a date for the faience-horizon and the close of the Early Bronze Age as 1400 although both imply a rapid transfer from the presumed Egyptian source. And there seems no reason to separate the oblate beads and their associations chronologically from the segmented beads and theirs.

[48] Vogel and Waterbolk, *Radiocarbon* V (1963), 185. This is a measurement subsequent to that reported in Glasbergen (1954a), 129, which gave 3450±100, mean date 1500 B.C. (serial no. GrO-650, in de Vries and Waterbolk, *Science* CXXVIII (1958), 1554).

[49] Beck and Stone ; Stone and Thomas.

[50] Hawkes, 1960.

[51] Ashmolean Museum : 1936.634.

[52] Ashmolean Museum : EE 641. Petrie, *Koptos* (1896), PL. XV, No. 75. The Egyptian dates are those of Drioton and Vandier, *Les Peoples . . . II, Egypte* (1952), 631.

[53] Ashmolean Museum : EE. 238.

THE ANGLO-SAXON CEMETERY

(FIGS. 4, 5, 9. Finds, pp. 87-8 ; FIG. 25)

It seems reasonable to associate the stratigraphically late cremation-burial 3/23 with 2/2 and 3/15 and the stratigraphically late cremation-burial 4/1 to the north-east. The inhumation-burials 3/19 and 3/20 are along the same line and may presumably be included ; on analogy, they are unlikely to be Early Iron Age and no significant Romano-British finds occurred at City Farm. 3/12 and 3/13 are included with the Bronze Age burials through proximity to 3/14.[54]

Only 2/2 and 3/15 produced finds and they are not very indicative ; but mixed burial rites indicate a pagan cemetery, a small group of burials as typical of the Upper Thames Valley, and apparently lying near the northern edge of the extent of cremation.[55] The linear lay-out is commented on below (pp. 50 ff.). Inhumation-burials facing opposite directions are unusual, also the stake-holes apparently associated with them—possibly the traces of markers or small shrines. Five Bronze Age barrows in the region are known to have attracted Anglo-Saxon burials ; three barrows obviously appeared remarkable, the Stanton Harcourt Barrow in its size and Radley 16 and site 3 in shape. The Saxton road barrow, Abingdon, and Site VII, Dorchester, were no doubt prominent in their own surroundings.[56]

SITE 4

(FIGS. 9-13. Finds, pp. 56-64 ; FIGS. 21, 24, 25)

A fairly large area of this site was excavated in 1958 by the Oxford University Archaeological Society under the direction of three successive Excavation Secretaries, Messrs. Nicholas Bayne and Andrew Selkirk and Miss Joanna Close-Brooks. Almost all the topsoil over the excavated area was removed by archaeological excavation. This site differed from those adjacent to it in that plough soil (layer 1) lay generally directly on terraced gravel; Pleistocene loam (layer 2) only occurred sporadically, for example at the extreme south edge of the outer ditch (FIG. 10, section 1) and in a patch around the north butt-end of the inner ditch (FIG. 11, section 6).

An inner and an outer ditch, which showed prominently on aerial photographs, were planned and partially excavated. These ditches are interpreted as belonging to two phases : (1) *The outer ditch*, a ring-ditch of type 2b with inner bank, associated with finds of the late Beaker culture, suggesting a date in the

[54] Although Dr. Roberts (p. 89) could not distinguish 3/12 from 3/15.

[55] Kirk.

[56] Radley 16 : Leeds (1938b), 31 ff. Saxton Rd. : Leeds (1936), 18-21 and Leeds and Harden. Other summarized in Case (1963), 41-2.

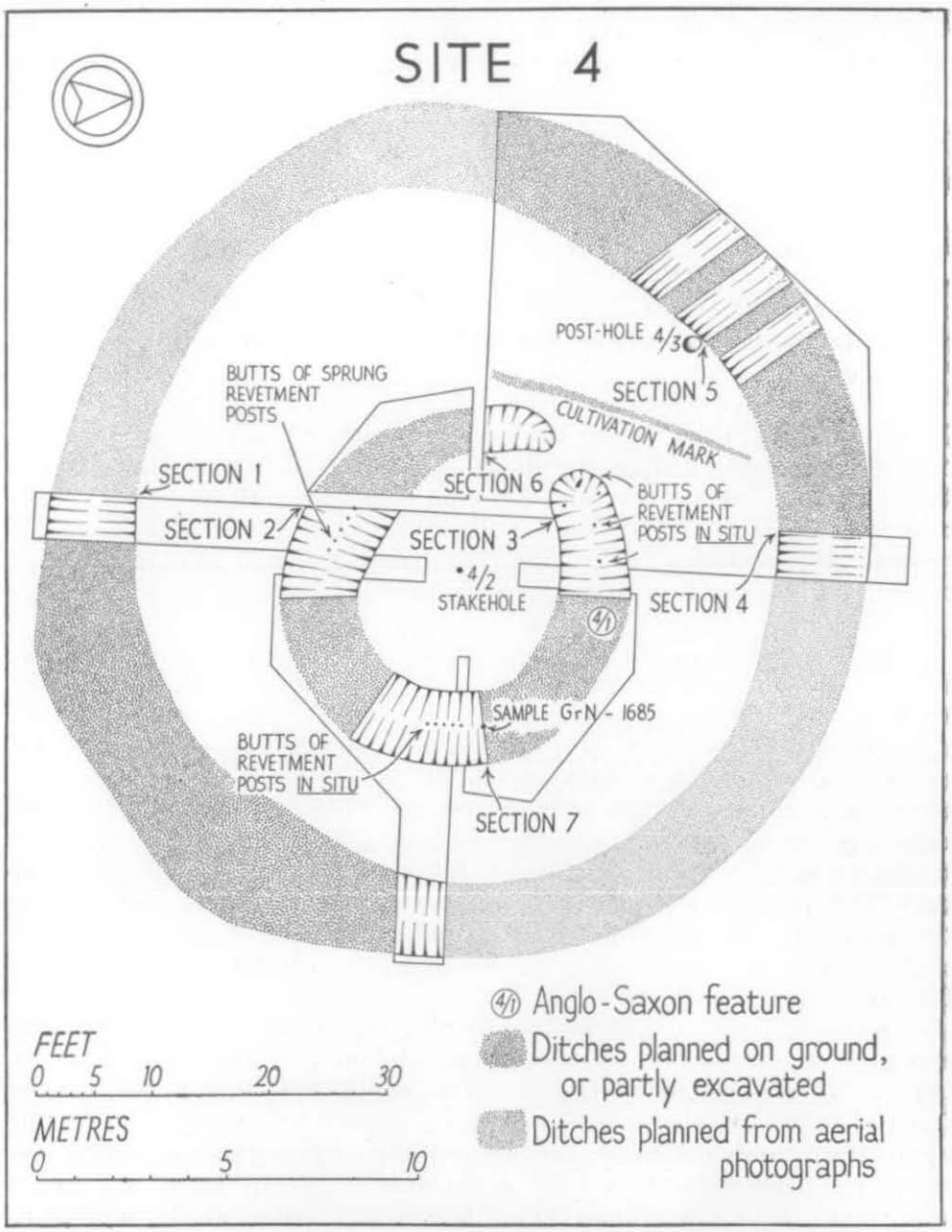
SITE 4
POST-HOLE 4/3
SECTION 5
CULTIVATION MARK
BUTTS OF SPRUNG REVETMENT POSTS
SECTION 1
SECTION 6
BUTTS OF REVETMENT POSTS IN SITU
SECTION 2
SECTION 3
SECTION 4
4/2 STAKEHOLE
4/1
SAMPLE GrN - 1685
BUTTS OF REVETMENT POSTS IN SITU
SECTION 7
4/1 Anglo-Saxon feature
Ditches planned on ground, or partly excavated
Ditches planned from aerial photographs
FEET
0 5 10 20 30
METRES
0 5 10

FIG. 9

earlier part of the Bronze Age (Early Bronze Age 1, equivalent to Wessex Culture I) ; (2) *The inner ditch*, the site of a single-entrance henge-monument of Atkinson's Class I,[57] constructed within the area enclosed by the outer ditch after a short interval, in the late 17th or early 16th century B.C.

THE OUTER DITCH (FIGS. 9-11)

About half the plan of the ditch (FIG. 9) is based on excavation ; the segments to the south-west and north-east have been drawn from a vertical aerial photograph. The ditch was without interruption, of rather a pointed oval shape aligned roughly east and west. As silted its width was irregular, but the excavated parts were found to be of fairly constant depth and everywhere flat-bottomed.

The following layers were discovered (FIGS. 10, 11 ; sections 4, 5): Layer 6 where distinguishable from 5 was fairly unweathered yellowish gravel, with occasional runs of loam derived from the ancient topsoil. Layer 5 was reddish-brown loamier and more weathered gravel, with a proportion of larger stones conformable to the runs of the layer. These layers are comparable to 5 and 6 of the outer ditches of sites 2 and 3. Part of layer 5/6 in section 6 had plainly been dug away in the middle ; the upper line of layer 5 in section 4 looked artificial but it was natural enough in section 1.

Layer 4 was practically unweathered yellowish gravel, homogeneous without runs of loam or significant bedding. It was plainly of artificial origin and represented the dumping back into the ditch of material from an earthwork which had stood on its inner lip. The contrast will be noted between this layer, taken to have resulted from dumping, and layer 4 of ring-ditch 2, interpreted as the natural silting of a similar bank (FIG. 4). Layer 3 was similar to that throughout the excavations. Layer 1 was topsoil, in which a more than usual stoniness was noted, confirmed the presence of a gravel earthwork on the inner edge of the ditch. The presence of an earthwork close to the inner edge of the ditch could also be deduced from the unnaturally steep angle of its inner sides in places (FIG. 10, section 1 ; FIG. 11, section 5), which had been protected from normal collapse by silt.

Section 1 (FIG. 10) showed anomalies. First, Pleistocene loam (layer 2) was found intercalated between gravel and loam on the outer edge of the ditch. Second, layer 4 was unusually thin ; it is possible that some of the material dumped from the inside here was loam represented by layer 3, in which the approximate division between dumped and silted material may be represented by the two pebbles shown near the layer number. Finally, layer 2B, a prominent run of almost unweathered gravel had been spread across the ditch on its

[57] Atkinson in Atkinson, Piggott and Sanders, 81 ff.

southern extremity. Southwards this gravel terminated at a plainly artificial angle, and loam (layer 2c) had been heaped onto it from the south. With little doubt these contemporary layers represent material from the outer bank of site 3, here dumped into the outer ditch of site 4.

Thus the silting of the outer ditch of ring-ditch 4 showed events separated by an appreciable period of time : First, the levelling of the earthwork which had stood on its inner edge ; secondly, the levelling of the bank of site 3.

Struck flints, including a thumbnail-scraper of typical Becker Culture type, came from layer 3. Sherds of long-necked beakers (A-beakers) came from layers 4 and 5.

THE INNER DITCH (FIGS. 9, 10, 11)

The ditch was found by excavation to be an irregular oval aligned north-west to south-east with a break to the north-west. As silted it varied in width and depth but was found throughout to be unusually deep relative to its width for a ditch dug into gravel. The filling, in which the following layers were discovered, also presented unusual features.

Layer 6 varied in composition, consisting of loam and virtually unweathered gravel, showing in all sections extending up the sides of the ditch, but not invariably at its bottom. Its sharply laminated structure showed it had been deposited artificially. The angle of division between layers 6 and 5 (as shown in sections 3, 6 and 7) cannot have occurred naturally; and revetment had obviously intervened. The steepness of the sides of the ditch and the presence of virtually unweathered gravel in layer 6 showed that no long interval elapsed between digging the ditch, placing the revetment in position and filling back behind it.

Traces of this revetment showed very clearly in a few places where gravel occurred at the faces of 5 or 6 (as in sections 6 and 7) but less clearly or not at all where both were loam (cp. section 3). Only the lower parts of the walls appear to have been reveted. The traces were calcareous casts of posts generally about 2·5 cms. thick, some (as in sections 6 and 7) retaining charcoal. The timbers were thus in places hardened by firing particularly at the butts (sections 2, 3, 7) but retained flexibility as section 7 shows ; all those tested were found to have been of oak (p. 94). No circumferentially horizontal bracing-timbers showed nor did any signs of sheeting lying between the posts, except where gravel formed the two faces, where an irregular calcareous crust, looseness in the filling and occasional dark staining appeared. The flexing of the uprights end and the absence of horizontals seem to preclude hurdle-work or planking. The material between the posts may have been wicker or thatch bound with straw ropes.

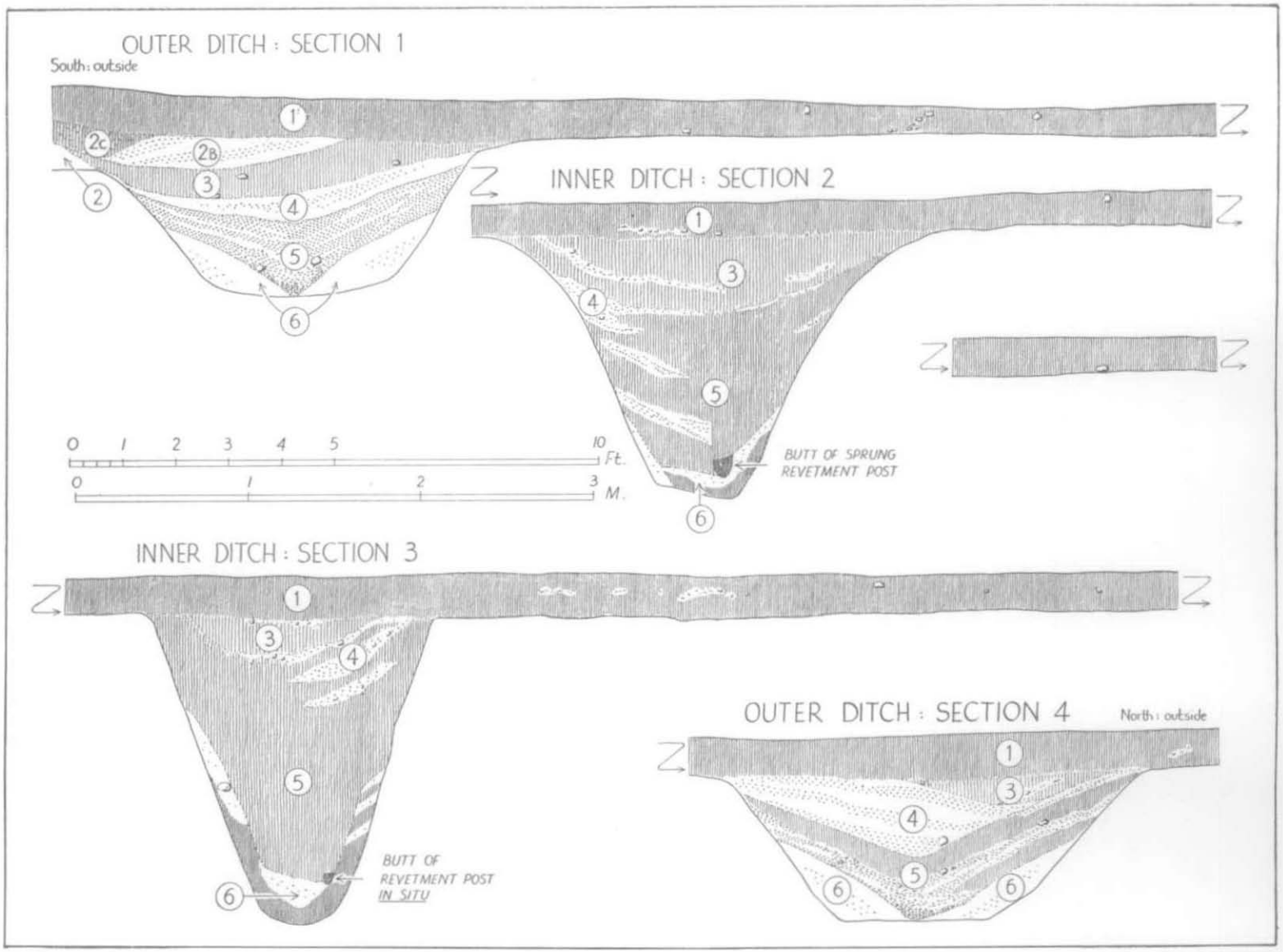

FIG. 10

Sections of outer and inner ditches of site 4.

The revetment was seen to have been stable up to the time the ditch was filled in except in the southern segment where obvious traces of timbers only appeared on the inside and had plainly sprung apart from the side during or immediately before the filling-in. Here the posts were heavier than average ; that in section 2 for example was at least 12 cms. thick ; it survived at least 32·5 cms. long at the time of in-filling as the sharp line of gravel in-filling above shows. Layer 6 in this segment was badly preserved.

The posts were not secured in holes on the floor of the ditch and no evidence was found there of any cross-beam or packing with gravel or loam to take an inwards thrust. The inwards spread of carbonized material at the bottom in section 7 was probably due to fracture of an excessively fired butt. It provided charcoal from which the late Professor Hl. de Vries kindly determined a radiocarbon date, GrN-1685 (3460±65), 95% probability within range 1640-1380, mean date 1510 B.C.[58]

No traces were seen in the sides of the ditch to show that the revetment had been pegged back in any way. But if it had been leant at an angle approximately that of its inner edge in section 3 or outer edge in section 7, its weight would have kept it stable for a short period. (It was probably deformed during in-filling on the inside of sections 7 and 6.)

Layer 5 denotes the material contained within the revetment. It consisted of loam and gravel in variable irregular quantities. Most of it appeared to have come from the outer edge of the ditch. Its irregular nature (almost entirely loam in one place, gravel in another) demonstrates that it came mostly from dumping, and not from a gradual process of silting, or weathering of the sides. The fact that the upper part of the revetment had generally neither fallen inwards nor decayed confirms the evidence that the ditch had been filled in soon after digging. Furthermore, the posts were still flexible when filling in took place.

No signs of treading were seen at the bottom and no sherds or other artifacts found. The few animal bones are of interest. Mr. Banks contrasts their weathered appearance with the appearance of those found in the Early Iron Age pits (p. 90), but one bone at least appears to have attracted the attention of the carnivorous snail *Cecilioides acicula* (Müller), which presumably burrowed through the in-filling (p. 93).

Layer 4 consisted of brownish-yellow virtually unweathered gravel, derived invariably from the inner edge of the ditch and overlying the uppermost traces of the revetment and the material enclosed by it (layer 5). But it plainly belonged to the same rapid stage of filling in, otherwise the very steep inner side of section 3 would not have been preserved. On the outside of

[58] Vogel and Waterbolk, *loc. cit.*

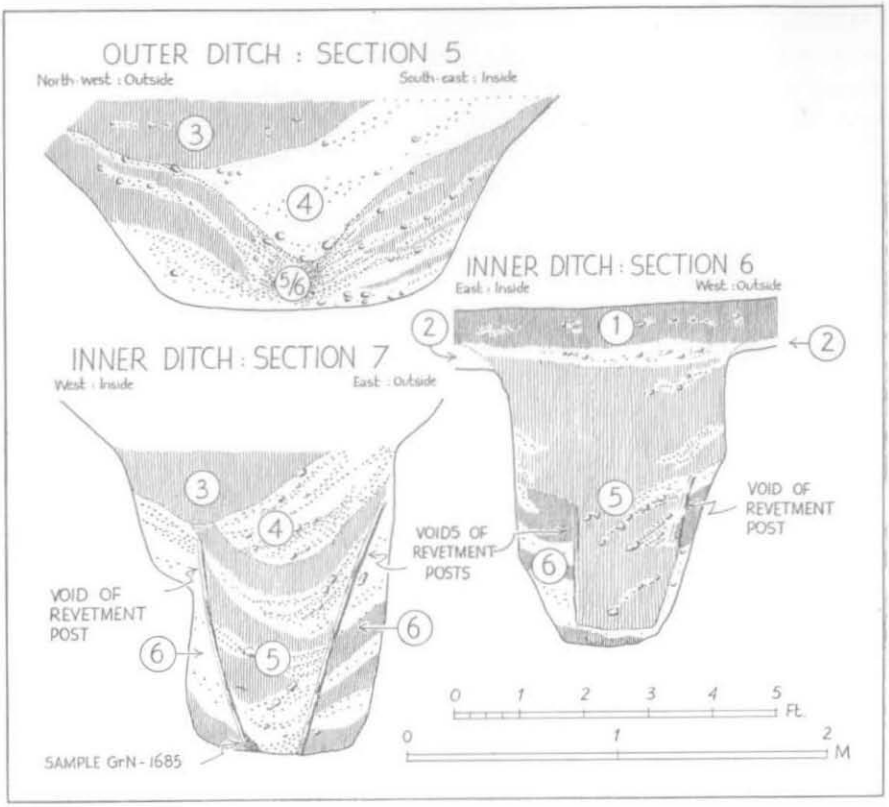

FIG. 11

Sections of outer and inner ditches of site 4.

section 3 and in section 6, the in-filling at least as high as the level of natural gravel was by loam indistinguishable from that within the revetment below. (The flaring outline at the top of section 7 was produced by gravel-digging, not ancient weathering.)

Thus the ditch left after filling was shallow, for example about 2 ft. deep in section 3 and less elsewhere. Layer 3 was similar to that elsewhere on the site and represents the filling of the small ditch by wind-blown or rain-washed material from bank and topsoil. It was not distinguishable in section 6, where filling occurred similar to that of layer 2A in the outer ditch of site 3 (FIG. 7). In section 7 the top of the ditch had plainly been recut and refilled more or less immediately with loam similar to layer 3 elsewhere. (And the upper part of this section had been destroyed by gravel-digging before it was drawn.)

Sherds of necked-beaker pottery similar to those in the outer ditch were found in layers 3, 4 and 5. Sherds comparable in fabric to a pygmy cup came (e.g. FIG. 25, no. 6) from layer 3. All these sherds were small and with weathered breaks, like those in the outer ditch.

A concentration of cremated bones (4/1) came from the junction of layers 1 and 3 to the north-west, and has been interpreted as an Anglo-Saxon burial (p. 22). A few sporadically scattered cremated bones were found at the same level throughout the south-east quadrant and may represent other burials of the same date disturbed by cultivation.

OTHER INTERNAL FEATURES (FIG. 9)

4/2 was a stakehole penetrating one inch into gravel, filled with reddish-brown loam. It stood approximately central to both ditches. 4/3 was a cylindrical hole, 9 ins. in diameter and 9 ins. into gravel, filled with reddish-brown loam, probably a hole for a post although lacking any traces of one. Its relationship to the filling of the outer ditch was indeterminable. A line between 4/2 and 4/3 would pass through the causeway of the inner ditch.

A reddish-brown linear stain was noted on the surface of the gravel in the north-west quadrant, and can be interpreted as a furrow-line. Similar stains at Vicarage Field, Stanton Harcourt, were traces of medieval ridge-and-furrow.[59]

Very careful search was made in the whole excavated area for the drip-line of any roofed structure. None was found.

PITS 4/4-6 (FIGS. 12, 13. Finds, pp. 63-4; FIG. 24)

A cluster of pits lay south-east of the site and was skillfully excavated by Miss Susan Turner assisted by Miss Carol Cruickshank. The sections were drawn in the field by Miss Turner.

4/4. Irregular, cup-shaped, D. 2 ft. 8 ins., d. 10 ins., lined with rammed brown stony loam and to the east with yellowish clay (probably oolitic clay from the gravels); containing reddish-brown stony loam underlying blackish-brown loam with charcoal-dust, large fire-cracked quartz pebble and cremated bones. The bones had not been washed before insertion and were mostly concentrated eccentrically and intercalated with stumps of charcoal.

4/5. Oval, cup-shaped, D. 1 ft. 11 ins., d. 10½ ins., lined with rammed brown stony loam; reddish-brown stony loam, containing a lentoid of fine gravel, in turn underlying blackish-brown loam with cremated bones and sherds of collared urn ware at surface. Bones probably not washed before insertion.

[59] *Oxoniensia*, forthcoming.

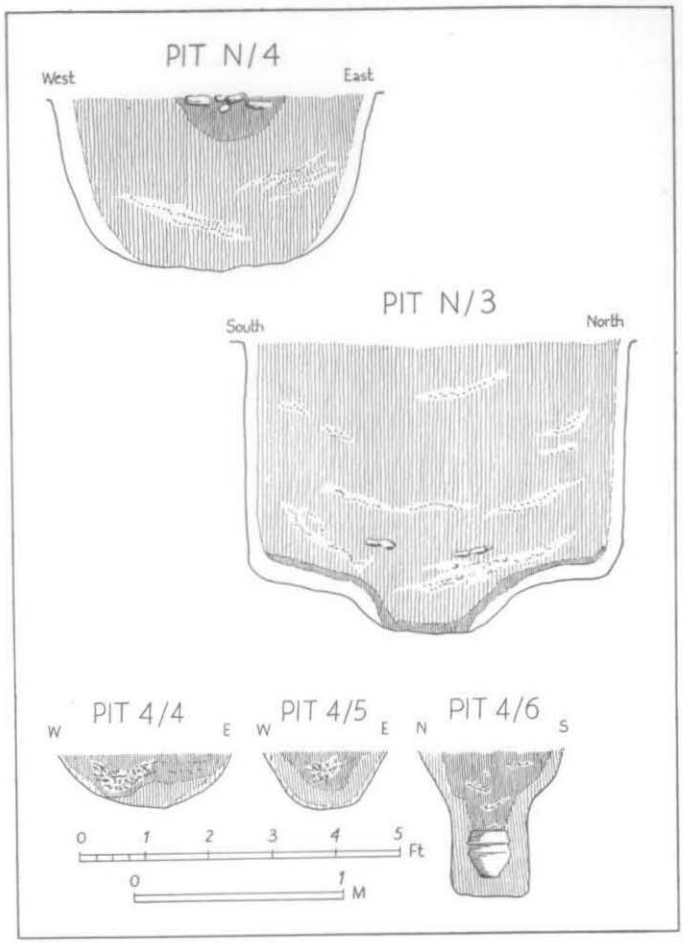

FIG. 12

Section of Bronze Age pits 4/4, 4/5, 4/6 ; Early Iron Age pits N/3 and N/4.

4/6. Oval, funnel-shaped, D. 1 ft. 11 ins.-2 ft., narrowing to cylindrical at base. Lined with rammed brown stony loam, with collared urn near base standing upright containing cremated bones (washed before insertion) and blackish-brown loam with charcoal dust ; material similar to contents of urn extending in an irregular funnel-shape from mouth of urn to top of pit as excavated.

The urn had plainly been inserted empty into the pit and jammed tightly against the lining, which had then been built up above it to the ground-surface ; cremated bones and pyre gleanings had then been poured into the urn through the funnel-shaped opening blocking it to the top.

This urn in pit 4/6 (FIG. 24) may be considered earlier on some grounds than those in site 3, and the sherds in 4/5 are also different. 4/6 also shows the vessel used as an urn and not an accessory, and it is also unusual being virtually complete. The burials in pits 4/4-6 are taken as Early Bronze Age and as having been made after the conclusion of phases 1 and 2 at site 4. Other more or less isolated urn burials are known from the region and seem early, for example that near Stanton Harcourt II, 4 or near the Beaker Culture cemetery at Foxley Farm, Eynsham, which produced beaker-pottery comparable to sherds from site 4.[60]

INTERPRETATION AND DATE OF SITE 4

Interpreting and dating site 4 involves problems. To begin with the structural interpretation, the entrance-causeway of the inner ditch would seem to have been pointless with the outer ditch lying to its full depth beyond it. But it seems logical to assume that the deliberate filling in of both ditches (represented by layer 4 in the outer ditch and layers 4 and 5 in the inner ditch) belonged to the same constructional stage. In that case, the site can be interpreted as having two phases : *Phase 1*, the digging of the outer ditch, followed after an interval during which layers 6 and 5 accumulated in it, by *phase 2*, digging of the inner ditch and the filling-in of both ditches. The different axes of the two ditches supports this interpretation, which is the one adopted here.

Dating these two phases would not seem difficult if we had to rely on archaeological material alone. Sherds of long-necked beaker pottery came from layer 5 of the outer ditch ; through material comparable to these sherds and others found in the inner ditch (discussed pp. 56-63), *phase 1* can be reasonably assigned to the late Beaker-Culture and dated in the 17th century B.C. Obviously, the inner ditch could also be assigned to the same culture, through sherds found in layers 4 and 5, and both phases could be dated in the 17th century B.C., or *phase 2* at latest in the early 16th. This dating seems neatly confirmed by the *terminus ante quem* given by the sherds of a pygmy cup in layer 3 of the inner ditch, say 15th century or late 16th ; and it is strengthened by the association of Class I henge-monuments at Arminghall, Norfolk, and Gorsey Bigbury, Somerset,[61] with beaker culture material comparable to that found in the ditches of site 4.

On the other hand, according to Atkinson, Class I henge-monuments are less characteristic of the Beaker-Cultures than of the earlier and partly contemporary Secondary Neolithic cultures and those of the succeeding periods of the

[60] Stanton Harcourt II, 4 : *Oxoniensia* forthcoming. Eynsham Cemetery : Leeds (1938a), 25.
[61] Discussed with references in Atkinson, Piggott and Sanders, *loc. cit.*

Bronze Age.[62] And the radiocarbon date of the constructional phase of the inner ditch (p. 27) tends towards the later part of the Early Bronze Age, the mean date being late 16th century and the 95% probability range mid 17th to early 14th. The charcoal sample providing this date was originally taken for species-identification and was exposed in the open air for about an hour ; it may therefore have undergone age-reduction by atmospheric contamination, but this seems unlikely to have had a significant effect chronologically on such a comparatively young and bulky sample.

Taking the mean radiocarbon date as absolutely correct, therefore, phase 1 and 2 would have to be separated by at least 100 years, *all* the beaker sherds in the inner ditch have to be assumed to have been lying on the surface when it was dug, and the period of use of the phase 2 monument to have been represented by the sherd of pygmy cup. But is the volume of layers 5 and 6 in the outer ditch to be taken as sufficient to represent a century or more of silting? Possibly it is, since comparatively very little more material accumulated in ring-ditches generally until the Early Iron Age. Early Iron Age sherds generally occur in upper loamy filling, the equivalent of layer 3 at City Farm (as on site 5, p. 33) and generally low in it, and such loam may only have begun to accumulate rapidly in ditches as a result of intensive cultivation nearby. But the crucial evidence is in section 1 (FIG. 10) where layer 4 was seen to seal the top of the wall of the ditch which lay at too steep an angle for it to be assumed to have survived weathering for a century or more.

Therefore both phases 1 and 2 are taken to belong to the late Beaker Culture, and to have been concluded at the latest in the early 16th century. This interpretation involves using the older part of the range of probability of GrN-1685.

The outer ditch with its bank is unlikely to have been part of a burial-monument but is as likely to have been connected with settlement as with ritual. The monument in its final form, however, seems undeniably ritual, an interesting example of Atkinson's Class I henge-monuments. With its two posts, it may perhaps have been connected with celestial observations, which the lay-out of site 3 shows could be made quite accurately at a somewhat later stage. And the deep digging of the inner ditch, its revetment, the scattering of offerings of meat or bones, and the filling-in may be seen as part of dedication ceremonies.

Finally, the filling of the outer ditch at its south end with material from the bank of site 3 needs to be explained. It may have been occasioned by the need to make a way for carts, presumably during the Early Iron Age, through a continuous series of earthworks some 300 ft. long.

[62] *Ibid.*

EXCAVATIONS AT CITY FARM, HANBOROUGH, OXON.

SITE 5

(FIGS. 13, 14. Finds, pp. 64-6 ; FIG. 25)

Site 5 was excavated in 1962 by members of the Oxford University Archaeological Society under the direction of Miss Susan Steele. It comprised a ring-ditch with two internal pits. The original monument was of type 2c, a ring-ditch with outer bank like site 3 and is interpreted as a form of saucer-barrow, of Early Bronze Age 2 close in date to site 3.

No traces were seen in the ground or in gravel-digging of vague ring-marks to the south of this site in a photograph by Fairey Air Services.

Layer 1, the ploughsoil (FIG. 14), was similar to that elsewhere at City Farm ; where excavated it was entirely removed by hand but did not give any useful information as to the original form of the monument. Although the fact was not obvious on the ground, study of the drawn section showed that the surface was slightly ridged ; dips can been seen in FIG. 14 at the inside edge of the west section of the ditch and over pit 5/2. Centre to centre, the ridges were only about 15 ft. apart ; they are likely to be post-medieval.

To the east and west of the site, layer 1 was underlain by layer 2, Pleistocene loam, becoming deeper eastwards but shallower westwards. Layer 2 was also found at the centre of the monument, filling several solution-holes. Here the natural surface of the gravel was very uneven, and overlain in places by a natural bed of sand. Elsewhere layer 1 lay on gravel.

The ditch as originally dug must have been V-shaped, and judging by its silting generally steeper on the inside. Here the uppermost silting as elsewhere was layer 3, fairly stoneless reddish-brown loam. It was noteworthy for the runs of pebbles plainly originating from the outside of the ditch. Here, as elsewhere, they may probably be connected with Early Iron Age cultivation ;[63] and a sherd of Early Iron Age pottery was found associated with the upper of the two runs of pebbles shown in layer 3, section 2 on the west side of the ditch. Since the subsoil on the outside of the ditches on the east-west axis was loam, they show that a ring-bank of gravel lay outside the ditch, and this is confirmed by the run of unweathered gravel at the junction of layers 3 and 4 in the east section.

Layer 4 denotes all filling below layer 3 ; it consisted of varying runs of loam and of weathered and virtually unweathered or loamy gravel to the bottom of the ditch. These runs lacked the haphazard (plainly artificial) character of those of layer 5 in the inner ditch of site 4 ; but they did not present any definite uniformity from section to section, and are what one would expect in such a

[63] Found associated with Early Iron Age material in ditch of Stanton Harcourt II, 4 : *Oxoniensia* forthcoming.

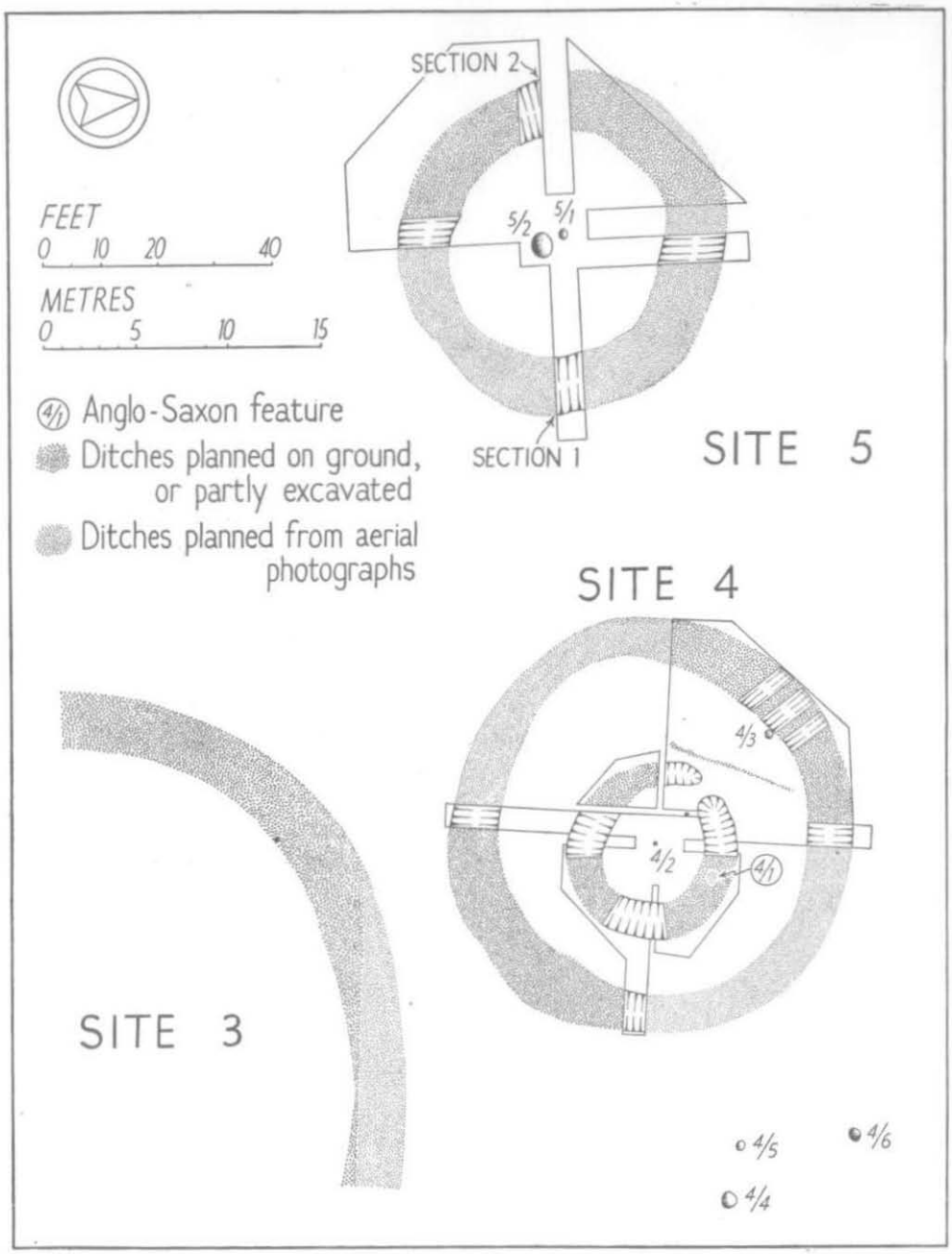
FEET
0 10 20 40
METRES
0 5 10 15
4/1 Anglo-Saxon feature
Ditches planned on ground, or partly excavated
Ditches planned from aerial photographs
SECTION 2
SECTION 1
5/2
5/1
SITE 5
SITE 4
4/3
4/2
4/1
SITE 3
4/5
4/6
4/4

FIG. 13

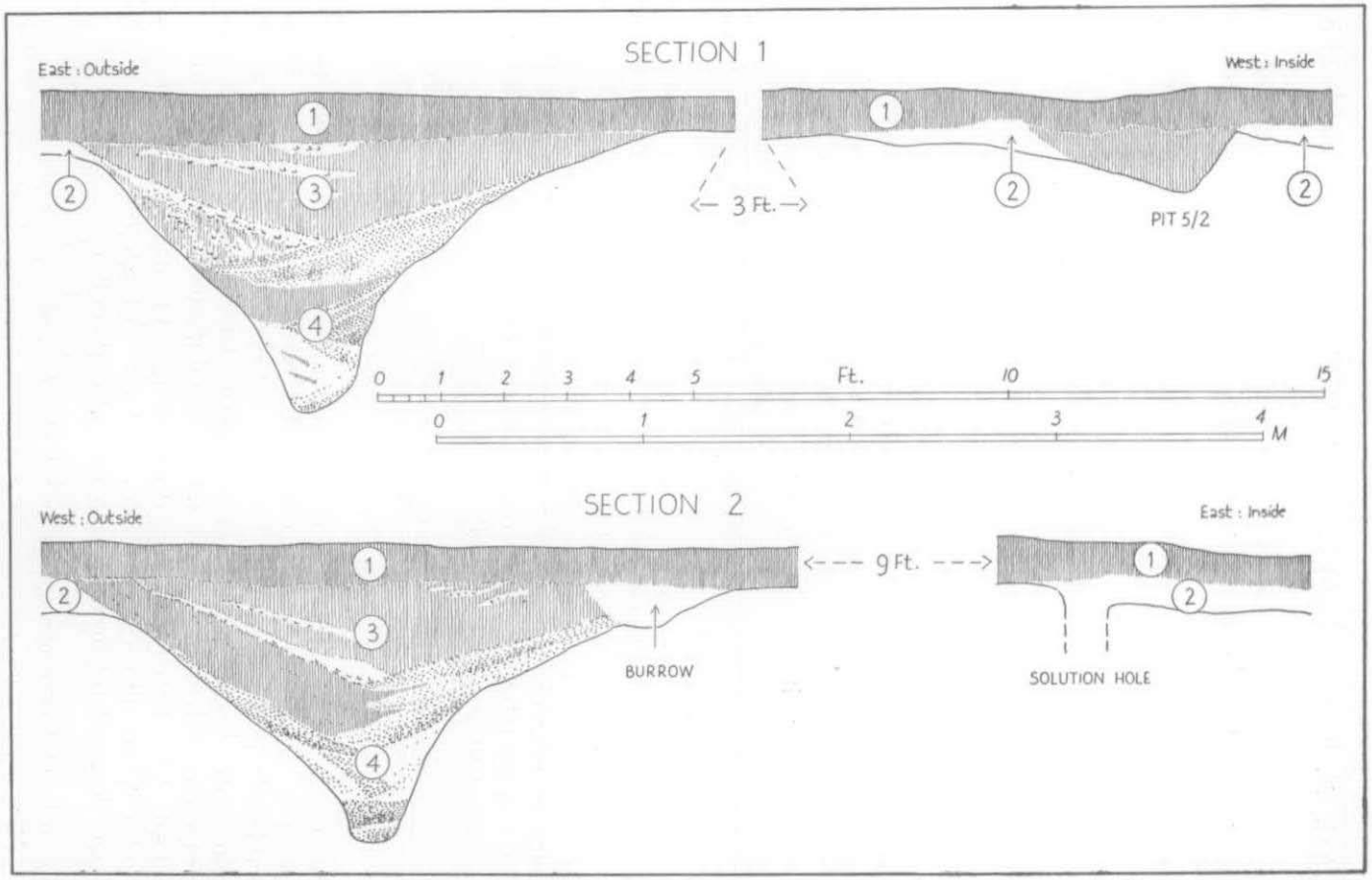

FIG. 14
Sections of site 5.

narrow ditch, silting rapidly under natural conditions, with its sides composed of varying proportions of loam and gravel. They provide no evidence of the form of the original earthwork.[63a]

Two pits were found to have been dug into the complicated natural strata at the centre of the site.

5/1 was abt. 1 ft. 9 ins. by 1 ft. 6 ins., d. 6 ins., with cremated bones, washed fairly clean in a matrix of reddish-brown loam ; a scatter of cremated bones in layer 1 above indicated that the deposit had been disturbed by ploughing. A bronze awl and its bone handle (FIG. 25, no. 9) were found about one inch below the existing surface of the cremation and central to it. They were found in immediate proximity but not touching ; but they may have been deposited in conjunction and become detached by earth-movements as a result of ploughing, since later examination showed that they joined. Sherds of typical collared urn ware, probably from a miniature vessel perhaps a pygmy cup, which may have been broken by cultivation, were found on the western edge of the pit.

5/2, the larger pit, contained reddish brown stony loam, featureless except for a few fragments of cremated bone. These pits probably belonged to the same burial. The duplication of burial pits at site 3 and elsewhere has already been discussed (pp. 15-16).

This monument resembled in some respects one at North Stoke with inhumation-burial with long-necked beaker,[64] probably not much earlier than Wessex I. But it also has similarities here to site 3. The awl and handle have generalized Wessex Culture resemblances ; but locally the awl is best matched in Radley 16, which is Wessex II ; pygmy vessels are generally Wessex II but the profile of the ditch recalls the inner ditch of site 4. site 5 may have been very close in date to site 3, possibly a little earlier.

SITE 6

(FIGS. 15, 16. Finds, pp. 73-5 ; FIG. 31)

Site 6 was excavated in 1963 before the removal of topsoil by mechanical excavator, by members of the Oxford University Archaeological Society directed by Mr. Graham Avery. It was found to be a ring-ditch of type 2c with inner and outer banks. (Site 2 is assumed to have been of the same type.) It appears also likely to have had a small central mound and therefore to have been a form of disc-barrow as defined by Grinsell. A central pit (6/1) contained sherds of a Wessex Biconical urn (FIG. 31, top). An external deposit yielded sherds which may have been of later date (FIG. 31, bottom).

[63a] None for a built-up platform as implied in Case (1963). 44.
[64] Catling.

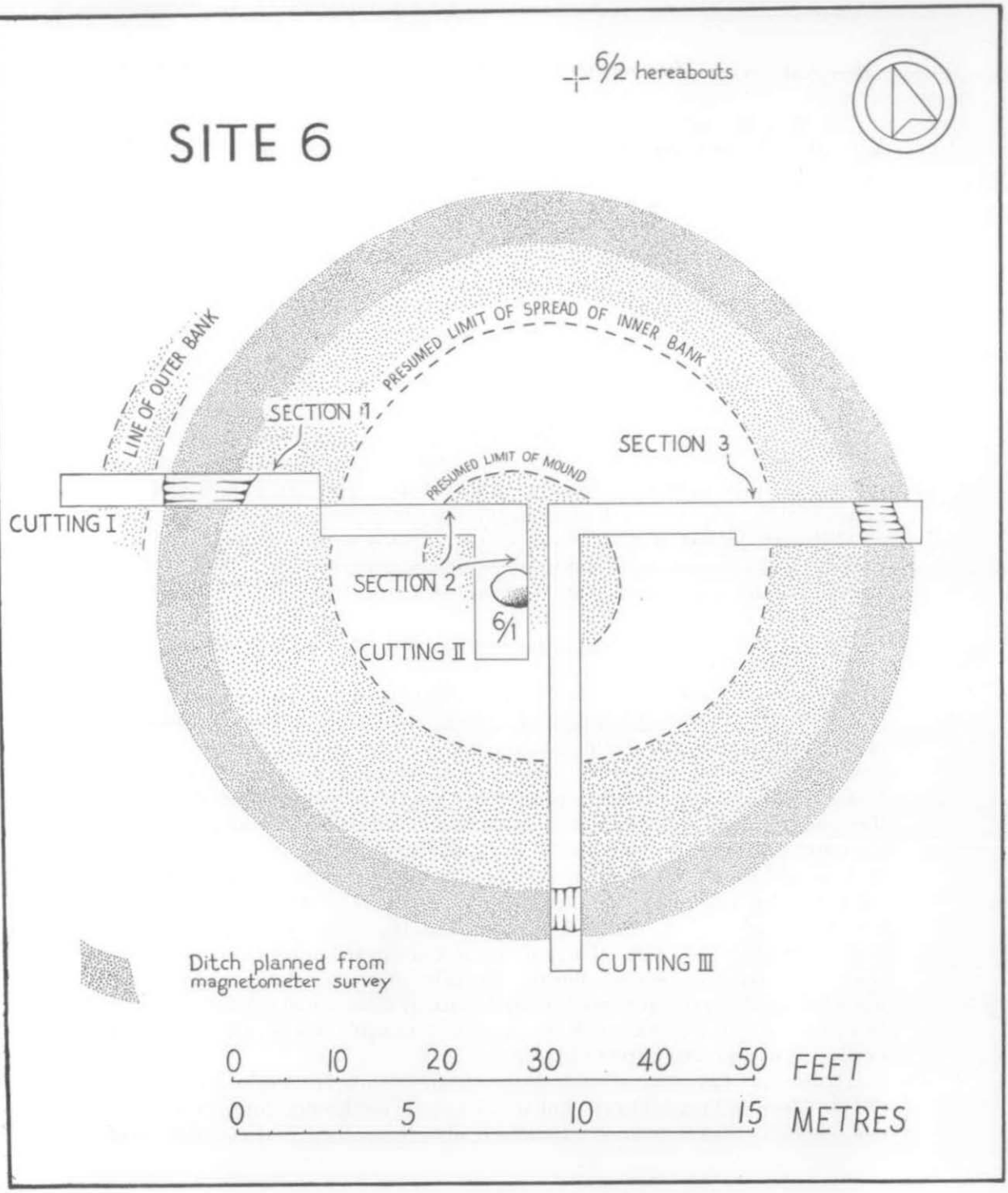
+ 6/2 hereabouts
SITE 6
LINE OF OUTER BANK
PRESUMED LIMIT OF SPREAD OF INNER BANK
SECTION 1
SECTION 3
PRESUMED LIMIT OF MOUND
CUTTING I
SECTION 2
6/1
CUTTING II
CUTTING III
Ditch planned from magnetometer survey
0 10 20 30 40 50 FEET
0 5 10 15 METRES

FIG. 15

It showed very faintly in an aerial photograph taken by Fairey Air Services, but had been first observed as a crop-mark by Mr. David Sturdy. The ditches and central pit (6/1) were located in a magnetometer-survey directed by Dr. M. J. Aitken. The site was watched by Mr. D. M. E. Avery and others during the stripping away of topsoil after excavation. An apparent causeway to the west in the aerial photograph was found to be illusory.

Unfortunately it had been explored previously to 1963 in an excavation which was not finished and the records of which were less than complete, so that it was not possible to find the trenches again before re-excavation with any confidence.

In 1963, Cutting I was laid out to section the ditch to the west, II to examine the central pit and the interior, and III to examine the interior and the ditch to the south and east. A large area of III was found to include trenches of the previous excavation, and from indications there and in Cutting II and from notes, it was possible to determine their extent. This excavation had not penetrated below the level of layer 2, the stony clayey Pleistocene loam (7.5YR/4/4), present over the whole site, and had generally penetrated it only partially. Although cultivation had taken place since, the extent of the former trenches could be seen sufficiently well at the level of layer 2.

Only in Cutting I and the west part of II (FIGS. 15 and 16, section 1) was the section of layer 1 (10YR/4/3) therefore entirely free of modern disturbance or the possible influence of tread from the dumps of the former excavation. This section was remarkably interesting as showing traces of inner and outer ring-banks and of the central mound. These were first seen as concentrations of quartzite pebbles about 2 to 3 inches long, which in turn called attention to unusual densities of weathered limestone pebbles associated with them (about half-an-inch or less in length, shown with exaggerated contrast in FIG. 16 for the sake of clarity). The traces suggest that the inner bank was larger than the outer one. Consistent traces of the inner bank also appeared at the south and east of Cutting III, although they may possibly have been augmented here by material trodden from the dumps of the former excavation ; unweathered limestone pebbles were, however, absent. FIG. 16, section 3 shows the section at the east of Cutting III. The only indications of the outer bank in layer 1 were a few quartzite pebbles, but the virtually unweathered outer edge of the ditch betrayed its presence and showed that its gravel face had collapsed rapidly inwards. It did not show at all to the south ; possibly it was more turfy here or formed to a greater extent of layer 2.

Evidence of the central mound came from Cutting II and the central part of III, where influence of material trodden from the former dumps was more of a possibility than elsewhere. However, all sections except in the south-west of

Cutting II showed concentrations of quartzite and limestone pebbles (e.g. FIG. 16, section 2), the extent of which are shown on FIG. 15, suggesting a mound less than 20 ft. in diameter. Only quartzites were seen in the south-west of Cutting II, some fire-altered. It seemed certain that quartzites had been brought onto the site, as at the West Settlement ; they had possibly also been collected at site 2. They only occurred sporadically elsewhere.

Evidence from ploughed soil should be treated very cautiously and it is obvious that cultivation had caused topsoil movements at City Farm, as witness the varying thickness of layer 1 here and at sites 2 and 5. But the evidence from the ditch confirms the presence of the presumed ring-banks.

The ditch (FIG. 16, sections 1 and 3) was found to be irregular, widest and deepest in I, shallowest and narrowest in III east, and intermediate in III south. It was flat-bottomed like that of site 2.

The matrix of layer 3 as elsewhere was reddish-brown loam (5YR/4/4), its unusual stoniness clearly confirming the formerly adjacent ring-banks ; on both sides of the ditch, prominent runs of virtually unweathered gravel had originated from points where Pleistocene loam (layer 2) formed the sides, *above* the level where gravel naturally occurred. These prominent runs containing unweathered gravel suggest fairly rapid destruction of the ring-banks, presumably in the course of cultivation. Such runs are common in the upper filling of ring-ditches (cp. sites 2, and 5 here). At Stanton Harcourt II, 4 they were associated with Early Iron Age refuse and the presence of two Early Iron Age settlements nearby connects them with contemporary cultivation. Here also the proximity of two settlements suggests that Early Iron Age ploughing may have been the explanation. Cultivation may also have caused the greater stoniness towards the base of the layer in section 3 and the transposition of the centre also seen there. The sections of the ditch confirm the impression given by layer 1 that the inner bank was not only larger than the outer one but stood near the side of ditch. Sherds of Bronze Age pottery came from layer 3 in Cutting III south, towards the outer edge.

Layer 4 indicates the filling below layer 3 which was derived partly from natural silting of the gravel and loam edges and partly from collapse of the similar adjacent sides of the ring-banks. Varying runs of gravel and loam were clearly seen in Cutting I (FIG. 16, section 1)—gravel, 5YR/4/4 at the outer edge of the top, and loamy sand, 7.5YR/5/6 at the inner side basally. Similar runs were seen less distinctly in III south, but the bedding was scarcely determinate in III east (FIG. 16, section 3). Sherds of Bronze Age pottery came from the intermediate gravelly filling towards the outer edge in Cutting I shown in FIG. 16, section 1.

Pit 6/1 had been disturbed by the previous excavation to a level just below

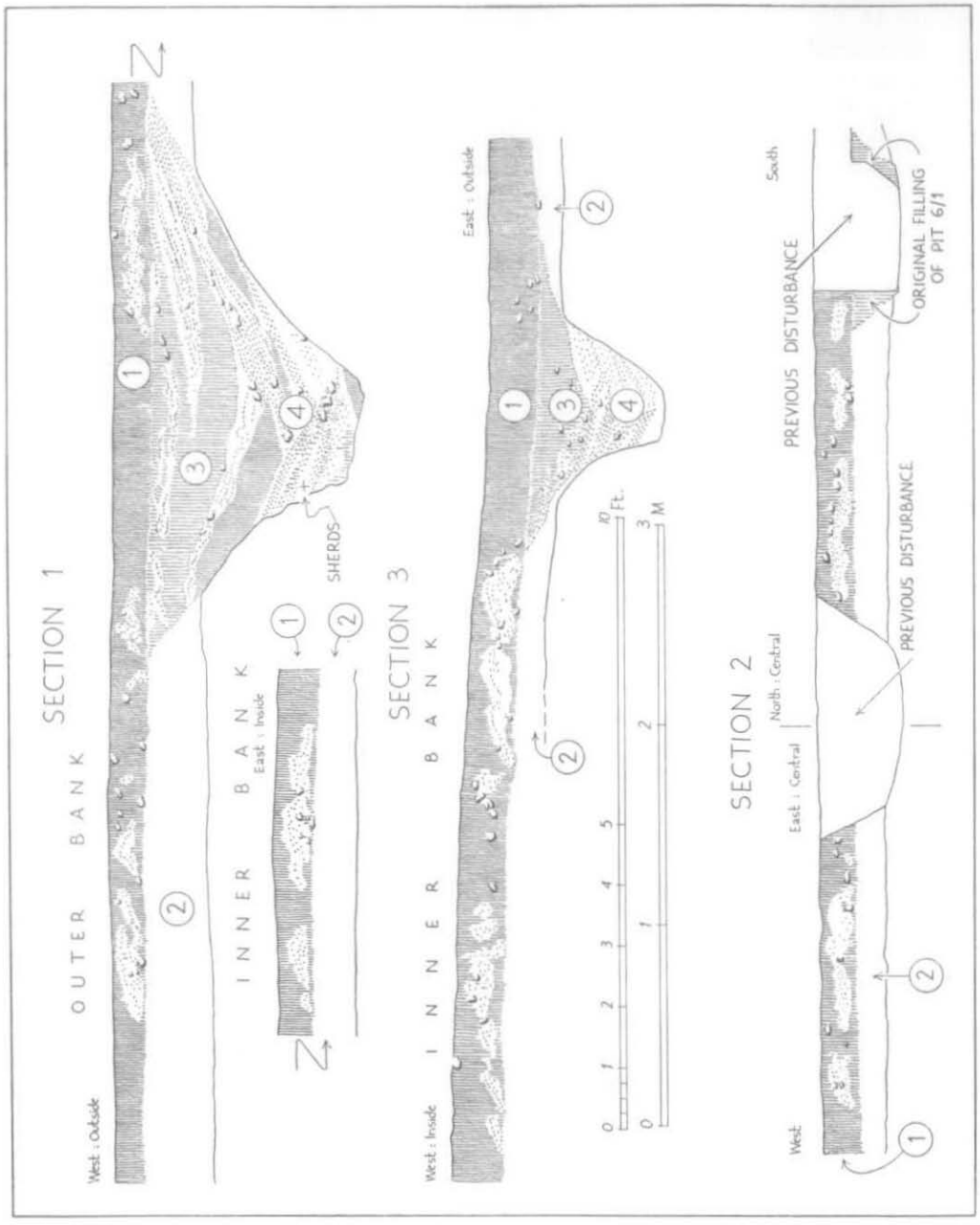

FIG. 16
Sections of site 6.

that of layer 2 ; some 6 ins. of deposit remained undisturbed at the bottom westwards of section 2 and an inch or two at the sides, consisting of dark brown loam (7.5YR/4/4). The filling showed no traces of burning. Fragments of an urn (FIG. 31, top), including rim and wall sherds, a few fragments of cremated bone and pieces of fire-altered limestone were found in 1963. Sherds of the same urn, also including rims and shoulders, cremated bones, charcoal, fire-marked stones and a flint flake had been found in the previous excavation, also a few fragments of cremated bone in layer 1. The breaks of all sherds were highly weathered ; one wall sherd was found lying horizontally at the base of the pit in 1963 ; no basal fragments were found anywhere, and sherds occurred outside the edge of the pit on the undisturbed surface of layer 2, one about 1 ft. 6 ins. to the north-west. It seems obvious that if the urn had originally been buried intact, it had both collapsed and been disturbed prior to the previous excavation ; this earlier disturbance may have occurred possibly when cultivation first lowered the monument in the Early Iron Age or may have been the work of treasure-seekers. The urn may originally have stood inverted, partly buried in the pit, partly in the mound, contained cremated bones and charcoal and been packed with stones from the pyre. The number of pyre-stones in the pit was unusual.

Deposit 6/2 was found by the machine-operator during stripping of topsoil. It comprised sherds of the upper part of a Bronze Age urn, cremated bones and a few fragments of charcoal—all in a matrix of loam, possibly layer 2. No other details are available. The pit, if such it was, appears likely to have been a secondary deposit to site 6, and to have lain a short distance outside the outer bank ; the urn was presumably buried inverted.

DISCUSSION AND DATING OF SITE 6

The monument has affinities both in Dorset and the Netherlands ; the same has been assumed for site 2. The same is certainly true here of the urn in pit 6/1. In the Netherlands the Dutch disc barrows, banked barrows which show resemblances to site 6, can be directly related to the Hilversum urns, some of which are closely comparable to Wessex Biconical urns of which a specimen is represented in pit 6/1. Wessex Biconical urns are frequent in Dorset,[65] but finds from comparable barrows, of the Dorset disc type, are obscure.[65a]

The date of Wessex Biconical urns has been discussed above under site 3 (p. 19). The urn here is similar in date to that from Radley 14, which

65 Calkin, 60.
65a Smith (1961), 115.

resembled site 6 in having two concentric ring-banks (although from two ditches).[65b]

Site 6 therefore was Middle Bronze Age 1, not greatly later than the first burials at site 3, overlapping the later ones and about the same date as site 2. Pit 6/2 by analogy with an urn from the tertiary Deverel-Rimbury cremation-cemetery at Lambourn 1 may have been Middle Bronze Age 2 ; and so may have been pit 2/2.

All the Bronze Age burials at City Farm may have belonged to successive generations of the same community. Differences at site 6, however, suggest some cultural changes : such differences are changed fabric and firing of the pottery, the urns not having been burnt in the pyre, numerous pyre-stones in the grave pit, quartzites in the earthwork, and earthworks close to the ditch.

THE EAST SETTLEMENT : PITS E/1, N/1-5

(FIGS. 2, 12. Finds, pp. 76-9 ; FIG. 32)

Crop-marks in aerial photographs to the east of the line of ring-ditches, in a field not yet dug for gravel, show an Early Iron Age farm comprising storage pits and an enclosure-ditch, features well-matched for example at Stanton Harcourt,[66] and typical of Early Iron Age A locally. Sherds of this period (e.g. FIG. 31, no. 13) from probably an outlying pit (E/1) of the settlement were collected by Miss Susan Turner from the east edge of the gravel-quarry in 1960.

North of the main cluster of ring-ditches, various pits were excavated by Mr. May and Miss Turner and the sections published here were drawn by them in the field. Material from other pits was collected by Miss Steele in 1962. N/1 was a burial pit probably of the Bronze Age, but the rest contained Early Iron Age A sherds like E/1, and probably too belonged to the East Settlement. N/3 and 4 were for roasting iron ore, N/2 and 6 and presumably 5 were connected with the same activity.

E/1. No details available from quarrymen.

N/1. Oval cup-shaped, N.W. 2 ft. 8 ins., S.E. 2 ft. 2 ins., d. 1 ft. 2 ins., stony loam ; cremated bone (well-cleaned before insertion), charcoal and flint blade in deepest part at S.E. end. (J.M.) The presence of a flint blade suggests that this burial pit may belong to the Bronze Age rather than Anglo-Saxon series. Isolated Bronze Age burial pits are known elsewhere (p. 31).

N/2. D. 3 ft. 9 ins., d. 1 ft. 8 ins., reddish-brown and brownish-black loam ; Early Iron Age sherd (FIG. 32, no. 8), struck-flints, animal bones, slag and fire-altered flints. (J.M.)

N/3 (FIG. 12). Cylindrical, D. 6 ft.-6 ft. 3 ins., at d. about 3 ft. 8 ins. levelling

[65b] Leeds (1936), 8 ff., where described as a ' disk-barrow ' although no central mound was seen.
[66] E.g. Williams.

with central circular depression to d. 4 ft. 6 ins. Walls and floor, but not floor of central depression, lined with rammed stony loam, up to 3 ins. thick, fired superficially red and hard. On floor, brownish-black loam up to 2 ins., with very much charcoal as dust, stems up to 3·8 cms. long and 1·3 cms. thick, and crumbs of larger pieces. Main filling reddish brown loam with lenses of charcoal and gravel, stonier towards centre and base, redder and loamier towards sides, containing Early Iron Age A sherds (e.g. FIG. 32, nos. 1-7), animal bones, iron-slag and lumps of red and yellowish daub fired hard and generally unlike material at sides. (S.T. & J.M.)

N/4 (FIG. 12). Oval cup-shaped, L. 5 ft., W. 4 ft., D. 2 ft. 8 ins. Walls but not floor lined up to 3 ins. thick as in pit N/3. Main filling reddish-brown loam with lenses of gravel and a little unburnt animal bone. At top, oval cup-shaped hollow, L. 3 ft. 2 ins., W. 1 ft. 8 ins., d. 8 ins., filled with brownish-black loam, Early Iron Age sherd, burnt animal bone and iron-slag, covered by flags of limestone. (S.T.)

N/5 and N/6. Both noted as pits by quarrymen, but no details available, beyond that N/6 contained iron-slag and N/5 Early Iron Age A sherds (e.g. FIG. 31, nos. 9-12), daub, animal bone and burnt stone. (S.S.)

The fired linings of N/3 and N/4 were abnormal features for pits associated with Early Iron Age settlement ; they were also of unusual shape and N/3 conspicuously large. Samples of the slag and lining were submitted to Mr. H. H. Coghlan, Newbury Borough Museum and Mr. H. Cleere of the British Iron and Steel Research Institute. Both opined that N/3 and 4 were pits for roasting iron ore. (Mr. Cleere's report, p. 94.)

Slag has been found at a number of Early Iron Age excavations in the region.[67] But slag does not necessarily imply iron-manufacture on the spot.[67a] For instance, it was found in pits of the later West Settlement where no evidence of iron-manufacture was found ; it may have been salvaged by the later farmers for filling ruts and pot-holes, in the same way as ash and clinker have been used in modern times. Roasting pits have not previously been found in the region, except those nearby at Cassington at Mr. C. Musgrave's excavations in 1936, which have not yet been published ;[68] but pits N/3 and presumably N/4 were earlier than those at Cassington, where the associated pottery was Early Iron Age B. Such roasting pits seem to have been very rarely found in the British Isles and to be otherwise not definitely recorded in Early Iron Age A association.[69] Despite the fact that iron ore was much more prevalent than non-ferrous ores such as those of copper or tin, the difficulties and laborious nature of the extractive processes probably kept manufacture in the hands of specialists.

[67] Chadlington, Chinnor, Dorchester (Allen's pit and Mount Farm), Madmarston, Stanton Harcourt (Linch Hill), Wittenham Clumps, Yarnton. Published references : Fowler, 20 ; Myres, 21 ; Richardson and Young, 137.

[67a] Nor does an excavator's report of slag necessarily imply iron-working unless expert identification has been made.

[68] Noted in *Oxoniensia* II (1937), 201.

[69] Tylecote, 192 ff.

Naturally when their useful life was over pits N/3 and N/4 were levelled with rubbish and it should be noted that N/2 and N/6 also contained slag and N/5 burnt stone ; slag was also found in layer 3 of site 5. It seems likely therefore that the area north of ring-ditches 4 and 5 was an iron-working area serving the East Settlement. The great amount of smoke and ash produced in the processes would have made it best to isolate them ; the prevailing south-west wind would have carried them north of the East Settlement.

Roasting iron ore is preliminary to converting carbonate ores, such as those of the Oxfordshire iron-fields, to a concentrate which can be fed to the smelting furnace to produce iron. In default of any evidence for smelting furnaces at City Farm, one cannot be sure whether only concentration was performed there or the whole process of conversion to iron. Furnaces of quite small size would probably have been the rule, and may not have been dug into the subsoil. The lumps of daub in N/3 and N/5 might have been the remains of such furnaces ; but the hollow in the top of N/4 is unlikely to have been the emplacement of one (p. 95). None of the industrial debris had the appearance of tap-slag from a furnace.

The analysis of the finds from these pits shows their context to be Southern Second A in Hawkes's definition[70] and the pottery is quite well-matched by that from the settlement-site at Chinnor, Bucks., on the Chiltern escarpment. One of the westerly connexions deduced at Chinnor involved the supply of iron-ore.[71]

THE WEST SETTLEMENT

by Helen Sutermeister

(FIGS. 2, 17-19. Finds, pp. 79-87 ; FIGS. 33-5)

Only faint traces of this Early Iron Age settlement appeared in an aerial photograph taken by Fairey Air Services. It was completely planned and excavated by Miss Helen Sutermeister during gravel-digging in 1964, except for part presumed to lie beyond the hedge to the north, which was not in the quarry. The sections were drawn in the field by Miss Sutermeister, and prepared for publication by Mrs. Pogson. The site may be assigned through Mr. Dennis Harding's analysis of the finds to Early Iron Age B, and is dated provisionally by him to the late 3rd or early 2nd century B.C. It is thus likely to have been later than the East Settlement, which was presumably of Early Iron Age A.

177 features were observed as darker patches on the surface of the undisturbed gravel within an area 500 feet by 120 feet ; of these 152 were identified as pits and another 25, with diameters less than 1 ft. 6 ins., as postholes (FIG. 17).

[70] Hawkes (1959), FIG. 4.
[71] Richardson and Young, 137.

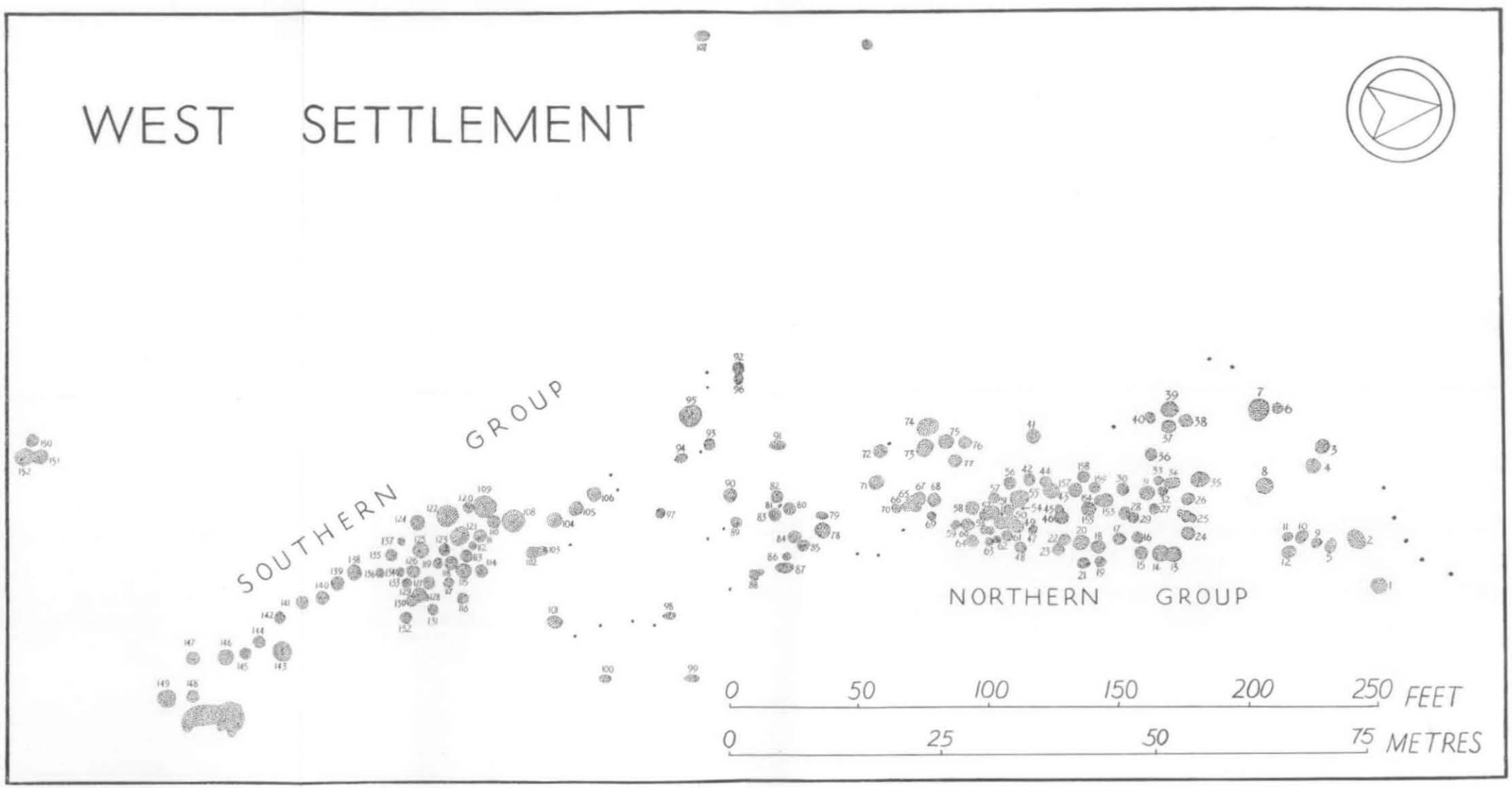
WEST SETTLEMENT
SOUTHERN GROUP
NORTHERN GROUP
0 50 100 150 200 250 FEET
0 25 50 75 METRES

FIG. 17

Two outlying pits (107 and another) were found some 150 ft. west of the main area but proved to be shallow and unproductive. No other artificial features were identified, except for the irregular excavation at the extreme south of the southern group (FIG. 17), which may have been a filled-in gravel-pit.

THE PITS (FIGS 17-19)

Half of each pit was excavated to leave a perpendicular section, and productive ones were cleared completely. Deeper pits occurred in two linear groups with an indefinite area of only shallow pits or postholes between them (FIG. 18, top). The northern group was an irregular linear scatter except on the east where the outermost pits form a fairly definite line. Similarly, pits in the southern group form a line to the south-west ; such lines may indicate that the pits were dug along a pathway or boundary. A similar pattern was seen at Stanton Harcourt.[72] There was no sign of pits dug in pairs as at Standlake.[73]

The pits in the main area varied greatly in size, depth and filling but were almost invariably approximately circular in plan ; only 5 were oval and 2 others appeared so because they had been recut or fresh pits dug into their sides. In section most were steep and straight sided with a slight inward curve at the base and with more or less flat bottoms (like pits 14 and 68, FIG. 19), but the smaller and less productive ones often curved fairly smoothly inwards to give a rough V-shape (like pit 13, FIG. 19). A few larger ones were undercut slightly (pit 106, FIG. 19) but this undercutting may have been caused by weathering. Pit 46 (FIG. 19) was alone in being stepped. There were many intersecting pits (30%) but no examples of pits dug into the floors of earlier ones. The majority (over 75%) were filled with almost clean gravel probably removed from the next pit to be dug ; these were usually the less productive of pottery and bone. Others (18%) contained gravel mixed with a greater proportion of humus, thus showing a darker colour (e.g. pit 46, FIG. 19) ; a few (2·5%) had reddish loam similar to the topsoil (like the upper filling of pit 13, FIG. 19) and the remainder (12%) soft blackish-brown loam with charcoal (like pits 14, 68, 106 and the bottom filling of 13 : FIG. 19). The deeper and darker coloured pits, which usually produced the most artifacts of utilized objects, tended to be on the fringes of the site (FIG. 18).

Almost all pits (90%) contained some bone and nearly half (40%) some pottery. Many produced large numbers of heavily burned quartzite pebbles : some may have been pot boilers and others used to build hearths. Daub was found. Slag occurred in 12 pits although it was abundant only in pit 140 ; the distribution (FIG. 18, bottom) suggests that it originated from the iron working

[72] Hamlin, FIG. 1.
[73] Riley, FIG. 9.

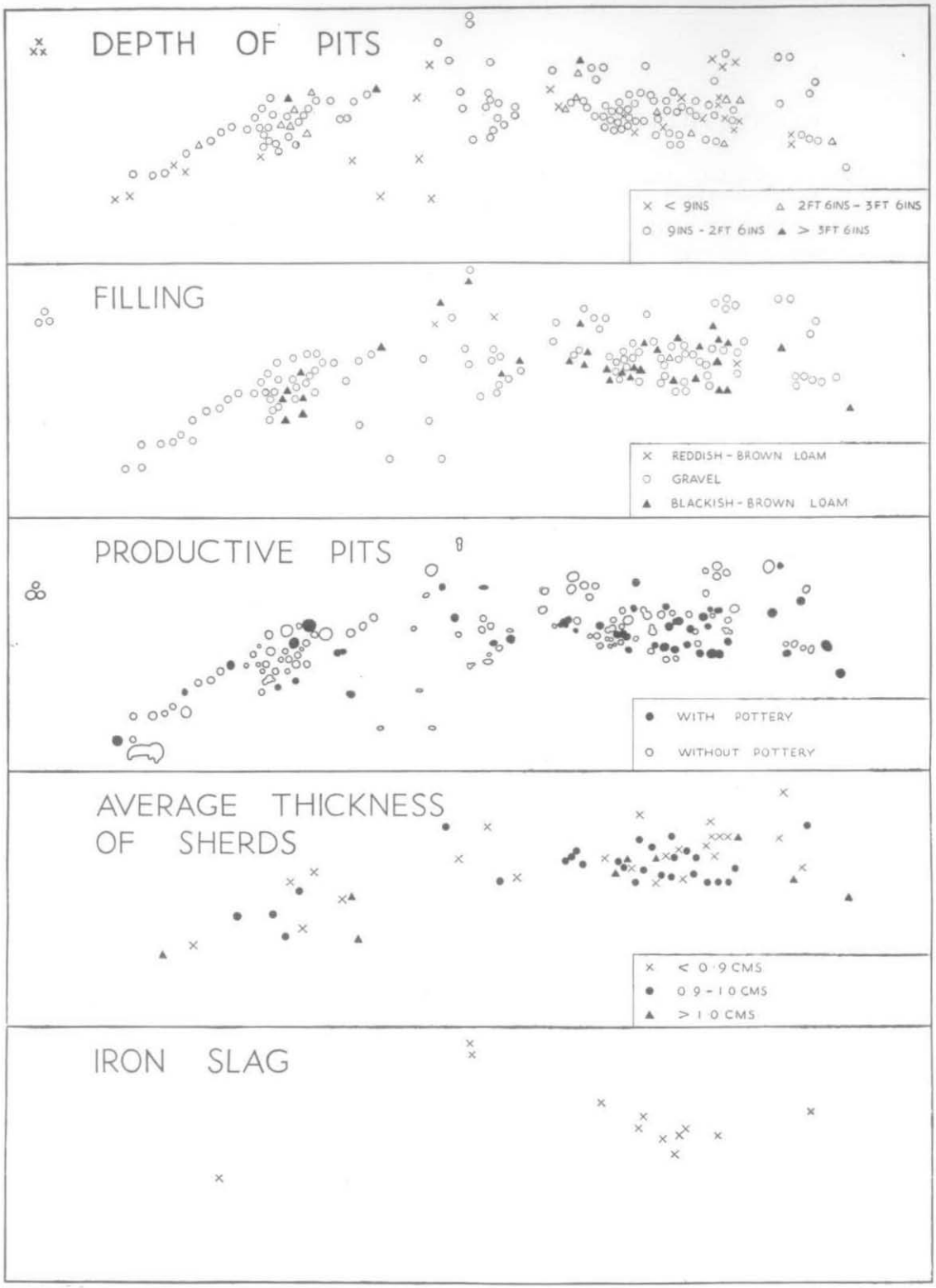

FIG. 18
Analysis of pits, West Settlement.

pits found to the north-east. No evidence was found to show that iron was being produced at the West Settlement.

Five pits deserve special attention. Pit 13 had been dug into pit 14 (FIG. 19); it contained a human skeleton, in addition to much animal bone. The skeleton was in a crouched position and completely articulated except for the skull which was found more or less vertically a few inches from the vertibrae. The body appeared to have been placed without grave-goods in a partly filled pit and then covered with more rubbish. Burials of the early part of the Early Iron Age are very rare. Where they occur they sometimes bear signs of a violent death, like those recently excavated at Wandlebury, Cambridgeshire,[74]

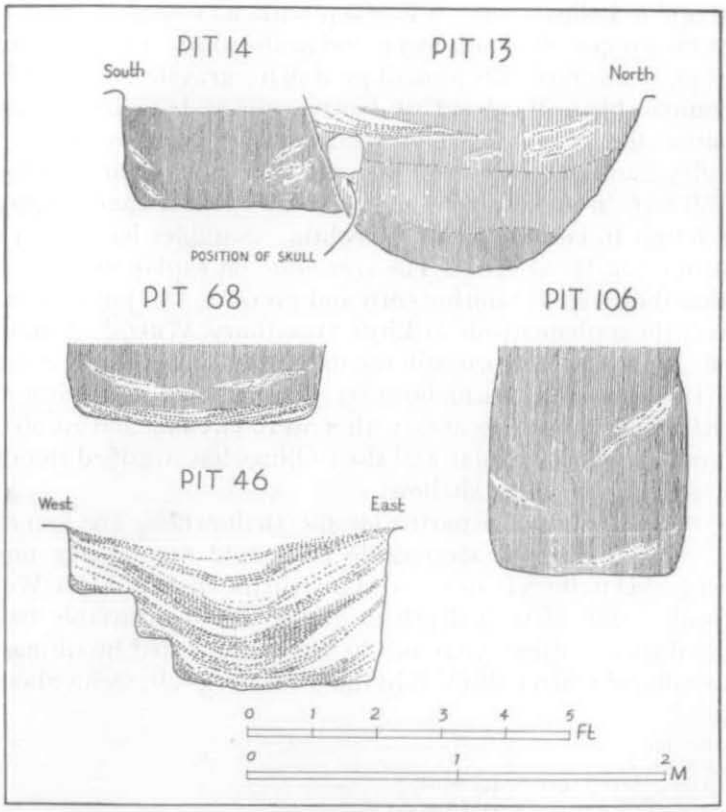

FIG. 19
Sections of pits at the West Settlement.

[74] Hartley, *Proc. Cambs. Ant. Soc.* L (1957), 14.

or appear to have been treated with a marked lack of respect. A dismembered and partial skeleton was found in a pit in Vicarage Field, Stanton Harcourt.[75]

Pit 74, the deepest on the site contained large parts of the vertebrae of two oxen with some of the ribs still articulated. No other articulated animal bones were found on the site. Pit 106, with blackish-brown filling (FIG. 19), produced by far the largest quantity of pottery ; although not large, it was notable for being deeper than it was wide.

Feature 81 was a hearth and there was another in 95. Both were small (2 ft. by 1 ft.), oval and surfaced with fire-altered quartzite pebbles. Hearths of similar size and type have been excavated locally at Stanton Harcourt[76] and farther afield at Wilbury Hill, Hertfordshire.[77]

An irregular hollow, some 3 ft. deep with a V-section, and filled with sterile light brown gravelly loam was found in the south of the site, immediately east of pit 148, it was probably a small pit dug for gravel, and possibly modern.

Pits comparable to those at City Farm occur on both Early Iron Age and Neolithic sites[78] throughout Lowland Britain ; they are frequent in the Upper Thames valley south and east of the Jurassic Way, mainly on gravel sites, but at least two hill forts in the ironstone region, Madmarston[79] and Rainsborough,[80] have been found to contain some. Neolithic examples have been excavated recently at Stanton Harcourt.[81] The conventional explanation for Early Iron Age pits, that they were for storing corn and produce, was put forward after the excavation of the settlement-site at Little Woodbury, Wilts.[82] Communities in Somaliland, Nigeria and Cyprus still use this method of storage with satisfactory results.[83] The pits at City Farm, however, differ from those at Little Woodbury and may have had other functions ; they were circular and rarely undercut, their profiles were more angular and their fillings less stratified than the classic types. In general they were shallow.

These characteristics, in particular the shallowness, are found on other local sites. It is clear that serviceable pits could not be dug more or less vertically in gravel to the 5 ft. or 6 ft. common in the chalk at Little Woodbury or Maiden Castle. Pits of such depth in gravel would invariably have needed stout linings if their contents were not to be contaminated by silting, or if they were not to collapse when half-filled in the winter. 4-5 ft. seems about the limit

75 Williams, 14.
76 Williams, 10.
77 Applebaum, *Arch. J.* CVI (1949), 30-1.
78 Field, *et al.*, *PPS* XXX (1964), 352 ff., 367 ff.
79 Fowler, 22 ff.
80 *Oxoniensia* XXVI/XXVII (1961/2), 336.
81 Hamlin, 2 ff.
82 Bersu, *PPS* VI (1940), 30-111.
83 Hall, Haswell and Oxley, 3-5.

in the Oxford region and most are much smaller. At Dorchester[84] they ranged from 2 ft. to 3 ft. 6 ins., at Stanton Harcourt[85] from 6 ins. to 4 ft. 6 ins. ; Standlake,[86] Purwell Farm,[87] Frilford,[88] Radley,[89] and Cassington[90] all produced pits about 1 ft. deep as well as larger ones. These measurements are taken from the gravel surface and to estimate the true depth it is necessary to add some 9 ins. for topsoil and perhaps as much as 1 ft. for sub-aerial denudation,[91] yet even a pit of 3 ft. 3 ins. is shallow compared with those at Little Woodbury. Larger pits would have been more practical for the storage of corn since less of it would have been exposed to mould and rats. None of the pits at the West Settlement showed any trace of lining although wickerwork baskets may have been used instead. If, as seems likely, only the larger pits were used for the storage of corn some other explanation must be found for the remainder. Those filled with dark humic material suggest rubbish pits and may even have been used to collect manure for the fields,[92] those filled with cleaner gravel may have been working hollows or resting places for water barrels or baskets.

THE POSTHOLES

Some 25 scattered postholes were found; none were more than 1 ft. deep or 1 ft. 6 ins. wide and all were filled with brown gravelly loam. The central area had more than the northern or southern groups ; also pits were less dense here and two hearths occurred. This area may at one stage or another have been the site of huts or outbuildings. Postholes between pits 98 and 101 appear to form an arc. In the north of the site, 5 larger ones, placed 8 ft. to 10 ft. apart, formed another. Clearly neither set could have supported a house but they may have been the main supports for a wattle fence.

THE ENCLOSURE DITCH

North of the main site, the filling of a ditch may still be seen in the face of the gravel-pit here running immediately east of the north-south arm of the hedge shown in FIG. 2. The quarry appears to have cut away a small segment of the outer part of the filling of an enclosure-ditch, the rest of which must lie in the area west of the hedge, not intended for quarrying. The ditch is nearly 5 ft. deep from the surface of the gravel ; in the small segment exposed it is 19½ ft. centre to centre ; there is no complete cross-section. The associated earth

[84] Myres, 22 ff.
[85] Williams, 12.
[86] Riley, 36 ff.
[87] Dawson.
[88] Bradford and Goodchild, 6 ff.
[89] Leeds (1935), 38-9.
[90] Leeds (1935), 33-8.
[91] Atkinson, *Ant.* XXI (1957), 228 ff.
[92] Cra'ster, *Proc. Cambs. Ant. Soc.* LIV (1960), 30.

work appears to have been on the inner side. The filling contained animal bones, including ox, and quantities of burnt quartzites (as in the pits), burnt limestone, but no pottery. It may be part of the traces of an enclosure, similar to but larger than that shown in crop-marks in the East Settlement.

DISCUSSION AND DATE OF THE WEST SETTLEMENT

The site can be divided into northern and southern groups, but the material culture does not support any chronological division. It suggests that we have the farmstead of a single family unit. It is conceivable nonetheless that the southern group and the central potential area of huts represent an earlier stage and that the northern group and the enclosure a later one. On the other hand, the main huts may have lain within the enclosure-ditch and the central area have been for junior members of the clan or for working.

The surviving material-culture seems notably poor for people who may have lived somewhat above subsistence-level judging by the remains of live-stock. The pottery is almost entirely coarse cooking ware, and only a few sherds show decoration. A small iron brooch is the only relic of personal decoration. But richer finds may be associated with the enclosure.

The finds indicate a date within the range late 3rd to 2nd century B.C. (see Mr. Harding's report, pp. 79-87). Any estimate of the length of occupation must depend on the explanation adopted for the pits. If we assume that corn storage pits became foul after two or three years and that one family would need about 55 bushels of corn per year then the pits would have been used up in 70 years ; if only the deeper ones were used (those over 2 ft. 6 ins. from the gravel surface) then the estimate falls to 35 years. But if a pit was left unopened, grain might have lasted in storage longer than 3 years. Any conclusion depends on imponderables, but a short occupation seems probable.

THE SITES AT CITY FARM IN THE LIGHT OF PREHISTORIC COMMUNICATIONS

Iron-working at the East Settlement and its presumed connexions with the north Oxfordshire ironfields focuses attention on possible routes of communication used in prehistoric times. And the linear lay-out of the sites at City Farm—the Bronze Age ring-ditches, the West and possibly East Early Iron Age Settlements and even the Anglo-Saxon cemetery—raises the question whether they may not have developed along a trackway. Study of superficial geology and of the distribution of prehistoric sites in relation to it in fact suggest that a major natural route, important in the Early Iron Age but already ancient then, passed by City Farm (FIG. 20). It would have connected the eastern Cotswolds with north Wessex through the gravels west of Oxford.

Nobody will doubt that carts were in use in the Early Iron Age. (The pony controlled by the bit found at pit 52 of the West Settlement surely pulled one and not a chariot.) And fewer people than before will now doubt whether carts were used in the British Isles by the early 2nd millennium B.C., following Dr. van der Waals's researches on Late Neolithic wooden wheels found in the Netherlands.[93] Even in dry conditions carts operated most satisfactorily on well-drained subsoils, and, where there were no bridges, would have needed to make use of fords.

Attention has been drawn above to the vitally important well-drained Summertown-Radley terraced gravels of the Upper Thames—in particular to the strip straddling Eynsham and the patch across the Cherwell between Hardwick and Standlake which form an area which would have tended to filter natural routes from the Cotswold hinterland and farther afield into the Thames Valley. Two strips of well-drained subsoil in fact lead northwards from the extremities of this area ; the southerly of the two, along the gravels of the Northmoor terrace south of the Windrush, north-west from Hardwick through Ducklington to the Cornbrash west of Witney need not concern us here ; but the second is relevant to the sites at City Farm, and leads directly to the north Oxfordshire ironfields.

Northwards from City Farm (FIG. 20, left), a gap of only half-a-mile separates Summertown-Radley gravels from those of the Hanborough terrace, and these lead on through Cornbrash and Forest Marble to the Great Oolite at Long Hanborough. Thence the direction to the eastern Cotswolds would have continued north-west, following the south bank of the Evenlode ; the river could have been forded south of Stonesfield, and then going would have been good, if hilly in parts, north-north-eastwards to the Oxfordshire ironstone, by Radford and Sandford to Iron Down. The importance of the ironstone area in the Early Iron Age is evidenced by the camps of Rainsborough, Ilbury, Tadmarton and Madmarston. The route also passes through the area enclosed by Grim's Dykes around Glympton. The strategic importance of that area may be explainable as containing the crossing of our economically important route with an east-west one, which was politically important towards the end of the Early Iron Age as connecting the Catuvellaunian kingdom with the west, along the line of the later Akeman Street.

South of City Farm (FIG. 20, right), communications with north Wessex would have needed to avoid the plain of Kimmeridge and Oxford Clays around Wantage. The way is quite clear if lines of crop-marks are interpreted as at City Farm as extending along tracks. Summertown-Radley gravels lead south through Eynsham, the line of ring-ditches at Foxley Farm pointing appro-

[93] *Palaeohistoria* X (1964), 103-56.

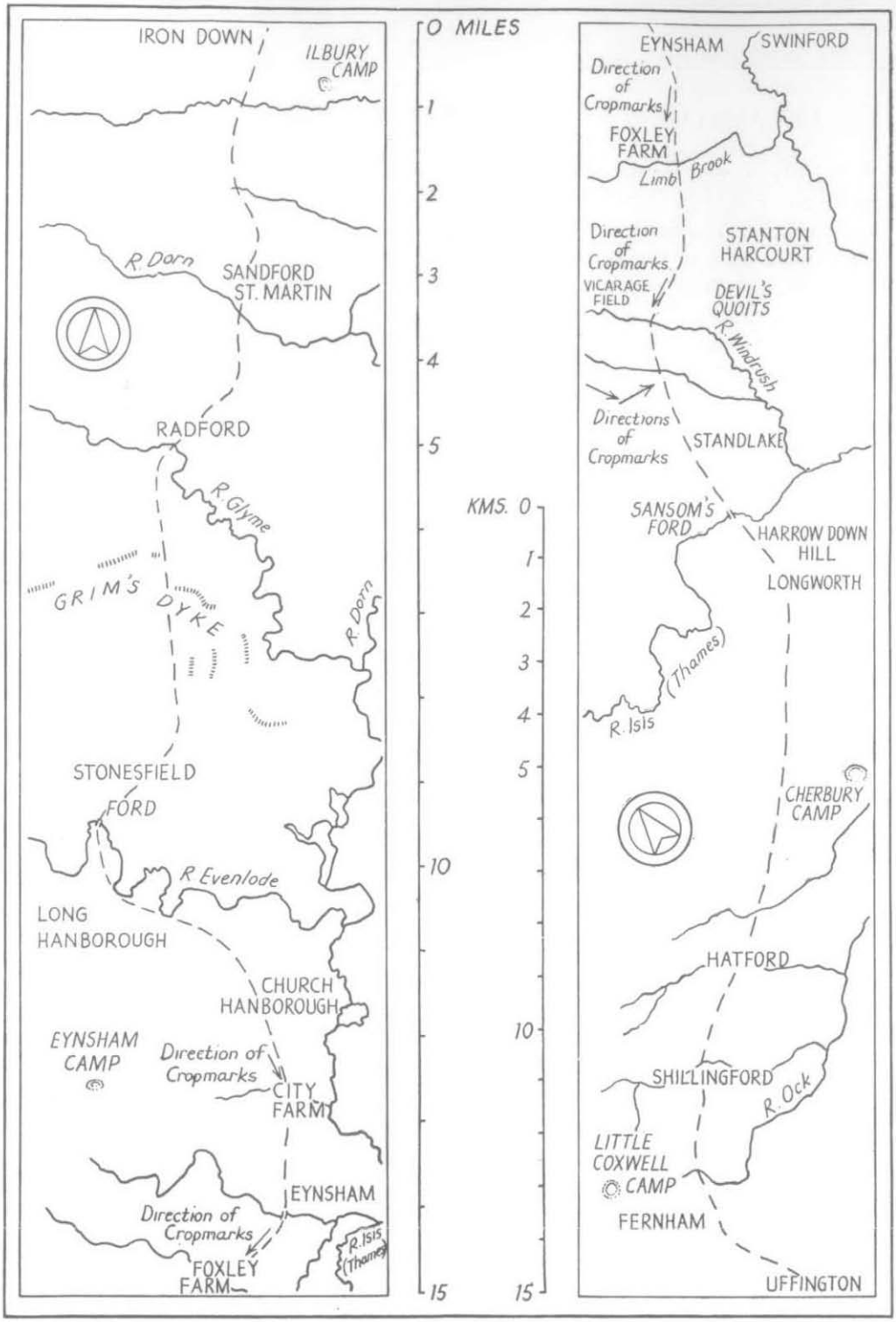
IRON DOWN
ILBURY CAMP
R. Dorn
SANDFORD ST. MARTIN
RADFORD
R. Glyme
GRIM'S DYKE
R. Dorn
STONESFIELD
FORD
R Evenlode
LONG HANBOROUGH
CHURCH HANBOROUGH
EYNSHAM CAMP
Direction of Cropmarks
CITY FARM
EYNSHAM
Direction of Cropmarks
R. Isis (Thames)
FOXLEY FARM
0 MILES
1
2
3
4
5
10
15
KMS. 0
1
2
3
4
5
10
15
EYNSHAM
SWINFORD
Direction of Cropmarks
FOXLEY FARM
Limb Brook
Direction of Cropmarks
STANTON HARCOURT
VICARAGE FIELD
DEVIL'S QUOITS
R. Windrush
Directions of Cropmarks
STANDLAKE
SANSOM'S FORD
HARROW DOWN HILL
LONGWORTH
(Thames)
R. Isis
CHERBURY CAMP
HATFORD
SHILLINGFORD
R. Ock
LITTLE COXWELL CAMP
FERNHAM
UFFINGTON

FIG. 20

priately north and south, the track leaving on the one side the Beaker-Culture cemetery and on the other the great henge-monument of Deadman's Burial, its entrances aligned conformably. This line leads directly along the terraced-gravel to Vicarage Field at the north of the Stanton Harcourt complex, the sites of the Devil's Quoits henge-monument and of the Stanton Harcourt Barrow with its rich Wessex II burial lying in a broad enclave of gravel about a mile southwards.

The line of crop-marks at Vicarage Field suggests a crossing of the Windrush at Beard Mill. No ancient crossing is attested by ford-names, but if the river was split as nowadays into a number of streams it may not have presented a severe obstacle. The west-east line of ring-ditches on Standlake Common suggests a crossing of another stream near Underdown Mill ; a bronze spear-head was found in 1911 between these presumed crossings. Through Standlake parish, the way would have led over Northmoor Terrace gravel and alluvium on Standlake Common, avoiding Oxford Clay at Shifford, to a crossing of the Isis at Sansom's Ford.

Across the river, Oxford Clay would have intervened for about a mile past Harrowdown Hill until the Corallian ridge was reached at Longworth. Thence the way would have been straightforward on the Corallian past Cherbury Camp and the prolific Early Iron Age settlement at Hatford, by Shellingford to Greensand at Fernham, with Little Coxwell Camp nearby, and thence to Chalk east of Uffington.

This would have been a likely route in Neolithic times for flint from north Wessex to have reached the Oxford region and the east Cotswolds, and for an occasional axehead of rock from the Highland Zone to have come to north Wessex and the Thames Valley. Copper and bronze objects were possibly brought this way later ; and, with little doubt, iron or its ores reached the numerous Early Iron Age settlements in and around the Vale of the White Horse. And more important than the movement of commodities, in all periods before the more or less settled farming of the Early Iron Age, it may have carried herdsmen from north and south to summer-pastures in the Thames Valley.

EARLY SETTLEMENT AT CITY FARM

The gravels upstream from Oxford have yielded few palaeoliths and do not seem to have attracted Mesolithic settlement to any degree ; the indeterminate finds from City Farm are thus in character with general evidence.

City Farm is a typical area favoured for later prehistoric settlement, alongside a stream which had cut back into the Summertown-Radley terrace of the Thames or a major tributary. But although on an important natural route,

it was at the northern fringe of prehistoric settlement on the gravels of the Oxford region ; furthermore, archaeology suggests that early prehistoric settlement of the whole Oxford region at its densest was marginal compared with that of the Marlborough Downs or Salisbury Plain. The archaeological traces at City Farm, although comparatively numerous, in fact show intermittent activity, and seem hardly likely to have been left by large groups of people. Secondary Neolithic finds, quite numerous from Cassington southwards, are missing. The sherd of Windmill Hill pottery from pit 3/15 is the only example between Dorchester and the Cotswolds, but it is of uncertain value having been found out of context.

Although the grassy conditions deduced by Dr. Cain presuppose previous reduction of the forest cover (p. 93), the first definite settlement to leave traces was by Beaker people in the second quarter of the 2nd millennium B.C., probably in the 17th century. Site 1 may have been a barrow and the outer ditch, site 4, possibly an enclosure connected with settlement. The finds at site 4 have clear resemblances at Cassington across the Evenlode, otherwise are closer to those of the Eynsham than the Cassington cemetery or to those from the graves at Linch Hill, Stanton Harcourt. They show connexions with East Anglia and Wessex and with the Netherlands. The route by which the site stood may have been already important and the henge-monument may be considered as one of a number of shrines along a trackway, devoted to rites connected perhaps with calendarial observations, important for herdsmen.

Regionally, the ethnic and cultural changes involved in the spread of the Urn Culture at the close of the Beaker period are obscure.[94] Burials 4/4-6 may have belonged to a small group of herdsmen using the area intermittently, after the construction of site 4. They appear to have been the first of a series of burials disposed around the henge-monument, like those around the much greater shrines of Avebury and Stonehenge. They are taken to belong to the first stage of the Early Bronze Age and to have been followed on the opposite side of the henge-monument by site 5, a rather poor provincial barrow of Early Bronze Age 2. Then followed site 3 to the south.

South of City Farm, the Stanton Harcourt barrow (Stanton Harcourt XVI, 1) with its comparatively rich finds suggests a dominant family-group exercising decisive influence during Early Bronze Age 2 (Wessex II). But if exotic substances such as jet, amber and faience, which witness to widespread exchange of materials and ideas, failed to filter through farther northwards, some techniques certainly did at the close of Early Bronze Age 2, as shown in the sophisticated elliptical layout of site 3. This monument may have been

[94] Continuing traditions from the Peterborough and Beaker Cultures in the pottery itself have been convincingly shown by Longworth. To elements derived from the Beaker Cultures may be added the prevalence of grog as a filler in collared urns. Eg. pp. 63, 67.

planned around 1450 B.C. on the site of a herdsman's hut, in an area of perhaps favourite summer pastures, and already sacred. We assume two burials of members of a prominent clan around a former hut, succeeded by those of their immediate descendants or kinsmen extending eastwards.

Similarly the continguous site 2 and site 6 of Middle Bronze Age 1 may have represented the monuments to another generation or two of kinsmen, their material-culture changed by social or political events in Wessex and farther afield. The route along which all these monuments stretched may have served these and other transhuming herdsmen moving seasonally from winter folds and permanent corn-plots in north Wessex or even the Cotswolds to summer pastures in the Thames Valley. This practice of transhumance seems a definite possibility in view of the dryness deduced in Professor Cain's report on the mollusca, p. 93.[95]

After the secondary burials at sites 2 and 6, a long interval occurred, 750 years about, in part corresponding to the Late Bronze Age, during which no apparent archaeological traces were left at City Farm. This is consistent with evidence elsewhere in the Oxford Region, and viewed in context with the relative scarcity of Late Bronze Age material in the Upper Thames Valley seems to indicate a clearly catastrophic reduction in local population. But settled cereal farming may have become the practice in the populous regions to the south, and the summer pastures have been abandoned.

The relatively dense spread of Early Iron Age settlement in the region is not surprising if one assumes that the local population had been greatly reduced; and the easy availability of iron must have made settlement attractive. In the Early Iron Age, the route past City Farm once again assumed importance, and two settlements (one concerned with iron manufacture) spread along it, flourishing probably in the 3rd and 2nd centuries B.C. These Iron Age farmers ploughed up to the ditches of the earlier monuments and probably levelled the earthworks where they were a nuisance. Thereafter, City Farm became a marginal area again, nothing having been found to indicate the settled activity of the Belgic period and of the 1st and 2nd century Roman period as at Cassington, Eynsham and Stanton Harcourt. Later a small group of fairly early Anglo-Saxons buried their dead along the line of the earlier monuments; they too may have been seasonally nomadic like Bronze Age pastoralists centuries before.[95a]

[95] Similarly dry conditions were deduced by Professor Cain from occurrence of *Helicella itala* in an Early Bronze Age burial pit with collared urn of Longworth's Primary series in pit adjoining Stanton Harcourt II, 4 (p. 31). *Oxoniensia* forthcoming.

[95a] Sturdy, *Oxoniensia* XXVIII (1963), 95-8. The remains of young people noted by Dr. Roberts (p. 89) reminds one of their important roles in such activities (*e.g.* Evans, *Irish Heritage* (1942), 52). The significance of a general similarity between the range of Bronze and Anglo-Saxon crops (Jessen & Helbæk, *Cereal Crops in Great Britain and Ireland* (1944) needs examining).

THE FINDS

SITE 4

LAYER 1

Central area: Two flint flakes (FIG. 21, nos. 1 and 2), both with marks of use. Cloudy to white patina as normal in deposits on Summertown-Radley gravel.

Between ditches in south cutting: Rim-sherd 17th-century green-glazed ' honey-jar '; body-sherd indeterminate Romano-British ware, grey outside, light red inside.

INNER DITCH, LAYER 3 : POTTERY

South-west segment of partially excavated filling, within an area of about 3 ins. radius on surface of ditch (FIG. 9, 2 ft. 3 ins. from edge of north balk, slightly nearer outer edge than inner) : 3 sherds of necked-beaker (A-beaker) ware (e.g. FIG. 21, no. 3), light brown to light reddish-brown outside and in, blackish break, grog, faint transverse marks on rim possibly smoothing marks, horizontal linear incisions on outside. Although these sherds do not show the characteristic moulding, they are well-matched in fabric or rim-shape by long-necked beakers with moulding under the rim as at grave 15, Foxley Farm cemetery, Eynsham (*Oxon.* 20) or by the sherds from pits at Cassington (*Oxon.* 9-10; see supplementary notes on pits at Cassington, p. 60. Cp. FIG. 22, nos. 1-4 ; FIG. 23, no. 1).[96]

Within 1 ft. north-west of cremation-burial 4/1 : Body-sherd of beaker-pottery (FIG. 21, no. 6), flint-filling—2 mm., reddish-brown outside, light brown inside, so-called barbed-wire impressions made with wrapped cord. This sherd and FIG. 21, no. 13 from layer 5 are the first examples of barbed-wire decorated beaker-pottery found in the region. Such beakers are predominantly eastern in England and to be associated with those found near the mouth of the Rhine. In Clarke's statistical analysis of British beakers, barbed-wire decoration does not emerge as a clear chronological trait,[97] but Smith[98] and Modderman[99] have shown convincingly that the north European examples belonged to the end of the beaker-period; appropriately, material associated with barbed-wire decorated pottery at Anlo, Drenthe, gave mean dates in the 17th century B.C. by radiocarbon.[100] The Anlo sherds seem less like typical beaker-pottery than those at Eynsham ;[101] similar vessels published by Modderman also seem to differ from typical beaker-pottery, but others are more like. The association at Eynsham with paired finger-nail impressions (e.g. FIG. 21, nos. 4, 11) is confirmed both in East Anglia[102] and the Netherlands. FIG. 21, no 6 may have come from a beaker similar to that from Ditchling bottom, Brighton.[103] (Allusions are made

[96] References to beaker-pottery in this Section are as follows : *Berks.* 1-11, *Oxon.* 1-33 ; Leeds, 1938a. *Berks.* 12-16, *Oxon.* 34-53 ; Case, 1956. *Oxon.* 54-60 : Case, 1963. The sherds from site 4 may be referred to as *Oxon.* 61.

[97] *PPS* XXVIII (1962), 371-82.

[98] Smith, I. F. (1955).

[99] *Berichten ROB* VI (1955), 32-43.

[100] *Radiocarbon* V (1963), 180. GrN-852 (3620±65), 95% probability 1800-1540, mean 1670 B.C. GrN-1977 (3595±85), 95% probability 1815-1475, mean 1645 B.C.

[101] Waterbolk, *Palaeohistoria* VIII (1960), FIG. 29.

[102] And with thumb-nail scrapers, notably at site 114, Lion Point, Clacton, Essex. Smith (1955), 30-2.

[103] Curwen, *Archaeology of Sussex* (2nd edn. 1954), PL. XI, no. 1.

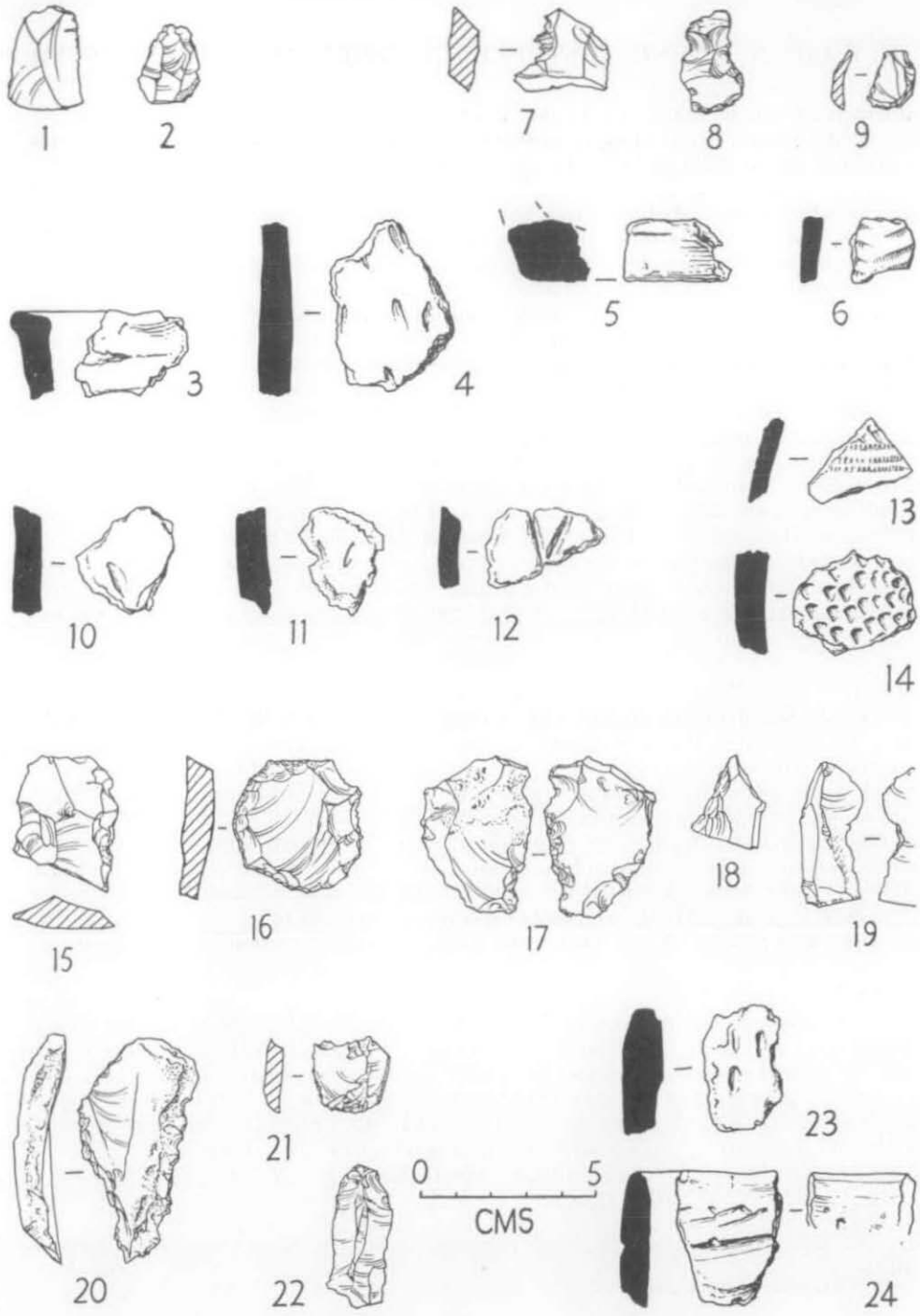

FIG. 21

Beaker pottery and struck flints from site 4 : 1-2, central area ; 6-19, inner ditch ; 20-24, outer ditch. (½)

throughout this section to the beaker from grave 15, Eynsham cemetery (*Oxon.* 20), associated with a bronze dagger with bone pommel comparable to Wessex Culture examples and tubular beads of bronze or copper sheet.[104] This grave is unlikely to be earlier than the first phase of the Wessex Culture ; and this only confirms the late dating which can be deduced from the barbed-wire decorated pottery).

In same area: Base-sherd of beaker-pottery (FIG. 21, no. 5), light red exterior, horizontal incision, possibly with finger-nail. This sherd is appropriate to a long-necked beaker as at grave 15, Eynsham cemetery.

In east cutting (FIG. 9, 2 ft. 3 ins. south-west from where sample GrN-1685 is plotted) : Body-sherd of beaker-pottery (FIG. 21, no. 4) with slight curvature, probably from large vessel, brownish-black exterior, blackish-brown interior and core, soapy fabric, finger-nail impressions. This sherd is well matched by long-necked beaker sherds from pit 1 at Cassington (FIG. 22, nos. 1, 4-6). Similar pattern of finger-nail impressions on beaker from grave 15, Eynsham cemetery.

In same area, about 6 ins. lower: Two body-sherds of pygmy cup, one including a structural join, the other being a complete section (FIG. 25, no. 6), which although small shows a shoulder. Exterior brown, interior greyish-brown, blackish core, sandy fabric, quartz—1 mm. At first sight these sherds might be taken as Early Iron Age, but careful examination shows that they are not easily matched among local Early Iron Age fabrics, but exactly by the pygmy cup from the central burial in the ring-ditch, Stanton Harcourt II, 4.[105] The curvature and the shoulder would agree with this interpretation.

INNER DITCH, LAYER 3 : OTHER FINDS

Flint: Small indeterminate core, scraper and 13 small flakes (½ oz.), 10 flakes from the excavated butt-ends and the surface to the east, remainder from the south cutting. The core (FIG. 21, no. 7) and one flake (no. 8) had been rechipped from previous artifacts. The scraper (FIG. 21, no. 9) is a diminutive form, so-called thumb-nail scraper, comparable to those from the outer ditch (no. 21) and from pit 1 at Cassington (FIG. 22, no. 13); typically Beaker Culture, cp. with bell-beaker *Oxon.* 32 (Yarnton) and associations at Lion Point, Clacton, noted above (p. 56). Nine flakes showed marks of use, two were fire-marked ; pebble cortex noted.

Daub : 2 lightly fired fragments from north-east end butt.

Clay-pipe : Stem, L. 4·2 cms., from surface of layer at south-west butt-end.

INNER DITCH, LAYER 4

Upper part of layer in partially excavated filling, 1 ft. below cremation burial 4/1 : Sherd (FIG. 21, no. 10) of same vessel as no. 4. With it sherd from another beaker (no. 11) light brown exterior and core, with similar decoration.

South-east segment of partially excavated filling, central, 2 ft. 6 ins. from edge of south ditch-cutting : Sherds (e.g. FIG. 21, no. 12) of a beaker, similar ware to no. 11 with bold incisions in angular patterns, appropriate to a necked beaker (e.g. *Oxon.* 36 from nearby at Cassington and compare sherds FIG. 22, no. 7 from pits at Cassington already quoted), but rather thin.

[104] Case (1956), 18. And see analysis of grave group by M. A. Smith in *Inventesia Archaeologica*, GB 14.

[105] *Oxoniensia*, forthcoming.

INNER DITCH, LAYER 5 : POTTERY

South-west butt end : Sherd of beaker-pottery (FIG. 21, no. 13) of same ware and with some barbed-wire decoration as no. 6, but possibly not from same vessel.

Same area: Sherd of beaker-pottery (no. 14), with close-set zonal jabs. The fine bell-beaker (*Oxon.* 50) with pendant triangle decoration from Site XII, Dorchester, has a waist-zone (as here) of close-set jabs.[106] A rim-zone of close-set jabs appears on a long-necked beaker (without moulding) from Okus Quarry, Swindon ;[107] those jabs are smaller than these here and may be comparable to those on a sherd from Cassington pit 1 (FIG. 22, no. 10). Bell-beakers with widely-set zones of jabs are common in the Oxford Region and no doubt were in use contemporaneously with all the above.

INNER DITCH, LAYER 5 : FLINTS

South-west butt end : Flake-knife (FIG. 21, no. 15), retouch on one face, marks of use on both, poorly-fracturing surface flint ; waste flake, L. 2·5 cms. from same area. North-east butt end : Discoid scraper (FIG. 21, no. 16), crude retouch, heavy use. East cutting : Borer (FIG. 21, no 17), marks of use on both faces. South-cutting : Flake-knife, marks of use on both faces, surface flint probably derived from earlier implement. South cutting at base of filling: Flake-knife (FIG. 21, no. 18), heavy use on one edge ; flake (no. 19) with hollow formed by use ; waste flake.

OUTER DITCH, LAYER 3

North-west cuttings : Core (½ oz.), thumb-nail scraper and a fragment, double-edged knife-awl, and 7 flakes (½ oz.) including 2 long flakes. Illustrated on FIG. 21: Double-edge knife-awl, very crude plano-convex knife (20), marks of heavy use, from flint probably fresh from the chalk, like the core and two waste-flakes ; thumb-nail scraper (21) with fine retouch ; long-flake used on one edge (22).

A fragment of Romano-British grey ware with a girth-groove came from the gravel-diggers' spoil-heaps in this area.

OUTER DITCH, LAYER 3

North-west central cutting : Body-sherd of beaker-pottery, similar fabric to FIG. 21, no. 4, from inner ditch, but thinner (7 mm.).

OUTER DITCH, LAYER 5

North-west central cutting : Flake of beaker-pottery from structural join, possibly from same pot as sherd in layer 3.

South cutting : Sherd (FIG. 21, no. 23) from same beaker as nos. 4 and 10 from inner ditch. Unusual sherd of beaker-pottery (FIG. 20, no. 24) with carefully formed rim, and decorated with deep groove and zone of narrow incisions above. Such a decorative combination occurs among the sherds in pit 1, Cassington and the ware matches that of FIG. 22, no. 1 and of FIG. 21, nos. 4, 10, 23 here.

SUPPLEMENTARY NOTES ON FINDS FROM BEAKER-CULTURE PITS AT CASSINGTON

The pits referred to above as 1 and 2 were excavated by Leeds in July 1935 during gravel-digging south-west of the village in a gravel-pit operated then by Messrs. Tolley

[106] *Inventaria Archaeologica* (ed. Hawkes, 1955), GB 1.
[107] Passmore, *WAM* XXXVIII (1913), 42-3, FIG. 2.

and later by Messrs. Smith.[108] They were about 400 yards north-west of the beaker-culture cemetery. Their contents were partly published by Leeds as from a single ' small hut-pit ' or ' occupation-pit '. They are worth republishing here in view of their resemblances at City Farm and elsewhere and the rarity of associated beaker-culture material in the region.

Pit 1 (Finds, FIG. 22). Described in the Ashmolean Museum Register as 4½ ft. diameter and 1½ ft. deep in gravel. No other details given.

(1) Sherds of long-necked beaker with moulding under the rim and finger-nail impressions in vague fir-tree patterns. Ware as FIG. 21, nos. 4, 10, 23, 24. Five smaller sherds, including a rim, not illustrated. Cp. Grave 15, Eynsham cemetery and City Farm. This vessel had a shorter neck than normal among grave-pottery. (Leeds 1938b, PL. VB, no. 4.)

(2) Sherds of similar beaker, undecorated, reddish-brown exterior, light brown interior. (Leeds, no. 3.)

(3) Rim-sherd of similar beaker, light red exterior, blotchy brown-red interior. Two sherds probably from the same pot are not illustrated. (Leeds, no. 1.)

(4) Rim-sherd of possibly a similar beaker, finger-nail impression, ware as (1). (Leeds, no. 2.)

(5) Shoulder-sherd possibly of another, finger-nail impressions, light brown exterior, blackish-brown interior.

(6) Another similar, leached. (Leeds, no. 11.)

(7) Shoulder-sherds probably both from same long-necked beaker, ware similar to (5), with bold incised decoration as on long-necked beakers both with and without mouldings. Cp. Grave 4, Eynsham cemetery (*Oxon.* 17) and Cassington (*Oxon.* 36), found about 300 yards west. (Leeds, nos. 7, 18.)

(8) Sherds from beaker with similar decoration, light-red exterior, light brown or black interior. Sherds of same pot apparently from pit 2 (FIG. 23, no. 3). (Leeds, no. 9.)

(9) Sherd with incised decoration similar to (7) and (8), probably part of pendant triangle. Fabric as (7), leached. (Leeds, no. 5.)

(10) Sherd of long-necked beaker, with zone of jabs between notched linear zones with possibly alternate pendant and upright triangles. Red exterior, black interior. Unusual fabric of finely comminuted shell—5 mm. Not matched regionally, probably an import from north Wiltshire. Cp. Oldbury Hill, Wilts., and Okus Quarry, Swindon.[109] (Leeds, no. 12.)

(11) Sherd of beaker-pottery, with grooves made by dragging the finger with intermittent rocking movement to depress the finger-nail. Similar decoration on a sherd of Peterborough ware from Linch Hill, Stanton Harcourt, of shell-gritted fabric.[110] Here typical beaker-ware. Possibly from large storage vessel. (Leeds, no. 13.)

(12) Sherd possibly from large storage vessel like no. 11, or possibly from collar of collared urn, light brown exterior, blackish-core, blackish-brown interior, grog, leached. Fabric is consistent with beaker-ware but also with collared urns ; the

[108] *Oxon.* 9-10. Leeds (1938a), 15, 30. Case (1956), 18. Ashmolean Museum Register, 1935. Leeds (1940), FIG. 1, ' Early Bronze Pits'.

[109] Abercromby, *Bronze Age Pottery* I (1912), 13 *tris*. Passmore, *loc. cit.*, FIG. 1.

[110] Leeds (1940), PL. II, C.

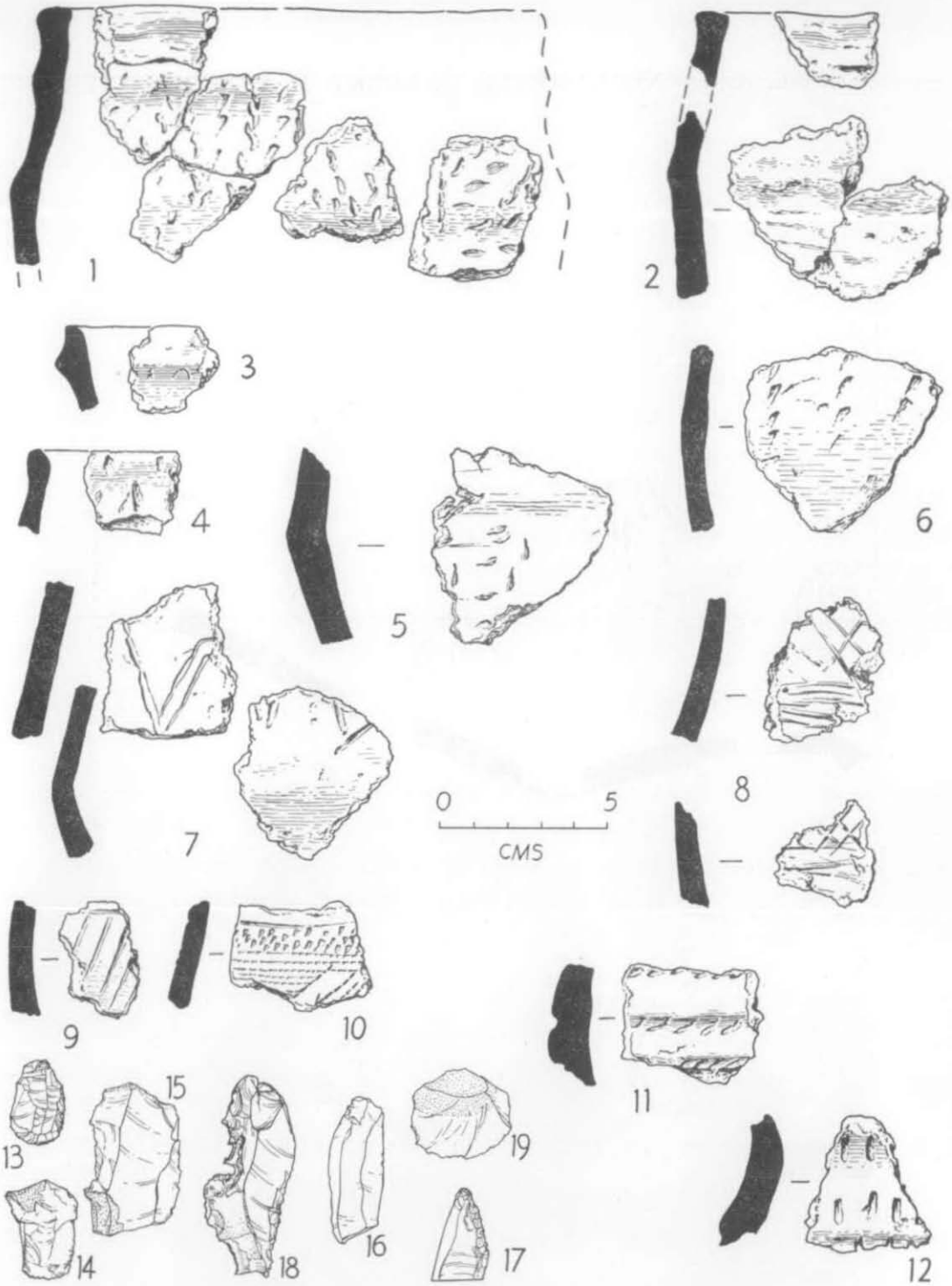

FIG. 22

Beaker pottery and struck flints from pit 1, Cassington. (½)

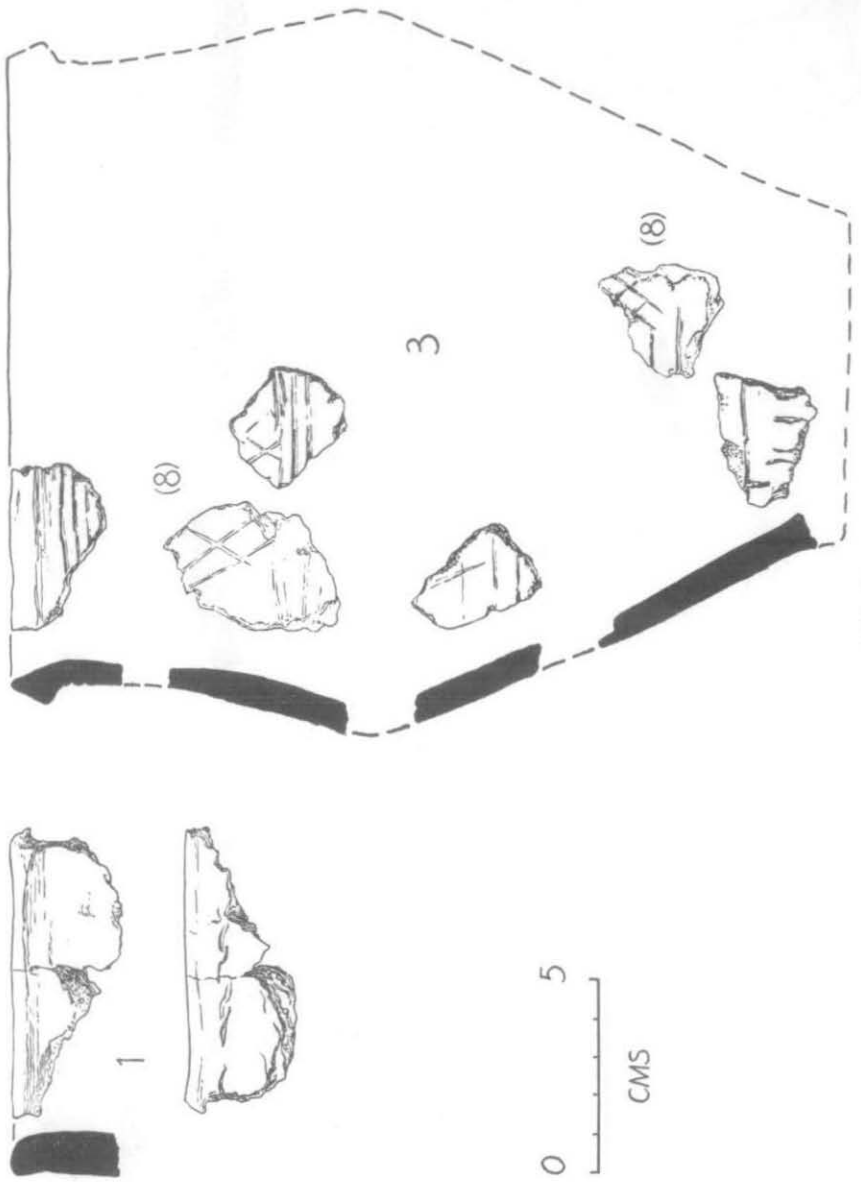

FIG. 23
Beaker pottery from pit 2, Cassington. (¼)

shape seems more appropriate to an urn than a bell-beaker, but might belong to the shoulder or even rim-moulding of a large beaker-culture storage vessel. The decoration is well matched on a collared urn from Stadhampton, Oxon. (FIG. 24) ; but this is Longworth's motif O, which is more appropriate to his Secondary Series. (Leeds, no. 6.)

(13-14) Flint thumb-nail scrapers.

(15-16) Double-edged flint knives, marks of use on both edges, 15 broken at tip, and with unabraded cortex, 16 on a long flake.

(17) Single-edged flint knife, retouched edge, unabraded cortex, fire-altered. Possibly attempt to make barbed and tanged arrowhead, unsuccessful through fracture.

(18) Cortex-backed flint knife, strong marks of use at distal end.

(19) Flake with marks of use at edge and distal end, unabraded cortex.

Pit 2 (Finds, FIG. 23). Described in the Ashmolean Museum Register as a smaller pit than pit 1.

(1) Rim-sherd of beaker of similar ware to sherds in pit 1 (FIG. 22, nos. 1, 4). On exterior groove under rim and finger-tip impression ; on interior, two zones of finger-nail impressions. Body sherd unillustrated.

(2, not illustrated.) Four shoulder and body sherds of two beakers of similar ware to no. 1 above, one with roughly incised line.

(3) Rim, neck and body sherds of beaker with moulding under rim, with incised decoration similar to that on sherds from pit 1 (FIG. 22, no. 7, 9 and especially 8) ; moulding similar to FIG. 22, no. 3 from same pit. Sherd of wall at base with opposed finger-nail impressions below incised line (cp. Bell-beaker, *Berks.* 2, Abingdon). Sherds from pit 1 (FIG. 22, no. 8) apparently belong and are shown in approximate position in FIG. 23. Sharply-shouldered vessels occurred at the Cassington cemetery (*Oxon.* 4 and 7), where hybrid necked and bell-beaker shapes were characteristic ; *Oxon.* 4 shows similar depth below the shoulder. But excessive reliance should not be based on the reconstruction. Cp. also *Oxon.* 21 from the Eynsham cemetery.

SITE 4, PITS 4/4-6

4/4. Quartz pebble, 1 lb. 7 oz., fire-altered, no joins with those in site 3 (pit 3/2, Cutting I, layer 4).

4/5. 2 sherds collared urn fabric, light brown exterior and interior, black core, grog, dusty texture. Not matched by urns elsewhere at City Farm.

4/6. Collared urn (FIG. 24), virtually complete, blotchy reddish brown to dark brown exterior, blackish-brown core, brown to dark brown interior, presumably grog, soapy texture. Impressions of short lengths (0·7-1·3 cms.) of twisted cord : 2 intermittent concentric lines on rim, herringbone on collar, zones of oblique hatching on neck. Longworth : Decorative trait no. 2, motif J.

Herringbone decoration is a highly important Primary trait in Longworth's scheme. Locally, short lengths of twisted-cord impressions and their arrangement in herring-bone occur on urns which may be assumed early : Standlake (Ashmolean Museum, 1941.820), Standlake (1942.45, Longworth's Primary Series), and Stanton

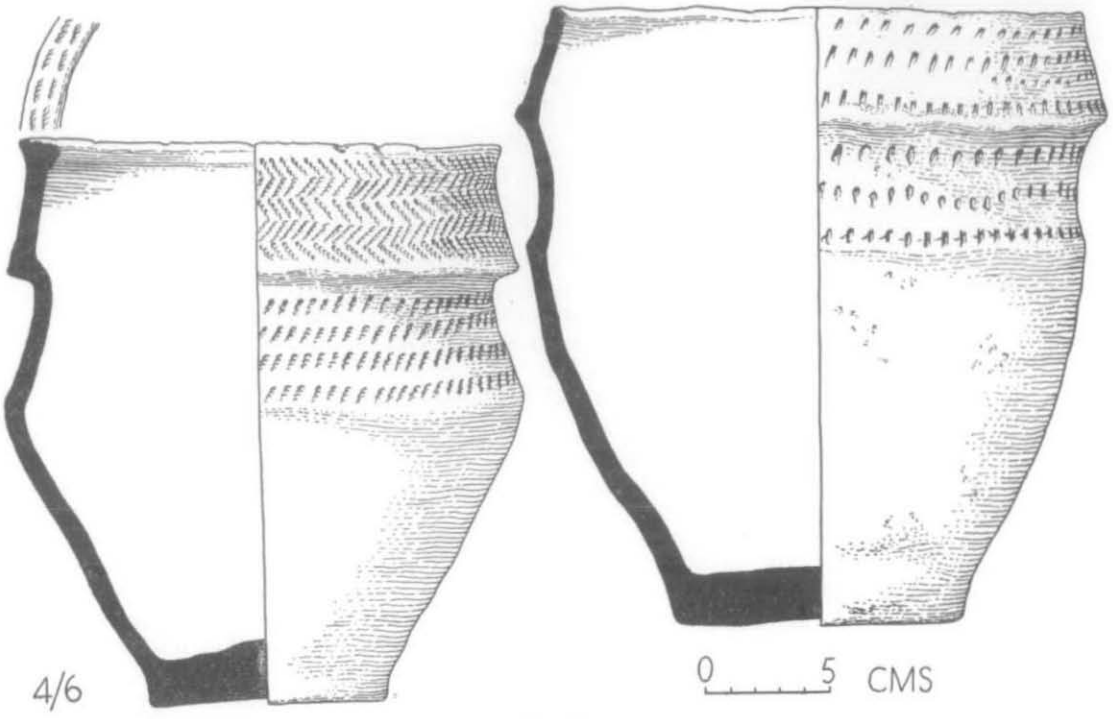

FIG. 24

Collared urns from pit 4/6, City Farm (left) and from Stadhampton, Oxon. ($\frac{1}{3}$)

Harcourt (1450.1886, Primary Series). Also herringbone finger-nail impressions : Stanton Harcourt (1957.53, another in Primary Series). This urn shows differences from those elsewhere at City Farm and may belong to an earlier tradition.

SITE 5

DITCH, LAYER 1

North-west quadrant : Flint core (FIG. 25, no. 8), H. 2·5 cms., microlithic type, single face, prepared platform. Snapped long flake, L. 1·7 cms., marks of use on both edges. Sherd Romano-British grey ware, indeterminate form. 2 fragmentary iron nails, indeterminate through corrosion. Lump of lightly fired clay ($\frac{3}{4}$ oz.), L. 4·1 cms. *South-west quadrant :* 5 flint flakes, 3 with marks of use, one snapped long flake. *North ditch section :* Two pieces of slag similar to those below from pits N3, N4, wgt. $\frac{3}{4}$ oz., $\frac{1}{2}$ oz.

DITCH, LAYER 3

Section 2, upper lens of gravel : Sherd, Early Iron Age ware (not catalogued).

PIT 5/1

(1) 17 small undecorated sherds ($\frac{1}{2}$ oz., not illustrated), Bronze Age grog-gritted

ware, some refired. Maximum thickness 0·9 cms. The curvature of some fragments suggests the collar of a small or minature collared urn.

(2) Bone handle of awl (FIG. 25, no. 9) with central ridge, fractured at both extremities in ancient times, hafting end stained internally and externally with bronze-patina.

(3) Awl (FIG. 25, no. 9), probably bronze, L. 3·2 cms., max. W. 0·25 cms., hafted end chisel-shaped (small fracture), used end pointed with circular section. Awls of this type occurred in Wiltshire in graves of both of ApSimon's phases of the Wessex Culture.[111] The only occurrence in the Oxford Region, however, in pit E at

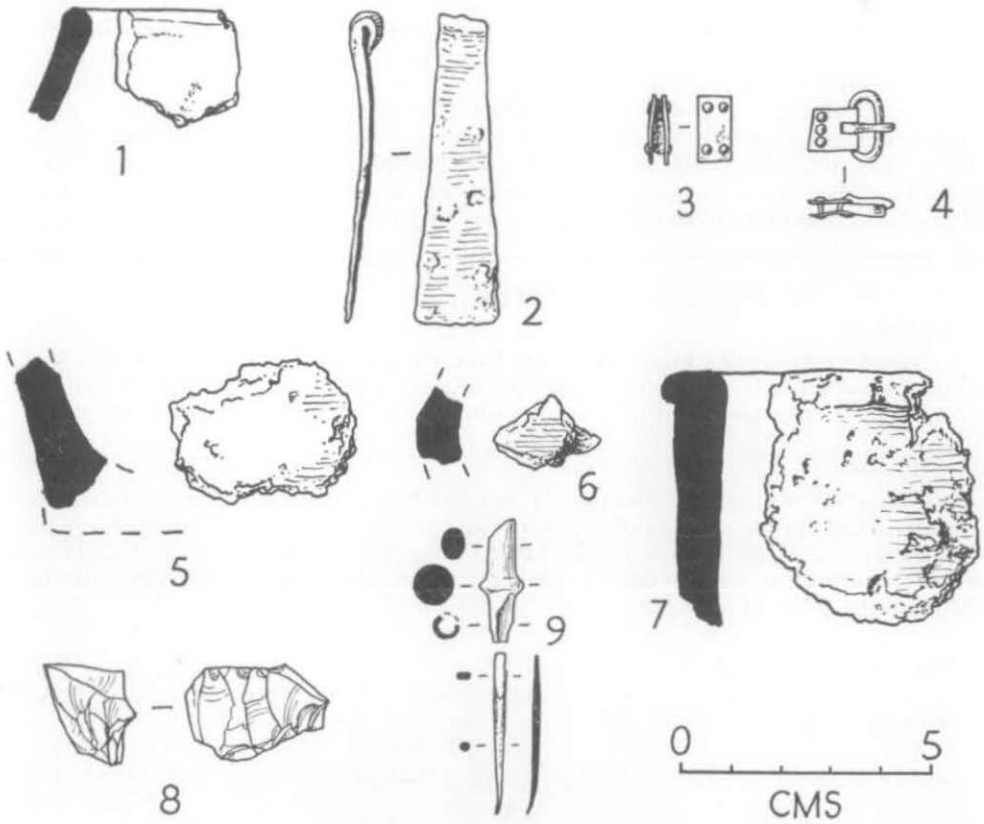

FIG. 25

Various finds. 1-4, from pit 2/2 : (1) Anglo-Saxon sherd, (2) iron object, (3) bronze strap-binding, (4) bronze buckle. (5) sherd of collared urn ware from pit 3/11 ; (6) sherd of pygmy cup from site 4, inner ditch, layer 3 ; (7) presumed Neolithic sherd from pit 3/15 ; (8) flint core from layer 1, site 5 ; (9) bone handle and bronze awl from pit 5/1. (⅔)

[111] ApSimon ; Annable and Simpson, *passim*.

Radley 16 was Wessex II. The best resemblance of awl and handle combination in Wiltshire is unlocated, and the handle is wooden ;[112] the bone handle from Winterbourne Stoke G.5 (Wessex I) is less close.

AREA OF SITE 5

124 struck flints were collected by Mr. J. J. May from the area of the site before excavation, when the field was ploughed. 61 had been utilized, 4 fire-marked, but only 7 retouched. Of these : 6 scrapers with length/width where determinable : 5·1/3·0, 3·6/2·0, 1·9/2·4, 1·9/1·9 cms. 4 cores : Bifacial, single platform, H. 3·0 cms. ; Uni-facial, multi-facet, single platform, 2·3 cms. ; Semi-conical, single platform, 1·8 cms. ; random, 3·0 cms.

This may be a mixed assemblage, but the low indices of long and core-changing flakes (7%, 2%) make a Mesolithic element unlikely ; and the index of long flakes is low compared with the Neolithic causewayed camp at Abingdon, and the typically fine blades absent.[113] It may conceivably be Bronze Age for the greater part and originally incorporated in the barrow-mound. The high level of utilization, the low index of cortex (28%) indicating determined chipping down, and the low average weight (0·16 oz.) are eloquent of the exigencies of a flint-hungry region. (This is seen also in a number of re-chipped pieces at City Farm, for instance from site 4.)

SITE 3

LAYER I

Southern part of site : Flint long flake, L. 4·1 cms., parallel facets, trimmed butt, marks of use on both edges, fractured tip, ochreous patination ; possibly Mesolithic or earlier. *Central part of site :* 5 indeterminable flint flakes, unabraded cortex.

IN SUPERFICIAL GRAVEL

Fractured nodular protuberance of abraded flint, L. 8·1 cms., showing fracturing consistent with human work and apparent marks of use at its wedge-shaped extremity. This otherwise undistinguished piece is worth noting since it was found *in situ* in undisturbed gravel at a depth of 3 ins., when clearing the interior of the site and may therefore be Lower Palaeolithic.

DITCH, CUTTING III

Layer 4 : Fragment of fire-cracked quartz pebble. No join can be made unfortunately with fragments from pit 3/2 nearby or from 4/4.

Layer 3 with cremation burial : 3 small fragments (½ oz.) of collared urn ware comparable to urn in 3/7 and sherds in 3/11. Fragment of flint, severely fire-altered.

DITCH, CUTTING IV

Layer 3 : Sherd of beaker ware similar to those from outer ditch of Circle 4, but leached and crazed by weathering ; obviously derived. 2 indeterminate struck flints, one fire-altered.

[112] Annable and Simpson, No. 420.
[113] Case (1952/3), 10, 13.

PIT 3/3

Collared urn restored from fragments (FIG. 26). No apparent stone filling, probably grog. Light brown to light reddish brown exterior (greyish in parts, possibly fire-altered), brown core, light brown interior, crazed, neutral texture. Decoration by impressions of twisted cord very poorly preserved and difficult to determine completely. Two concentric lines on bevel, two zones of arcs on collar, but arcs haphazardly possibly elsewhere on collar. Longworth : Formal trait no. 3, motif M.

Cp. for decoration pit D, Radley 16 (FIG. 27, no. 2), Long Wittenham (FIG. 28, no. 2), and for shape Long Wittenham (FIG. 28, no. 1). Cp. also for shape and cord-impressed arcs (on shoulder) Easton Down, Winterslow, Wilts., urn 1, with beads of jet, amber and segmented faience ; similar arcs on urns 3 and 6 from same urnfield.

PIT 3/6 (FIG. 26)

(1) Collared urn, fairly complete. Brown—dark brown exterior, brown interior, grog, neutral texture. Impressions of twisted cord, carelessly done : on bevel, two concentric lines ; on collar, double circumferential ladder pattern below single line. Longworth : Formal trait no. 3. Cp. somewhat for decoration (but not shape or size) urn in pit adjacent to beaker-culture cemetery, Eynsham ;[114] also for decoration, sherd (FIG. 30, no. 3) from much larger urn, in pit D inside ring-ditch at Sutton Courtenay, Berks.[115]—an important association of only specimen (FIG. 30, no. 5) of Calkin's Ridged Food Vessel known locally.

(2) Biconical vessel, fairly complete, brown to dark brown interior and exterior, possibly slightly fire-altered, presumably grog, neutral texture. Impressions of twisted cord, carelessly done : on bevel, two concentric lines ; on neck, zig-zag within borders. Formal trait no. 3, motif G.

Cp. Conical accessory vessel from pit A, Radley 16 (FIG. 27, no. 2), probably accessory vessel to rich Wessex II burial in pit E ; same fabric and similarly fire-altered. Cp. for zig-zag, massive urn inverted in isolated pit, Chadlington, Oxon.[116] Best comparison similarly sized biconical accessory vessel from West Tumulus, Ringwould, near Dover, Kent, in fourth pit with one oblate and 4 segmented faience beads, incense cup and Wessex Biconical urn.[117] Although it lacks the frequently occurring plastic decoration and flint filler of Wessex Biconical urns, 3/6/2 could be classed as such.

PIT 3/7

Collared urn (FIG. 26), restored from fragments. Dark brown core, much grog, interior brown-reddish brown, exterior very uneven, reddish brown-light brown, neutral texture, probably fire-altered. Impressions of twisted cord on collar : zig-zag with border above hurdle-pattern. Longworth : Motifs C and G.

Cp. for fabric, shape and rather chaotic decoration Long Wittenham urnfield (FIG. 28, no. 1). Cp. for fabric and cord-impressed hurdle-pattern, miniature collared urn, North Stoke, Oxon., and for hurdle-pattern, site VII, Dorchester, Oxon.,

[114] Leeds (1938a), PL. V, A.
[115] Leeds (1923), 151-2.
[116] Ashmolean Museum. Noted Leeds (1935), 31.
[117] Smith (1961), 102.

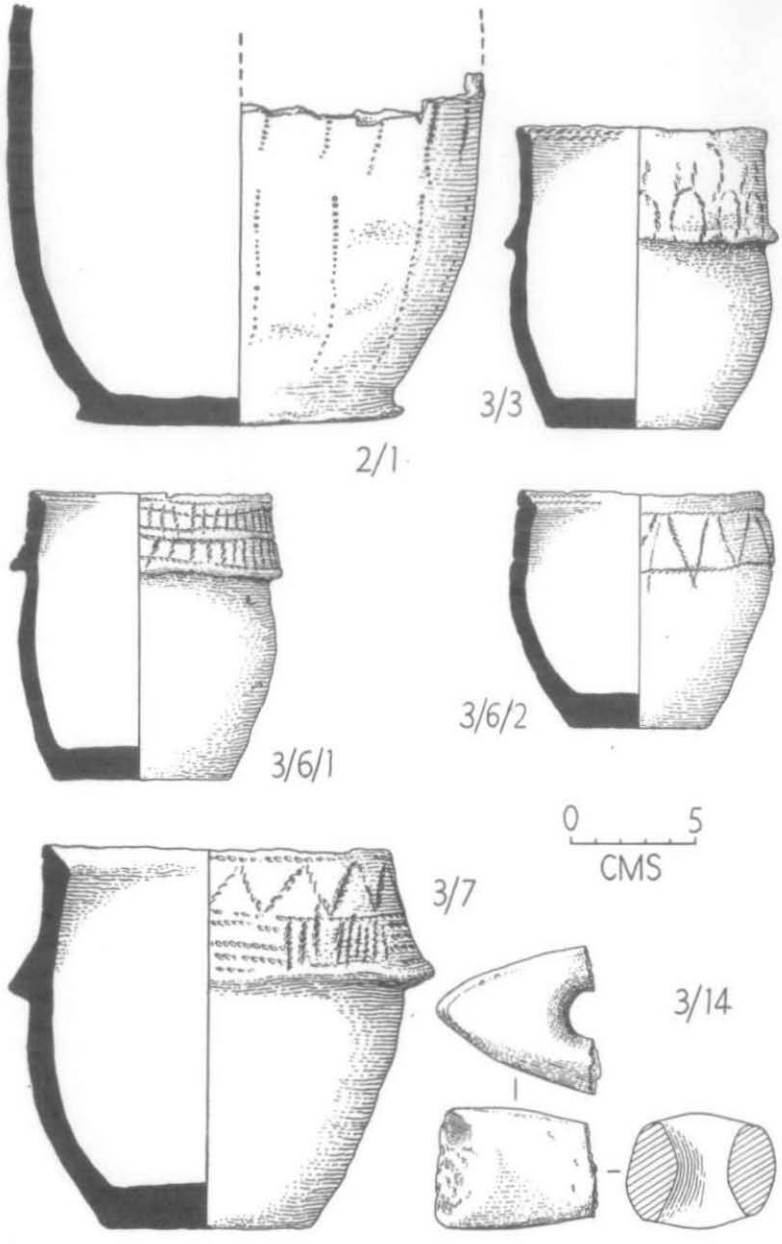

FIG. 26
Bronze Age pottery from sites 2 and 3 ; fragmentary stone axe-hammer from site 3. (½)

and Easton Down urn 1. Cp. for zig-zag and biconical shape, urn about 5 cms. greater diameter with internal cord-impressions like 3/3 and 3/6/1-2, from a barrow above Ox-settle Bottom, near Lewes (Sussex), with beads of amber, jet and segmented faience, faience ring-pendant, and a bronze ring.[118]

PIT 3/11

2 sherds ($\frac{1}{2}$ oz.) collared urn ware, cp. in fabric 3/7, one possibly from a base (FIG. 25, no. 5). 2 struck flints, one fire-pitted, the other with slight marks of use and unabraded cortex.

PIT 3/14

Fragment of stone double axe or axe-hammer (FIG. 26), hour-glass perforation, expanding towards edge, some wear at edge, fire-altered. Close typological assessment of such a fragment would not be valid, but as it stands it is closest to Ashbee's Stourton-Loose Howe type ; thus appropriate to Wessex II, a rather poor provincial version.[119] Rock identified by Dr. F. S. Wallis, through the kindness of the late Mr.

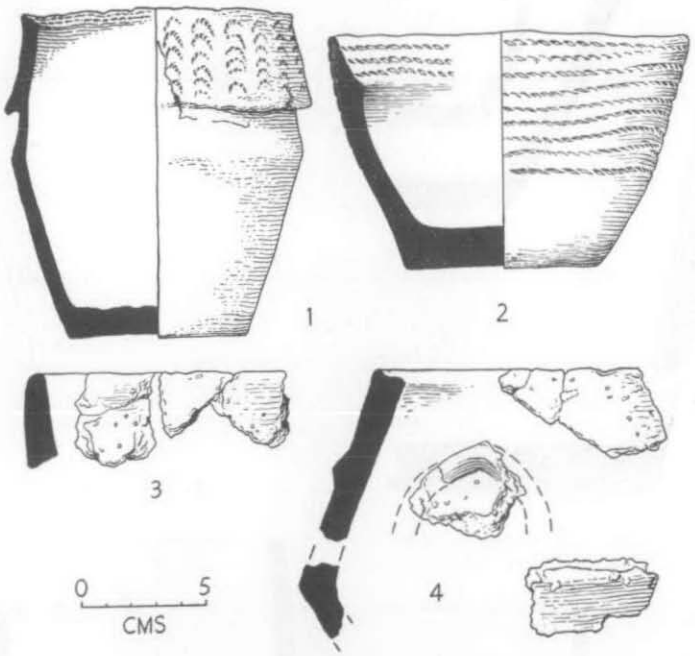

FIG. 27

Bronze Age pottery from Radley 16, Berks.
1, collared urn from pit D; 2, accessory vessel from pit A; 3-4, sherds from deposit J. ($\frac{1}{3}$)

[118] *Archaeology of Sussex*, 157-9.
[119] Ashbee, 108-9, and discussed by Piggott, *PPS* XXVIII (1962), 236, 238-9.

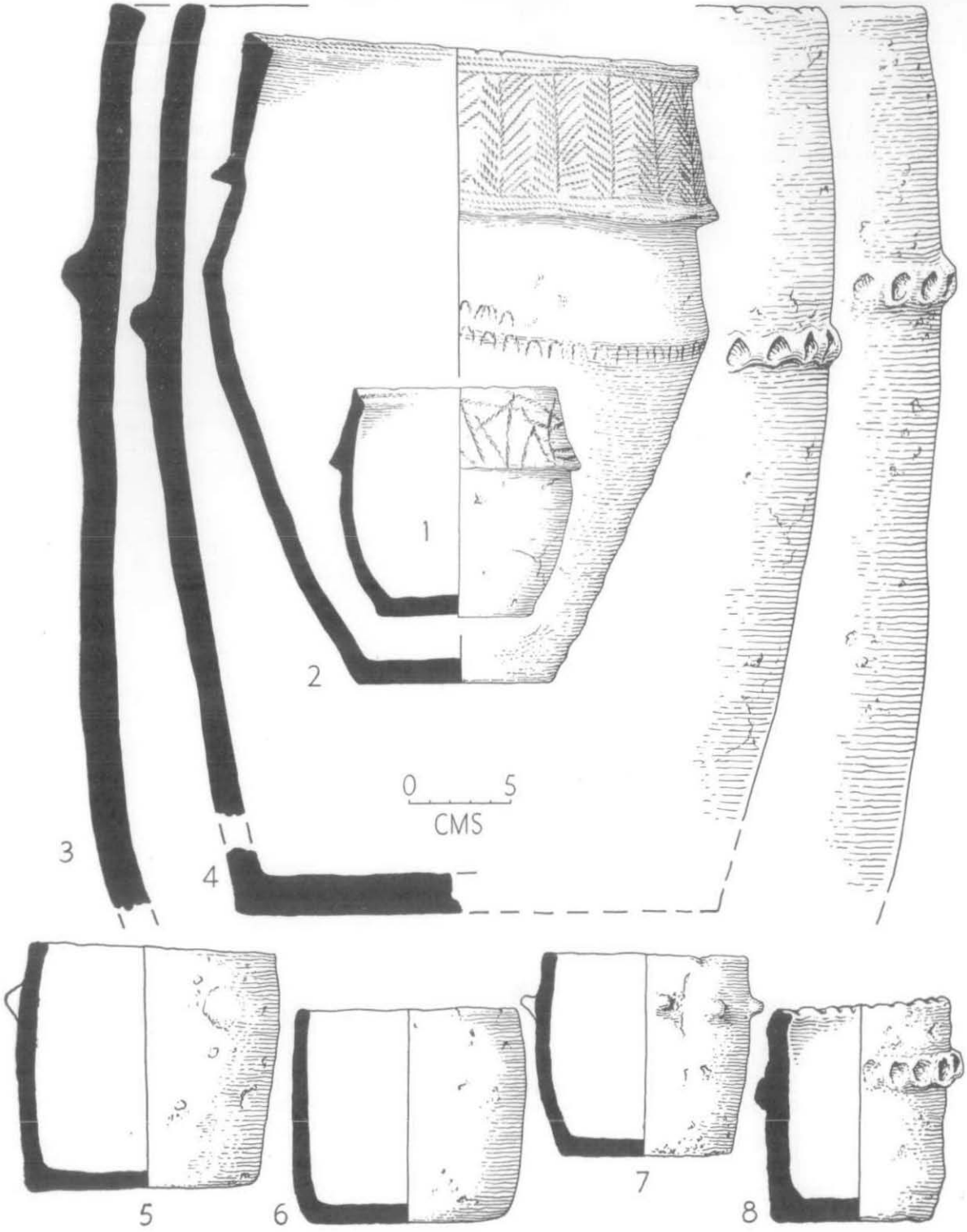

FIG. 28
Bronze Age pottery from Long Wittenham, Berks. ($\frac{1}{3}$)

R. R. Clarke as devitrified rhyolite. This is such a generalized type of rock that the original source cannot be determined, but certainly not local.

PIT 3/15. See below, p. 87

The Bronze Age urns from site 3, accessory vessels in Longworth's definition since not used to contain the ashes of the dead, may all have had a function for the living as drinking-cups, or were perhaps votive.

Similarly small vessels have been alluded to above from Radley 16, Long Wittenham, and North Stoke ; there are three others in the Ashmolean Museum from Wellingborough, Northants, fire-altered like those from Radley, Long Wittenham and City Farm. Presumably they had all been placed on the outskirts of the pyre. The pygmy cup from Stanton Harcourt XVI, 1 had undergone similar treatment ; and so may have that from site 5.

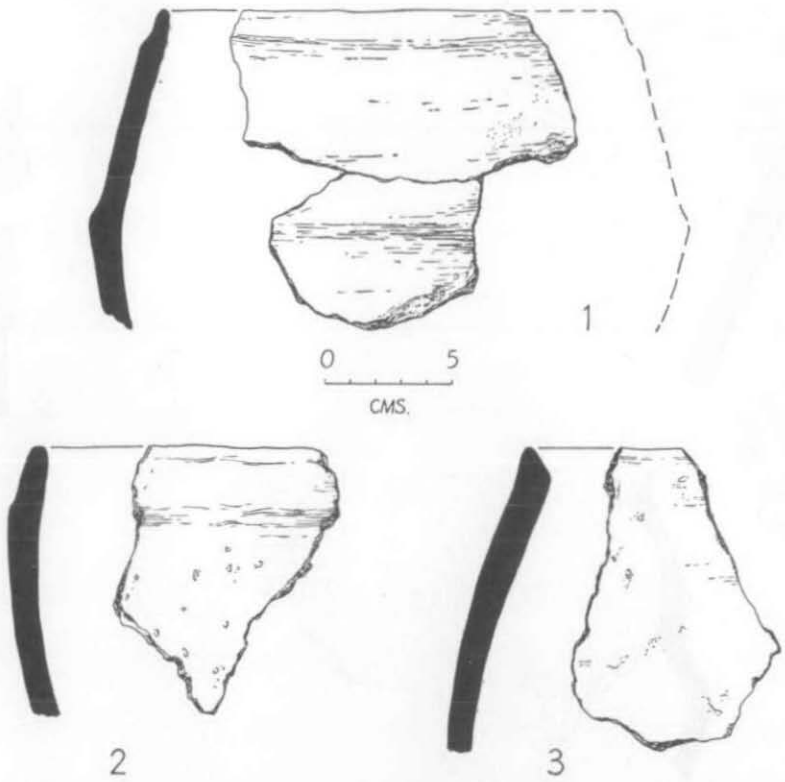

FIG. 29
Bronze Age pottery from Long Wittenham, Berks. (⅓)

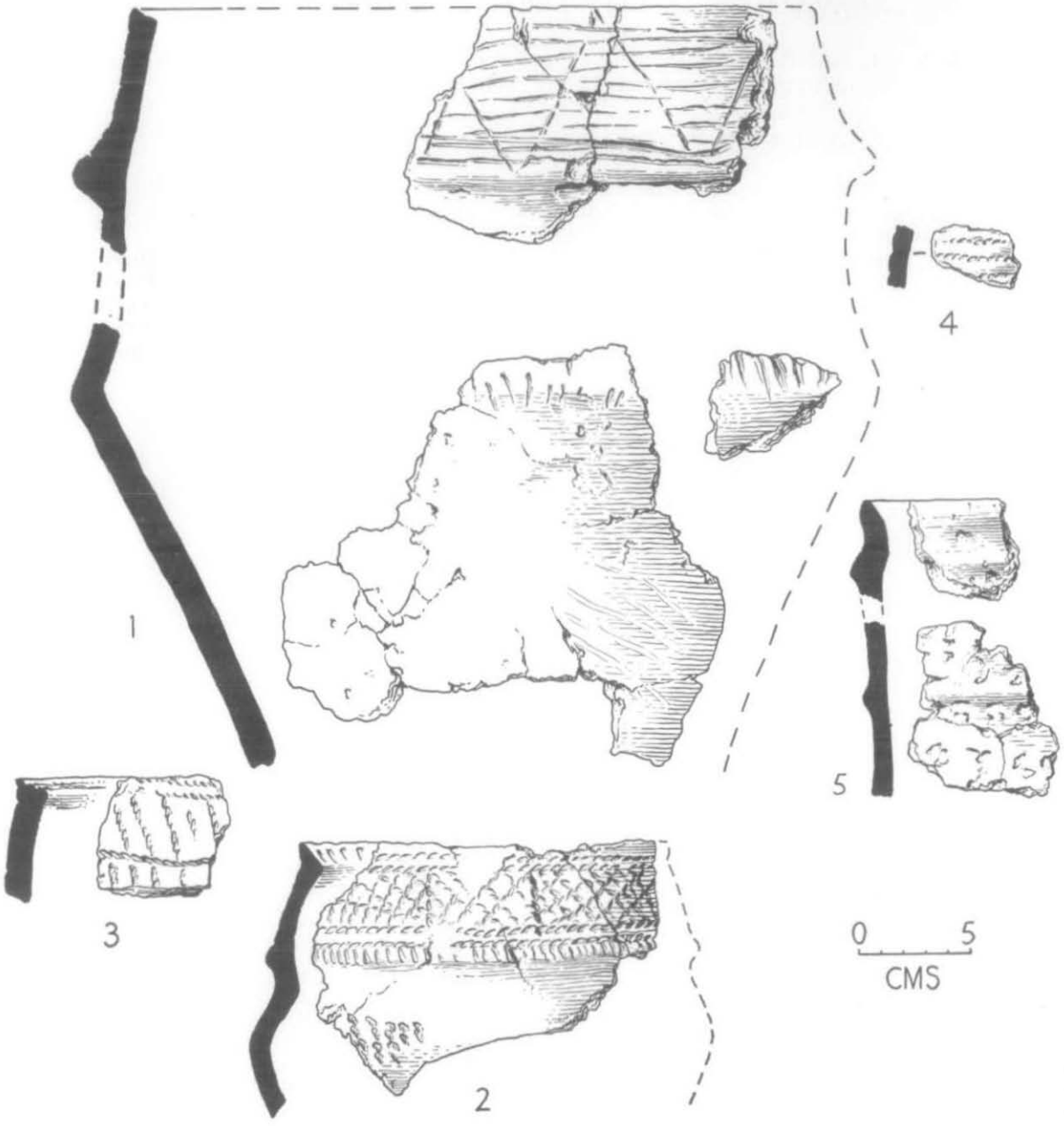

FIG. 30
Bronze Age pottery from pit D, Sutton Courtenay, Berks. ($\frac{1}{2}$)

SITE 6

PIT 6/1 and disturbed area

18 sherds of Wessex Biconical urn (FIG. 31), breaks with few exceptions old ones, frost-hollows and shrinkage cracks. Firing most uneven especially on inside, with sharp division ranging from light red to blackish brown on outside, the same to brownish black on inside, grog with occasional ? limestone ; smoothed exterior ; numerous fine wiping-marks. Thumb-moulded T-headed rim, oblique finger-tip impressions at shoulder.

Flint flake, L. 3·2 cms., slight marks of use. Snapped quartz pebble, 3·4 cms., with marks of use as scraper. 5 fragments of limestone flag-stones (just over 4½ lbs.), 4 obviously fire-altered and broken, one of these, however, roughly but deliberately shaped to a corner. 3 fragments of sandstone pebbles (2½ oz.). Fragment of fire-altered quartzite (8½ oz.). Natural flint pebble (6½ oz.), severely fire-altered and deeply reddened, and 2 fragments (½ oz.), possibly natural, also fire-altered.

DITCH, LAYER 4, CUTTING I (where marked on FIG. 16)

Two sherds (½ oz.). (1) Light brown outside and in, black break, grog, uneven surfaces, possibly a ridge on outside. Although from a thinner pot, the ware is identical to that of urn in pit 6/1. (2) Light reddish-brown outside, brownish-black inside and break, smoothed surfaces, grog and flint—1 mm. Oblique impressions, twisted cord. This could equally well be a fragment of collared urn (despite flint filling).

DITCH, LAYER 3, CUTTING III, towards outer edge

Sherds (½ oz.) 1·1 cms. thick, red outside, light brown inside, black core, grog. Better fired and smoother than urn in central pit, more like collared urn or thick beaker. 5 fragments badly fire-altered sandstone pebble (8 oz.).

DITCH, UNSTRATIFIED

Flint flake, L. 5·0 cms., well-struck, de-spurred, marks of use.

PIT 6/2

13 sherds of Bucket urn (FIG. 31). Black core with oxidized skins about 6·5 mm. Brown, reddish-brown outside and in, smoothed outside with numerous shrinkage and weathering cracks. Coarse paste with prominent filling, grog and burnt flint—1·6 cms.

The urn from pit 6/1 can be compared best with sherds (FIG. 27, no. 4) from deposit J at Radley 16, discussed above (p. 19) ; and that from 6/2 can be compared with an urn from the Deverel-Rimbury urnfield in Lambourn barrow 1, which also featured globular urns. For stratification at Lambourn 1, p. 20.

Bronze Age pottery in other than the collared urn tradition is not common in the Oxford Region. It may be listed as follows : Iffley, Oxford ;[120] Radley 14 ;[121] Radley 16, Berks. (e.g. FIG. 27, nos. 3, 4) ; Stanton Harcourt, Vicarage Field[122] which

[120] *VCH Oxon.* I (1939), PL. VIId, Ashmolean.
[121] Leeds (1936), PL. II, A. Ashmolean.
[122] Case, *Oxoniensia* XVI. (1951), 85. Ashmolean.

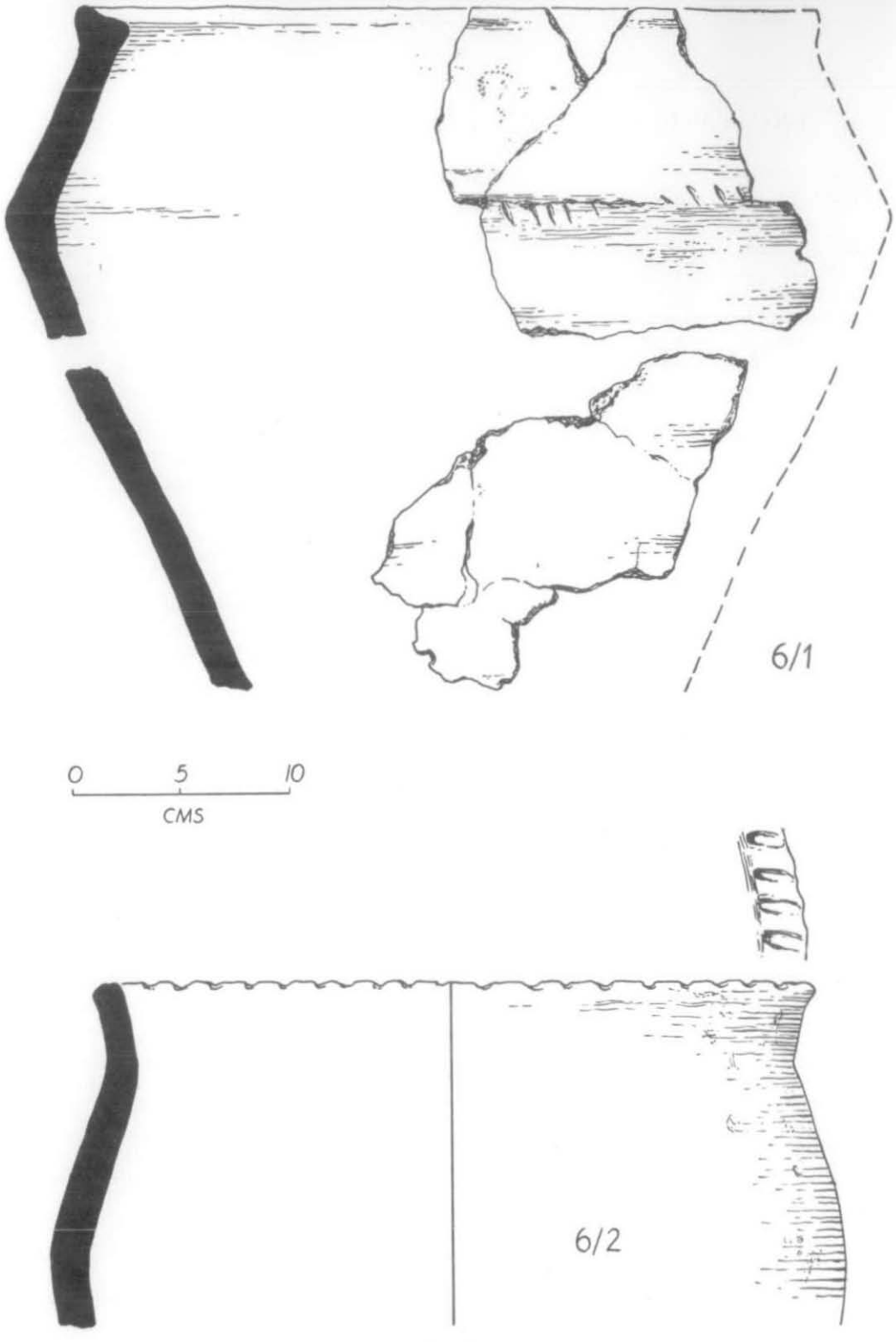

FIG. 31
Bronze Age pottery from site 6. ($\frac{1}{3}$)

are closest to the Wessex Biconical type. Sherds of Biconical urns also came from Long Wittenham (FIG. 29, no. 1). Closest to the Bucket type are : Lambourn 1;[123] Long Wittenham (e.g. FIG. 28, nos. 3-8, and possibly FIG. 29, nos. 2-3) ; Standlake 1[124] and another from Standlake ;[125] Stanton Harcourt XV, 4 ;[126] Streatley, Berks. ;[127] Wallingford, Berks. ;[128] Wytham, Berks.[129] possibly from rubbish pits ; and Yarnton, Oxon.[130] Urns resembling both types came from a recently excavated urnfield secondary to a barrow at Temple Guiting, Glos.,[131] not far from where the well-known urns were found in barrow CCXVI at Nether Swell.[131a] Globular urns were found at Blewbury[132] and Lambourn 1,[133] and sherds apparently at Sutton Courtenay, Berks.[134] Indeterminate sherds came from Garford, Berks. ;[135] Port Meadow 5 ;[136] and Stanton Harcourt XXI, 4.[137]

The fabric of these urns is variable. For example, that from the Vicarage Field is grog-filled and comparable to that of collared urns ; Iffley is grog-filled but sandy ; Radley 14 is sandy and has fossil-shell as filler ; those from Standlake 1 have fossil-shell, and flint is a feature at Radley 16 and Long Wittenham.[137a]

SITE 2

PIT 2/1

Sherds of lower part of vessel (FIG. 26), with old breaks, blackish brown-slightly reddish brown exterior, black core, brown-blackish brown interior, grog and occasional quartz filling—3 mm., slightly sandy fabric. Vertical linear impressions of pointed toothed comb nearly to base : impressions may be composite, but were perhaps made with a flexible comb L. 6·5 cms., about 23 teeth, at least 5 mm. long, >2·5 mm. wide at root.

In Longworth's analysis, decoration extending below the shoulder or greatest diameter is regarded as Primary (decorative trait no. 3), but comb-impressions tend to be Secondary. Similar comb impressions occur locally on a long-necked beaker (*Oxon.* 38, Cassington) with moulding under rim, but are well-matched in Ashmolean Museum by sherds from Deverel-Rimbury urnfield at Plush, Dorset.

The fabric of this vessel is within range of collared urns, but sandier than average.

[123] Abercromby, *Bronze Age Pottery* II (1912), No. 388. B.M.
[124] Atkinson in Riley, 42. Ashmolean.
[125] Noted in *Oxoniensia* VIII/IX (1943/4), 200. Ashmolean.
[126] Case (1963), 29-30.
[127] Noted Peake, 55. Ashmolean.
[128] Noted Peake, 238. Reading.
[129] Noted Manning, 45-6. Ashmolean.
[130] Noted Dawkins, 111-12. Ashmolean.
[131] Information kindly given by the excavator, Mrs. H. O'Neil.
[131a] Abercromby, *Bronze Age Pottery* II (1912), 376, 376a. Smith (1961), 108.
[132] Ashmolean.
[133] Peake, FIG. 16. British.
[134] Ashmolean. Between Houses XXI and XXVII. Not mentioned in Leeds (1923, 1927, 1947).
[135] Ashmolean.
[136] } References noted in Case (1963), 44. Ashmolean.
[137] }
[137a] The fillers used in these types of urn would be a rewarding study nationally as Calkin points out. His remarks appear to suggest that those from Dorset are normally filled with grog and those from Wiltshire with stone. Calkin, 41. Similar impression given by Mr. Henry Hodges in lecture to Prehistoric Society, 1965.

Cp. 3/6/1 for shape, but thin protruding foot is anomalous. But foot, size and general shape are well-matched by an undecorated bucket urn from nearby at Yarnton, Oxon. (Ashmolean Museum, NC 198) found in railway-works in 1854, labelled ' mortuary vessel ' undoubtedly the surviving vessel of the cremation-cemetery mentioned above (p. 13). Therefore probably Bucket urn of second phase of Middle Bronze Age or Late Bronze Age.

Two fragments of shale or jet, one indeterminate, L. 7·5 cms. The other, L. 1·5 cms., possibly from a ring, diameter approximately 2·6 cms., width at least 1 cm., thickness 4 mm. Cp. a shale or jet ring reputedly found with bell-beaker, *Oxon.* 2 (Cassington), and a button also found nearby at Purwell Farm, Cassington, with a slate wristguard.[138] But shale or jet are also appropriate to Middle Bronze Age.

PIT 2/2 See below p. 87

PITS N1-5, E1

PIT N/1

Bulbar end of shaped flint flake, probably long flake, fire-cracked. Cp. flake in layer 1 of circle 3.

PIT N/2

Rim-sherd (FIG. 32, no. 8) blotchy light brown-blackish brown throughout, grog, neutral texture. 3 fragments of slag (1 oz.) 2 fire-marked pebbles.

For similar T-headed rims, cp. : Bourton-on-the-Water, Worcs. ;[139] Chinnor, Oxon. ;[140] Dorchester, Oxon. (Allen's pit) ;[141] Dorchester (Mount Farm, many and close) ;[142] Foxley Farm, Eynsham ;[143] Frilford, Berks. ;[144] Hatford, Berks. ;[145] Radley ; Standlake ;[146] Sunningwell, Berks. (Boar's Hill) ;[147] Long Wittenham ;[148] Wittenham Clumps, Berks. (with true Wessex haematite—not otherwise found in Oxford Region).[149] This is locally a widespread Early Iron Age form, Southern Second A in Hawkes's definition. In fabric this sherd could be Bronze Age, but any suggestion of continuity with Wessex Biconical urns as in pit 6/1 (FIG. 31) would be irreconcilable chronologically ; besides the bevel slopes outwards, not inwards as typical of Bronze Age urns, and the forms of the Iron Age vessels, as at Foxley Farm, appear different.

PIT N/3, FIG. 32, nos. 1-7

54 sherds (1 lb. 6¾ oz.), representing at least 12 pots, all probably rather tubby jars, although bases are missing. Normal fabric : Fossil-shell in varying degrees of fineness, neutral to soapy ; minority with sand-filling, in varying degrees clayey,

[138] *Oxoniensia* XXIV (1959), 98.
[139] Bradford (1942a), FIG. 13, no. 45.
[140] Richardson and Young, FIG. 5, no. 8.
[141] Ashmolean.
[142] Myres, e.g. FIG. 7, λ 5.
[143] Bradford (1942a), FIG. 12, nos. 4, 6.
[144] Bradford and Goodchild, FIG. 6, no. 30.
[145] Bradford (1942a), FIG. 13, no. 52.
[146] Bradford (1942b), FIG. 4, no. 3.
[147] Ashmolean. Noted *Oxoniensia* XIX (1954), 119.
[148] Savory, FIG. 2, nos. 17, 18.
[149] Rhodes, FIG. 9, no. 5.

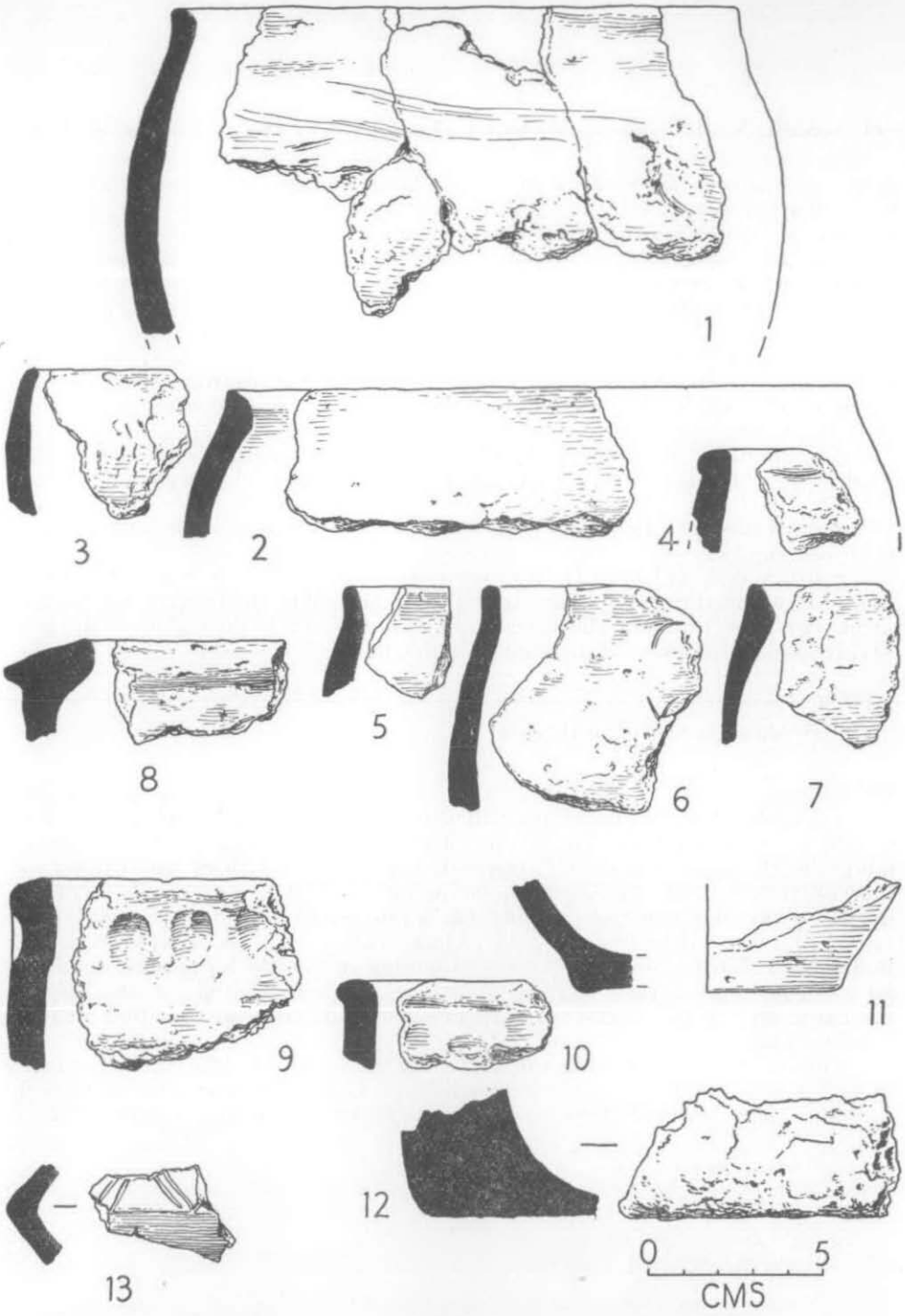

FIG. 32

Early Iron Age pottery from pits : 1-7, N/3 ; 8, N/2 ; 9-12, N/5 ; 13, E/1. ($\frac{1}{3}$)

soapy to abrasive. Noteworthy are : (1) Blackish-brown-light brown outside and break, blackish-brown inside, fossil shell—1·1 cms., neutral. (2) Blotchy brownish-black-light reddish brown outside, brownish-black inside and break, similar fabric but finer and hard, fossil-shell and limestone—3 mm. (3) Blotchy red, reddish brown-brownish black inside, similar fabric but soapy, wiping marks on outside. (4) Grey outside, black inside and break, similar fabric but neutral. (5) Blotchy blackish-brown outside and inside, black break. Similar ware to below but more clayey, burnished. (6) Brown outside, light brown inside, black break. Anomalous sandy fabric, surface-coated. Incised marks : Arcade under rim, V below. (7) Black outside and break, blotchy blackish-brown inside, similar ware to above but including fossil-shell—1 mm., more thoroughly burnished.

The sherds are all probably of rather tubby jars as typical of Early Iron Age A locally. Cp. Cassington (Purwell Farm) ;[150] Chastleton ;[151] Dorchester (Allen's pit) ;[152] Dorchester (Mount Farm and nearby) ;[153] Frilford ;[154] Madmarston, Oxon. ;[155] Radley.[156] Examples from Chinnor show a sharp demarcation between neck and shoulder.

5 struck flints (2½ oz.), L. 5·3, 4·7 (long flake), 3·8, 3·7, 2·6 (side-scraper, snapped), abraded cortex. These coarse flakes are unlike the finely worked implements and debris generally characteristic of earlier periods in the region, or the more decisive-looking products of the Late Neolithic mines.

PIT N/4

Body sherd as N/3/1 but thinner.

PIT N/5

13 sherds (7¼ oz.), at least 8 pots, all gritted with fossil-shell except no. 4. Noteworthy are : (1) Rim (FIG. 31, no. 9), black outside and break, red inside, sandy fabric slightly coarser than N/3/6, finger-tip impression. (2) Rim (FIG. 32, no. 10), blackish-brown outside and break, brown inside, fabric as N/3/1. (3) Base (FIG. 32, no. 11), protruding foot and foot-ring, black throughout, fabric like N/3/7, but not sandy. (4) Base, light brown outside, black inside and break, sandy fabric. (5) Body-sherd, blotchy grey-light brown-red outside and inside, hard fabric similar to E1/3 below, grass-marked, slightly corky. (6) Body-sherd, red outside (pseudo-haematite slip, probably self-coloured), blackish inside and core, plentiful flint and quartz—3 mm.

Finger-tip impressions are commonplace in the local Early Iron Age A, occurring as on N/5/1 or 2 : Chinnor (exactly matched) ;[157] Dorchester Allen's pit (not on rim in exactly same way) ;[158] Dorchester, Mount Farm (prevalent) ; Radley ;[159] Long

[150] Dawson, FIG. 3, no. 1.
[151] Leeds (1931a) : FIG. 6.
[152] Ashmolean.
[153] Myres, FIG. 8, A I 17. Nearby : Ashmolean.
[154] Bradford and Goodchild, FIG. 6, no. 39.
[155] Fowler, FIG. 14, nos. 3, 4, 9, 10.
[156] Leeds (1931b), FIG. 2b.
[157] Nearest illustrated, Richardson and Young, FIG. 5, no. 2.
[158] } Ashmolean.
[159] }

Wittenham.[160] Ring-bases are common in Belgic ware but occur locally in Early Iron Age A, for instance: Chinnor;[161] Frilford;[162] Radley.

3 fragments of daub (4½ oz.), major piece (FIG. 32, no. 12), with one flat and one curval outer surface and joining surface, light brown outside and inside, black core. Vegetation and (?) grain impressions. Fragments of burnt limestone and quartz.

PIT E/1

11 sherds (3 oz.) of 3 pots: (1) shoulder- and body-sherds of pot with pronounced shoulder (FIG. 32, no. 13). Grey throughout, burnished both faces, fossil-shell—2 mm. Incised zig-zags. (2) 2 sherds of a similarly shouldered pot, unburnished. (3) 2 sherds of a jar, diameter possibly 40 cms., reddish-brown outside, blackish-reddish-brown blotchy inside, blackish-brown break, similar fabric but more grit, circumferential wiping marks. Shouldered vessels with incised decoration are typical of local Early Iron Age A. Cp. Adwell Cop, Bucks;[163] Chinnor;[164] Dorchester, Allen's pit;[165] Islip, Oxon. (Woodeaton);[166] Standlake;[167] Stanton Harcourt, Linch Hill;[168] Stanton Harcourt, Vicarage Field;[169] Long Wittenham;[170] Wytham.[171]

The Early Iron Age finds from these pits N/2, N/3, N/4, N/5, and E/1 are obviously refuse from a settlement belonging to a single cultural stage, presumably the East Settlement. The pottery is typical of the local Second Southern A and can be generally matched at Chinnor. Sherds from N/4 might at first sight be confused with those of Southern Second B affinity as at Cassington East and West settlements, 1¼ miles to the south. But differences are in the absence of finger-printed decoration and T-headed rims at Cassington; and of B decorative motifs at City Farm and thickened rims typical of Cassington West.

Cassington West yielded slag and one of the pits appears to have been a roasting-pit like N/3 and N/4 City Farm. This and other occurrences of slag have been noted above (p. 43).

THE WEST SETTLEMENT

by Dennis Harding

THE POTTERY

With the exception of five small sherds (FIG. 34, nos. 22-26), the pottery from the West Settlement may be regarded as a homogenous assemblage, which differs markedly from the pottery to be associated with the East Settlement. The bulk of the pottery consisted of coarse wares, with the characteristic Iron B fabric which

[160] On a large situlate, Savory, FIG. 2, no. 3.
[161] Richardson and Young, e.g. FIG. 8, no. 69.
[162] An odd form: Bradford and Goodchild, FIG. 8.
[163] Decoration and shape, not fabric. E.g. Bradford (1942a), FIG. 13, no. 36.
[164] Richardson and Young, FIG. 8, no. 45.
[165] Bradford (1942a), FIG. 10, no. 2.
[166] *Loc. cit.*, FIG. 13, no. 20.
[167] Bradford (1942b), FIG. 3, no. 10.
[168] Ashmolean.
[169] Williams, FIG. 9, nos. 14, 16.
[170] Savory, FIG. 2, nos. 11, 15, 16.
[171] Bradford (1942a), FIG. 12, nos. 26, 30.

appears when dry to be quite hard and well-fired, but which, upon moistening, tends to crumble and become extremely friable. The familiar Iron A wares of the Upper Thames, as found at Radley and the Dorchester sites, with their very rough external surfaces and prominent shell grits, are absent from the City Farm West Settlement, where the shell grits are much finer and pounded. Likewise plastic ornament in the form of finger-tip decoration or pronounced cables round the rim of the vessel, in abundant evidence at Radley, Mount Farm, Dorchester, and Wittenham Clumps, where it may be regarded as one aspect of the Iron A culture of the Upper Thames, is almost totally lacking on the City Farm pottery.

Among the coarse wares, the forms represented are principally of jars, either large, round-shouldered vessels of diameter of 12 ins. or more, or smaller barrel-shaped or straight-sided jars, sometimes with an incipient bead-rim. Reliable published parallels for the City Farm forms are not easy to cite, since the attention hitherto devoted to Iron B fine wares has neglected to deal adequately with contemporary coarse pottery. Unpublished examples of the large jar form with high shoulder, and short, sometimes flattened rim (FIG. 34, nos. 1-6) occur at Hatford, Berks., and at Cassington, Oxon.[172] The complete jar from Southcote, Reading,[173] which has a decorated panel beneath the rim, but is otherwise of similar profile, is described as ' reddish brown with darker " washed " surface ', and may be compared with FIG. 1, nos. 5 and 6. The form may be compared generally with a profile from Little Woodbury, Wilts.,[174] and variants occur on other sites in Wessex, such as Maiden Castle.[175]

The smaller jars most frequently either display an incipient bead-rim (FIG. 33, nos. 7-10) or are straight-sided with scarcely a rim at all (FIG. 33, nos. 11-15). The former may be paralleled at Yarnton, Oxon.,[176] and at Little Woodbury ;[177] the latter occurs also at Southcote,[178] at Stanton Harcourt,[179] and beyond the Upper Thames region at Bury Hill, Hants.[180] No. 17 appears to have been a more truly barrel-shaped vessel, and has a slight swelling below the rim on the inside of the jar, a characteristic of the so-called ' saucepan ' pot.[181] Close parallels for the profile of this jar may be seen at Blewburton Hill, Berks.[182] Variants of the barrel-shaped form are represented by FIG. 33, no. 20, and FIG. 34, no. 30, which are paralleled at Frilford, Berks.,[183] and FIG. 34, no. 27, with its slightly incurving rim which may be compared with examples from several local sites, including Stanton Harcourt.[184]

The paucity of fine wares or decorated wares from the West Settlement pits is noteworthy. The high shouldered, short necked jar with incipient bead-rim (FIG. 33, no. 16) is in a smooth dark ware with some traces of burnishing ; its form is very close

[172] Ashmolean.
[173] Piggott and Seaby, FIG. 5, no. 20.
[174] Brailsford, *PPS* XIV (1948), 1-18 : FIG. 5, no. 10i.
[175] Wheeler, *Maiden Castle* (1943), FIG. 67, no. 119.
[176] Bradford (1942a), FIG. 12, no. 59 ; cp. especially FIG. 1, no. 10.
[177] Brailsford, FIG. 4, nos. 8 f., etc.
[178] Piggott and Seaby, FIG. 4, no. 8 ; FIG. 7, no. 1.
[179] Williams, FIG. 8, no. 9 ; cp. especially FIG. 1, no. 15.
[180] Hawkes, *Proc. Hants FC* XIV (1940), 30-41 : FIG. 13, no. 9 ; cp. especially FIG. 1, nos. 7-9.
[181] Piggott and Seaby, cp. FIG. 4, no. 9.
[182] Collins, FIG. 13, nos. 2, 3.
[183] Bradford and Goodchild, FIG. 6, no. 42.
[184] Williams, FIG. 8, no. 8.

to that of two jars published by Leeds from Cassington.[185] The large base from pit 155 also has traces of a ' washed ' surface. The small rim sherd from pit 115 (no. 33) was probably from a bowl of a form common at Frilford[186] and no. 35 may have been the base of a similar form of bowl ; neither, however, show any sign of the decoration characteristic of many of the Frilford and Hunsbury[187] examples.

The pottery was scattered over a large number of pits, and few pits produced more than one form. The exception is pit 106, the pottery from which in consequence is published as a group (FIG. 34, nos. 27-32).

In addition to bases and rims of jars as discussed above, the pit contained part of a round-waisted bowl (FIG. 34, no. 28), the form of which it is difficult to parallel closely elsewhere in the region. The rounded body profile recalls bowls of derived Hallstatt form, common at Blewburton Hill in burnished black ware[188] and known elsewhere in the Upper Thames region at Yarnton[189] and Wittenham Clumps ;[190] but the distinct break at the neck of the Blewburton examples between the body and the upstanding or flaring rim, stands in contrast with the gently sweeping curve of the City Farm bowl, which more closely resembles the rim and shoulder profile of taller Iron B pedestal jars, such as the pair from Swallowcliffe Down, Wilts.[191]

In the present state of knowledge of coarse pottery which may be described broadly as Iron B, dating is very largely dependent upon the discovery of associated fine wares. The few black burnished sherds found at City Farm are quite similar in ware to the decorated bowls from Frilford, and would not be out of place at City Farm in the second century. The absence of characteristic A profiles and decoration on the pottery from the West Settlement suggests that it is rather later than that from the adjacent North-East site, a view which is supported on more positive grounds by the arrival of bead or incipient bead-rims on several of the jar forms. If, however, the material from the pits may be regarded as an assemblage, an additional clue is provided by the La Tene 1 fibula from pit 78, and the link of a three-piece horse bit from pit 52 (see below, p. 86). Although the bit itself is hardly a precise indication of chronology, its presence at City Farm could well substantiate a date in the late 3rd or 2nd century onwards for the West Settlement, which would at the same time accord with the fabric and forms of the coarse wares, as well as the odd scraps of fine pottery which are present.

In addition to the bulk of the pottery described above, five small sherds were found in the pits of the West Settlement which should belong to an earlier period than the main assemblage. Of these, FIG. 34, no. 22 is decorated with finger-tipping on the outer face of the rim, but the sherd is too small to suggest a complete profile. The remaining four sherds display variations of horizontal grooving or furrowing.[192] FIG. 34, nos. 24, 25 and 26 have narrow, almost incised grooves, a technique which may be paralleled on Second A wares, more especially in Wessex. On FIG. 34, no. 23, the furrows are broader, a characteristic of early forms, but are nonetheless spaced

[185] Leeds (1935), FIG. 2, g, h.
[186] Bradford and Goodchild, FIG. 7, no. 69, etc.
[187] Fell, *Arch. J* XCIII (1936), 57-100.
[188] Collins, FIG. 9, nos. 1, 2.
[189] Bradford (1942a), FIG. 12, nos. 60, 61.
[190] Rhodes, FIG. 9, no. 21.
[191] Cunnington and Goddard, PL. XLVI, nos. 4 and 6.
[192] These sherds were too small to indicate the correct angle in profile, and in consequence have all been drawn vertically.

apart and quite independent of each other, whereas the furrows of the early Wessex bowls tend to join up in a continuous corrugation. Furrowing of any type is comparatively rare in the Upper Thames, but narrow incised examples occur at Stanton Harcourt.[193] Since these sherds are very small and well worn, it seems likely that they are intrusive from the North-East Settlement, where incised linear decoration and Second A forms were found.

FIG. 33

(1) Outer face coarse brown/buff gritty ware, some scratch marks; inner face brown, moderately coarse, fewer grits, some horizontal and vertical brush marks ; section black, some shell grits. D. 14 ins. Pit 30.

(2) Outer face coarse light brown/buff ware, very few grits ; inner face coarse, pinkish-buff, few grits ; section grey/black, some small shell grits. D. 10 ins. Pit 28.

(3) Outer face moderately coarse orange/brown ware, few small grits ; inner face moderately coarse, brown, some grits ; section black with few small shell grits. D. c. 12 ins. Pit 30.

(4) Outer face moderately coarse brown ware, some faint brush marks, but no protruding grits ; inner face coarse brown with tinges of black, few protruding grits ; section black with few small grits. D. 9½ ins. Pit 30.

(5) Outer face coarse, bright brick-red ware, some horizontal scratched brush marks, protruding shell grits, two of 5 mms. ; inner face moderately smooth dark red/brown pasty slip ; section brick red/brown, several large shell grits. D. 13½ ins. Pit 22.

(6) Outer face coarse brick-red ware, with some flint and shell grits ; inner face moderately smooth red/brown pasty slip, sooted black in patches, with number of small protruding grits ; section dark brown gritty fabric. D. 10-12 ins. Pit 20.

(7) Outer face moderately coarse brown/black ware, slightly scratched surface, but no large grits ; inner face moderately coarse brown/black ; section hard black fabric, few small grits. D. 8 ins. Pit 42.

(8) Outer face moderately coarse, brown/black ware, numerous pounded shell grits ; inner face moderately smooth black/brown, pounded shell grits ; section dark/brown/black, some shelly grits. D. 6 ins. Pit 91.

(9) Outer face moderately smooth, brown/orange ware, some shell grits ; inner face smooth dark-brown, few shell grits ; section dark-brown/black shelly fabric. D. uncertain. Pit 115.

(10) Outer face coarse sooty-black ware, with numerous small grits ; inner face moderately smooth black/brown, numerous small shell grits ; section black shelly fabric, one shell 9 mms. D. 4½ ins. Pit 34.

(11) Outer face moderately smooth but worn, black ware, few protruding grits ; inner face smooth, black gritless ; section hard grey/black fabric, with some minute grits. D. 6½-7 ins. Pit 24.

(12) Outer face coarse, very worn, sooty-black ware, number of small grits ; inner face moderately coarse, red-brown sooted black in patches, few grits ; section red-brown crumbly fabric with pounded shell grits. D. 8 ins. Pit 20.

(13) Outer face coarse, worn, brown/black ware, with protruding small flint grits ; inner face light-brown/buff, coarse with some grits, one 4 mms. ; section inner

[193] Williams, FIG. 9, nos. 20, 24.

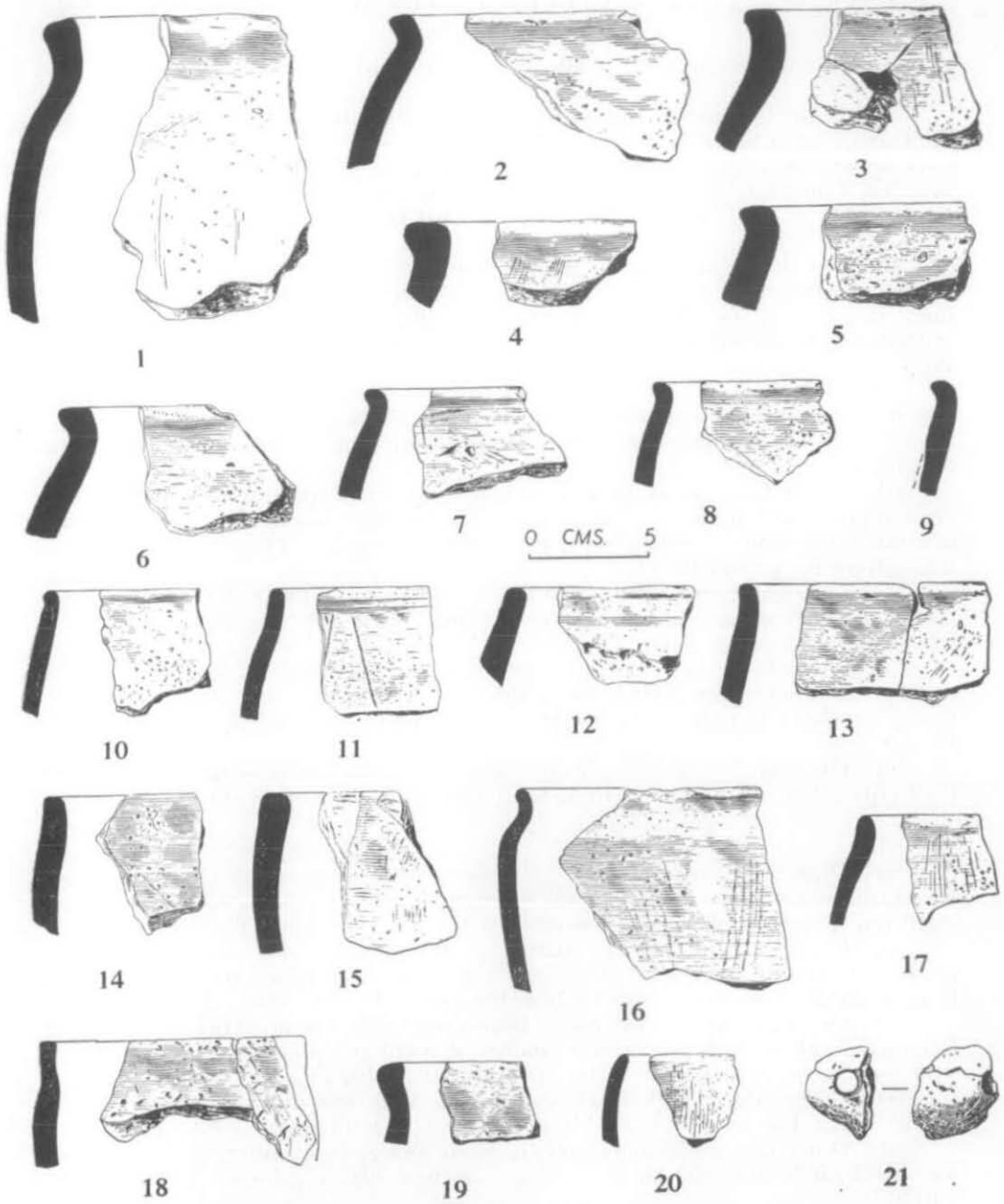

FIG. 33
Early Iron Age pottery from West Settlement. ($\frac{1}{3}$)

grey/black, outer brown/buff ' sandwich ' effect, hard fabric, few grits. D. 6 ins. Pit 158.

(14) Outer face coarse, red-brown ware sooted black around rim, some pounded shell grits ; inner face brick-brown, moderately coarse with some small grits ; section dark-brown/black, shelly fabric. D. 5 ins. Pit 15.

(15) Outer face moderately smooth, but worn, black ware, few grits ; inner face moderately smooth black, gritless ; section hard black fabric with few small grits. D. 9-10 ins. Pit 4.

(16) Outer face moderately smooth, but with a number of small shell grits, brown/orange beneath rim, becoming black with traces of burnishing below shoulder ; inner face coarse, dark-brown/buff ware with pitted surface, but rather smoother immediately beneath rim, some grits ; section black with small shell grits. D. 4½-5 ins. Pit 58.

(17) Outer face moderately smooth but worn, orange/buff ware, with small sooted patches, few minute grits ; inner face smooth orange/buff with sooted patches, few minute grits ; section brown/buff except where sooted black, few minute grits. D. 4½-5 ins. Pit 66.

(18) Outer face coarse, buff/black ware, with some protruding grits and few grass impressions ; inner face coarse black ware, number of small flint grits and grass or straw impressions ; section hard, black, few small grits. D. 7 ins. Two sherds fitting from Pit 47 and Pit 41.

(19) Outer face coarse brown/buff ware, some small protruding grits ; inner face moderately coarse, brown, number of small shell grits ; section black, shelly fabric, one shell grit 7 mms. D. uncertain but over 8 ins. Pit 14.

(20) Outer face coarse sooty-black ware, some faint scratched brush marks, and number of minute grits ; inner face moderately coarse buff ware, sooted black in places, some minute grits; section hard black fabric with few pounded grits. D. 5-6 ins. Pit 12.

(21) Outer surface moderately coarse red-brown/black ware, with many pounded shell grits ; inner pot face of handle red-brown ware with many shell grits. Pit 1.

FIG. 34

(22) Outer face coarse brown/black ware, worn, some grass impressions and few small grits ; inner face moderately coarse, black with buff patch by rim, few small grits ; section black with few small grits. D. uncertain. Pit 47.

(23) Outer face moderately coarse but gritless light buff ware ; inner face moderately smooth, black, very few small grits ; section buff towards outer surface, black towards inner surface, hard fabric, few grits. D. uncertain. Pit 50.

(24) Outer face moderately coarse brown ware with few small flint grits ; inner face moderately smooth black, with number of small grits; section grey/black fabric with number of small ground grits. D. uncertain. Pit 20.

(25) Outer face smooth black ware, worn, with few small grits ; inner face smooth black, few grits ; section black, fine grits. D. uncertain. Pit 102.

(26) Outer face moderately smooth, worn, brown/black ware, gritless ; inner face moderately smooth, black, gritless ; section black, gritless. D. uncertain. Pit 84.

(27) Outer face moderately coarse brown/black ware, sooty patches with numerous small pounded shell grits ; inner face moderately coarse, orange/brown

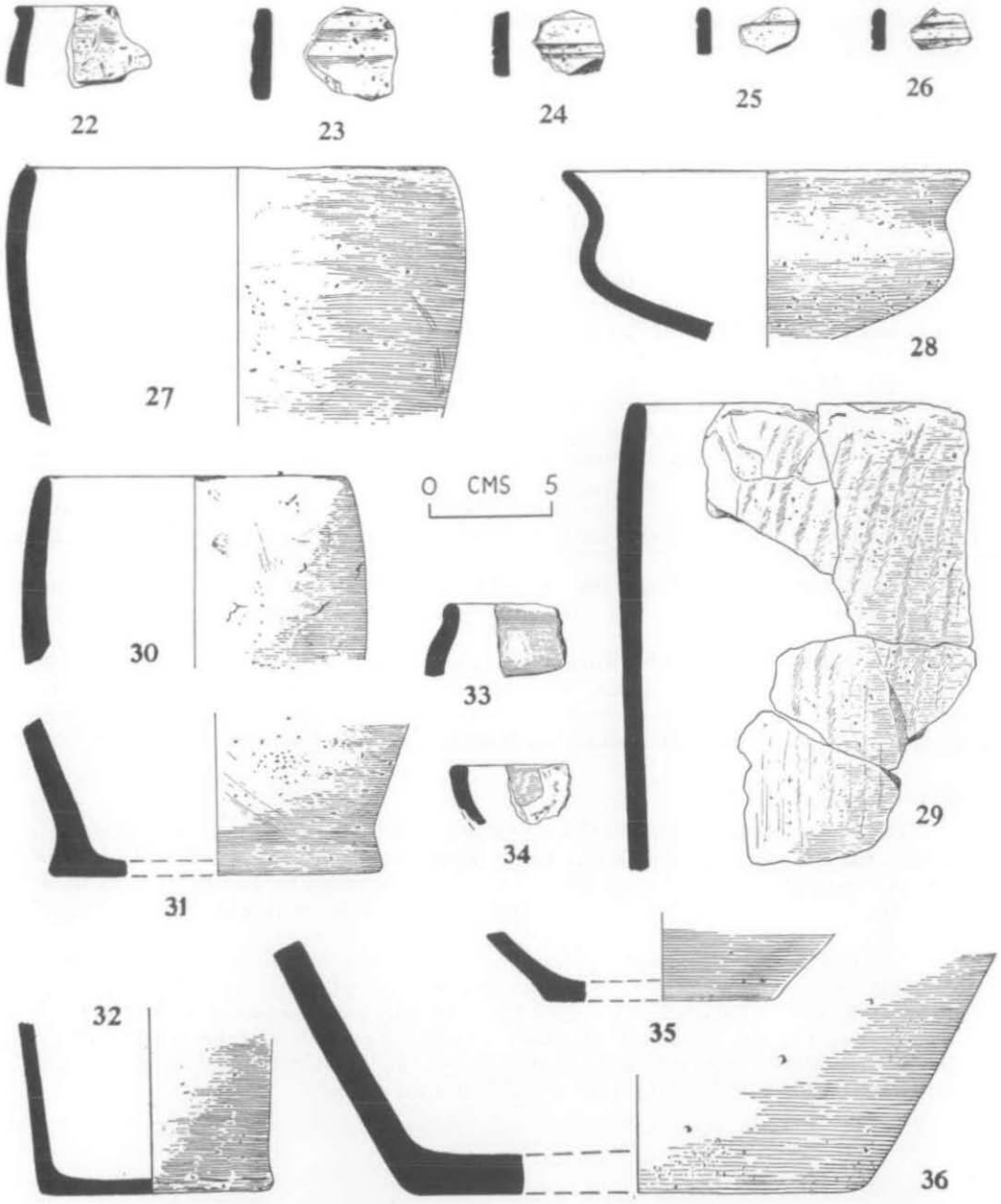

FIG. 34
Early Iron Age pottery from West Settlement. (1/2)

sooted black in patches, some pounded shell grits ; section brown/black friable fabric, some shell grits. D. 6¾ ins. Pit 106.

(28) Outer face moderately coarse dark brown/black with orange-brown patches, numerous pounded shell grits ; inner face moderately coarse black ware, with many small pounded shell grits ; section hard grey-black gritty fabric. D. 6½ ins. Pit 106.

(29) Outer face coarse brown ware, few grits ; inner face moderately smooth brown ware, few small grits ; section hard black gritless fabric. D. 11 ins. Pit 106.

(30) Outer face coarse grey/black ware, small pounded shell grits ; inner face very coarse brown/black ware, many protruding grits ; section brown/black friable gritty fabric. D. 5 ins. Pit 106.

(31) Outer face coarse orange/buff ware, slightly streaky with some shell grits ; inner face moderately coarse brown/buff ware, some shell grits ; section grey fabric with minute grits. D. of base 5½ ins. Pit 106.

(32) Outer face moderately smooth red-brown/black ware, some shell grits ; inner face coarse red-brown ware heavily sooted, shell grits ; section brown/black friable shelly fabric. D. of base 3¾ ins. Pit 106.

(33) Outer face black, burnished ware ; inner face smooth black with traces of burnishing ; section dark brown/grey-green, gritless. D. 5½ ins. Pit 116.

(34) Outer face moderately smooth black ware, but worn and broken away ; inner face moderately smooth, black, gritless ; section grey/black, hard fabric. D. 4 ins. Pit 2.

(35) Outer face smooth, black, probably originally burnished ; inner face worn rough, black, gritless ; section uniformly black, fine gritless fabric. D. 3¾ ins. Pit 115.

(36) Outer face smooth, worn, brown/buff ware, with patches sooted black. Slight traces of burnishing survive in places ; inner face smooth, black, some horizontal smoothing marks (not wheel thrown), some grits, one of 5·5 mms. ; section dark brown/black fabric with many small grits. D. 7-7½ ins. Pit 155.

LINK OF HORSE-BIT FROM PIT 52 (FIG. 35, no. 1)

The link is of an iron bit, of three-link type. The outer terminal is plated with bronze, the full extent of the plating being obscured by iron corrosion. The iron of the outer terminal is nearly severed on one side, presumably by continual wear upon it by the bridle ring to which it was attached. Length, excluding inner terminal, 4·11 cms.

The link is from a bridle-bit of Fox's 'Arras Form',[194] also discussed by Leeds.[195] Parallels nearest to the Upper Thames region are from Hagbourne Hill,[196] and from Baydon, Berks.[197] Dating of three-link bits in Britain is problematical, since they are not known in Continental associations later than La Tène 1 ; the chronology of British examples is discussed by Ward Perkins.[198] For the City Farm link, a tentative date may be suggested of late third to early second century.

[194] Fox, 82. List A.
[195] Leeds (1933), 124.
[196] Ward Perkins, 180, PL. XIX.
[197] Cunnington and Goddard, 195, PL. LXII, no. 5.
[198] Ward Perkins, 185 ff.

BONE WEAVING-COMB FROM PIT 55 (FIG. 35, no. 3)

The fragment of weaving-comb found in pit 55 is undecorated. Three teeth only survive, with the stumps of a fourth showing adjacent to the point at which the comb has broken. Other examples of bone weaving-combs are known from Chinnor, Oxon.,[199] Radley, Berks.,[200] Chastleton Camp, Oxon.,[201] Hatford, Berks.,[202] Kidlington, Oxon., Northfield Farm, Long Wittenham, Berks., Stanton Harcourt, Oxon., and Rainsborough Camp, Northants.

IRON BROOCH FROM PIT 78 (FIG. 35, no. 2)

The brooch is of La Tène I form with extended and very flattened bow. The four coils and loop of the spring are much corroded, and the pin is imperfect. In spite of corrosion, the catch-plate is quite distinct, but the section of the foot which must have bent back towards the bow has presumably broken off. Length : 8·6 cms.

THE ANGLO-SAXON PITS

PIT 2/2

Sherds, 1½ oz., very fragmentary. One rim (FIG. 25, no. 1), slightly burnished leathery ware, ? shell and quartz—1 mm. blotchy blackish-brown outside, brownish-black inside, brown break. Characteristic Anglo-Saxon ware, cp. sherds from nearby inhumation graves at Eynsham.[203] Remaining sherds, including rims, similar fabric, grass or other vegetation marks, thumb-impressions, mostly light brown outside and in, blackish-brown break, possibly all from one small bowl with outward flaring rim. Cp. for fabric and shape domestic ware at Sutton Courtenay, Berks.,[204] and for shape, kiln nearby at Purwell Farm, Cassington.[205]

Bronze strap-binding (FIG. 25, no. 3) of two strips secured with four rivets. Traces of probably organic material inside.

Bronze buckle (FIG. 25, no. 4), strips secured with three rivets. Cp. locally for form with secondary burial in Stanton Harcourt XVI, 1 (Stanton Harcourt Barrow) but in iron and twice as large ;[206] also grave 23, Wallingford, Berks., likewise iron and at least twice as large and with longer strip.[207]

Iron strap (FIG. 25, no. 2) of slightly flaring outline, crimped for suspension (definitely not suggestive of fragmentary tweezer), tapering cross-section suggesting that basal edge may have been sharp when uncorroded. Possibly a votive object like those from the Abingdon cemetery.[208]

PIT 3/15

(1) Sherd of lower part of bowl, blackish-brown throughout, slightly sandy ware resembling some sherds in pit 2/2, quartz—1 mm., smoothed but not burnished

[199] Richardson and Young, PL. XIX, 8.
[200] Leeds (1931a), FIG. 2 and p. 400.
Leeds (1935), PL. V, 3.
[201] Leeds (1931a), FIG. 2.
[202] Underhill, *Berks. AJ* XLIX (1946), 53.
[203] Noted *Oxoniensia* XVII/XVIII (1952/3), 216-17.
[204] Leeds (1923, 1927, 1947).
[205] Arthur and Jope.
[206] Harden and Treweeks, 37-8.
[207] Ashmolean.
[208] Leeds and Harden, 25.

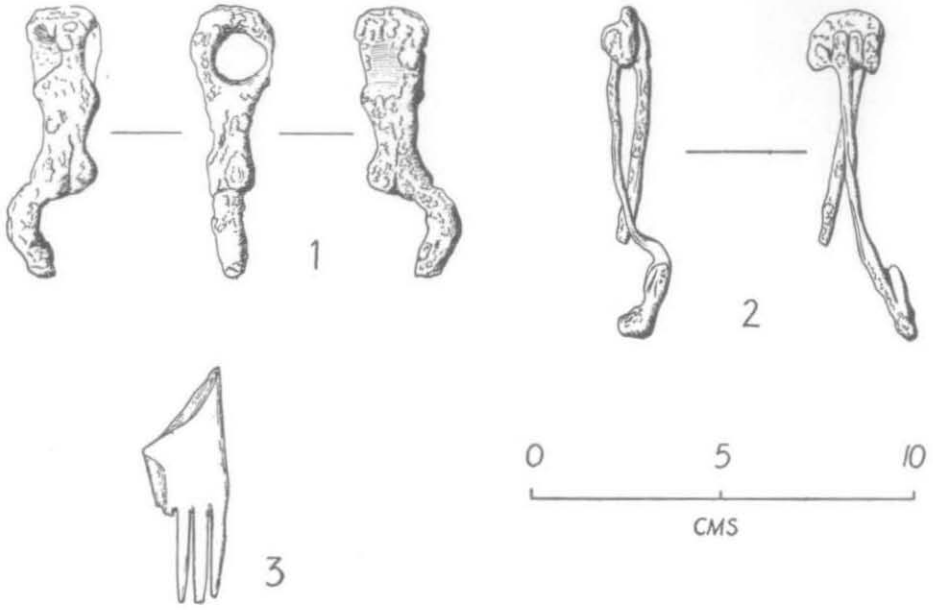

FIG. 35

Finds from West Settlement. 1, link of horse-bit from pit 52 ; 2, iron brooch from pit 78 ; 3, fragment of bone weaving-comb from pit 55. (½)

exterior, prominent grass and other vegetation marks and moulding marks in interior. Thin but typical Anglo-Saxon ware, best local match in fabric and shape bowl from Ewelme, Oxford, probably from Gould's Grove gravel-pit.[209]

(2) Rim-sherd (FIG. 25, no. 7), brown to light brown exterior and interior, prominent filling of fossil-shell, tending to be laminated, smoothed surface, crazed and corky, dusty texture. This sherd cannot be matched as Anglo-Saxon nor is it easy to accept as derived Bronze Age or Early Iron Age. Shell features in local fabrics from Neolithic to Romano-British and in medieval wares, but only in such prominence in Neolithic ware at Abingdon.[210] Shape and general appearance would fit with the Abingdon assemblage, but crazed surface, less dense structure and fossil instead of river shell would make it stand out. Probably a derived Neolithic sherd despite lack of other Neolithic material at City Farm.

HUMAN BONES

By Dr. D. F. B. Roberts, Dept. of Human Anatomy, Oxford

Note : The figures following the identifications refer to the weights of the samples of cremated bones in grams.

[209] Ashmolean: 1917. 33.
[210] Case, *Ant. J* XXXVI (1956), 19-20.

BRONZE AGE, OR PRESUMED

Pit 4/4 : Adult, single individual (323).
Pit 4/5 : Adult, cannot be distinguished from 4/4 (39).
Pit 4/6 : Adult, probably male (124).
Pits 5/1, 5/2 and scatter in ploughsoil : All refer to one individual, an adolescent or young adult (5/1, 820 ; 5/2, 2 ; scatter, 27).
Pit 3/1 : Probably adult, single individual. Fragments suggest a smaller person than 3/2 or 3/5, possibly female (91).
Pit 3/2 : Adult, single individual. Separation of epiphyses of long bones and of skull bones along sutures, suggests a young individual in teens or early twenties (244).
Pit 3/5 : Adult, single individual (348).
Pit 3/6 : Adult, cannot be identified as different from 3/2 (36).
Pit 3/8 : Unidentifiable, but not same individual as 3/6 (4).
Pit 3/12 : Adult, single individual cannot be distinguished from 3/15 (66).
Pit 3/21 : Unidentifiable (3).
Pit 2/1 : Unidentifiable (18).
Pit N/1 : Adult, single individual (94).

ANGLO-SAXON, OR PRESUMED

Pit 2/2 : This sample was submitted as excavated, a main concentration, and three minor ones. The main concentration represents an adult, single individual (254). There is no evidence that the minor ones belong to a different individual, but they cannot definitely be assigned to the same one (83, 13, 10).
Pit 3/15 : Adult, single individual (203).
Pit 3/19 : Adolescent, female or slightly built male.
Pit 3/20 : Adolescent or young adult, age 16-20, slightly built male.
Pit 4/1 : Adult, single individual (116).
Site 4, scatter in south-east quadrant of inner ditch : Unidentifiable (213).
If the weights of the cremated fragments are compared with those reported from Dorchester[211] where the mean weight of fragments per individual was 715·5 gm. with s.d. 354·5, it is quite clear that the present remains are much less fully represented, due perhaps to a more efficient cremation practice or to the disposal of fragments after cremation.

ANIMAL BONES

By John Banks, Dept. of Zoology, Liverpool University

BRONZE AGE

SITE 4, OUTER DITCH

Layer 3, central north-west cutting : Tooth, ox.

SITE 4, INNER DITCH

Bottom, south cutting : Thoracic vertebra, ox, indicating young beast ; lumbar vertebra, ox ; long bone splinters, size of ox. *Bottom*, east cutting, associated with *Ceciliodes acicula* (see below, p. 91) : Skull fragments, ox. *Lower part layer 5*, east

[211] Weiner in Atkinson, Piggott and Sanders, 134 ff.

cutting : Skull, horn-core and rib fragments, cervical vertebrae, all ox. *Upper part layer 5*, west butt-end : Jaw fragments, ox. *Upper layer 4*, south cutting : Cervical vertebra, ox. *Layer 3*, east cutting : Scapula, ox.

It is unfortunate that this Bronze Age material is too fragmentary and too scanty for useful measurements or general conclusions. I surmise that the majority of these bones came from one animal, with the definite exception of the thoracic vertebra from the bottom of the inner ditch, south cutting ; but this would be impossible to prove. The bones show a high degree of surface erosion.

IRON AGE OR PRESUMED

SITE 5

Layer 3, north ditch cutting : Tooth, ox ; unidentifiable fragments. *Layer 1*, north-west quadrant : Tooth, ox ; unidentifiable splinters suggesting ox.

PIT N/2

Ox, sheep/goat, burnt fragments.

PIT N/3

Sheep/goat, remains of at least four animals, the vertebrae showing signs of butchering cuts. Ox, remains of two animals, long bones showing similar cuts.

PIT N/4

Ox, sheep/goat, pig, unidentifiable fragments.

The bones from site 5 may be Early Iron Age like those from the pits. With one exception from layer 1, they showed a high degree of surface erosion, similar to the bones from site 4. The bones from the pits showed much less erosion. But these pits may well have been highly acidic originally in contrast to the continuously calcareous environment of the ditch fillings. So the degree of surface erosion may be a matter both of time and of micro-environment. In general the bones from the West Settlement (see below) showed very little surface erosion.

WEST SETTLEMENT

		North Group	*South Group*
1.	Number of pits	96	65
2.	Total number containing bone	59 (61%)	27 (41·5%)
	(Percentages of 1. in brackets)		
3.	Number containing Horse	14 (23·7%)	5 (18·5%)
	(Percentages in brackets)		
	,, ,, Ox	38 (64·4%)	10 (37·0%)
	,, ,, Pig	11 (18·6%)	3 (11·1%)
	,, ,, Sheep/Goat	35 (59·3%)	18 (66·6%)
	,, ,, Others (4 bird, 1 rat)	5 (8·4%)	— —
	,, ,, Unidentifiable bone	59 (100%)	27 (100%)

The differences in the proportions of the various species in these two groups are not statistically significant.

Most of the bone was broken into very small pieces, making identification difficult and measurement impossible, but there were few definite remains of juvenile animals.

The identifiable material was mostly of teeth, jaws, parts of long bones and various foot bones. The remainder was predominantly from ribs and shafts of long bones. When roughly classified by size there were equal proportions of fragments from large bones suggestive of horse or ox and of small remains of pig or sheep/goat, but complete identification would not have made much difference to the proportions of species or to the total numbers represented. Pits 20 and 25 each contained remains of 2 sheep, pit 73 contained parts of 2 oxen, apart from these, no pit had conclusive evidence of the presence of more than one individual of any species.

The heads of long bones, vertebral centra, carpels, tarsals and digits were very poorly represented among the remains. Since the last three are skeletal parts of high density, while the first two are places where bone is thick with a hard outer surface, it seems possible that these two types of bone may have had uses which often prevented them from finding their way into domestic rubbish pits.

Pit 74 contained the partial remains of the skulls, jaws, teeth, limb bones and backbones of two oxen of 'Bos longifrons' type, as well as scanty remains of horse, pig, sheep/goat and rat. The vertebral columns were found articulated, but as the neural spines and transverse processes were almost all cut off and there were additional cuts on the centra, it is probable that the flesh had been removed before the backbones were thrown into the pit. This pit is quite unlike any other, both in quantity of bone found and the presence of relatively complete and articulated vertebrae.

It was not possible to make a specific identification of the bird bones. Their size indicates that they are from a species somewhat larger than a pigeon, the size of the leg fragments indicates a wader or similar long legged marsh bird.

Although the percentages of oxen and sheep/goat are similar, the size of the former means that oxen must have supplied more meat, but as only a small proportion of the bone which must have been present on the site during its occupation has been recovered from these pits it is difficult to assess the importance of these animals to the inhabitants.

SUBFOSSIL MOLLUSCA

By Professor A. J. Cain, Dept. of Zoology, Manchester University

SITE 4

Outer ditch, unstratified :

Cepaea nemoralis (L.) fragments	2	(both 003??, probably 00300).

Inner ditch, south cutting, bottom, junction layers 5 and 6 :

Cecilioides acicula (Müller)	2	
Cepaea nemoralis (L.)	6	+1 juvenile (1 is 00000, 2 are 00300, 3 are 00300S, juv. is 00300).
Cepaea sp. fragment	1	
Hygromia striolata (C. Pfeiffer)?	3	
Hygromia hispida (L.)	1	
Oxychilus sp.	1	

Inner ditch, east cutting, bottom, junction layers 5 and 6 :

Cecilioides acicula (Müller)	41
Cepaea sp. juvenile	1
Vallonia excentrica Sterki	1

Inner ditch, west butt-end layer 5 :		
Cepaea hortensis (Müller)	1	(this is 12345).
Cepaea nemoralis (L.) juvenile	1	(this is 00300S).
Inner ditch, south cutting, layer 5 :		
Cepaea sp. juvenile	1	(this is (::)3(45), with 3 very strong).
Inner ditch, east cutting, layer 5 :		
Cepaea hortensis (Müller)	1	(this is 12345).
Cepaea sp. almost certainly *hortensis*	1	(this is 12345).
Cepaea nemoralis (L.)	6	(1 is brown 00000, 1 is 00300, 2 are 00300S, 3 are 12345S).
Cepaea nemoralis (L.) juvenile	1	(this is 00300).
Marpessa laminata (Montagu)	1	
Inner ditch, west butt-end, layer 3 :		
Cepaea nemoralis (L.)	7	(2 are 00000, 1 is 00300, 2 are and 1 probably is 00300S, 1 is 12345S).
Cepaea sp. fragment	1	
Cepaea sp. portion of juvenile	1	
Hygromia sp., probably *hispida* (L.)	2	
Inner ditch, east cutting, layer 3 :		
Cepaea nemoralis (L.)	1	(this is 00000).
Discus rotundatus (Müller)	1	

SITE 3

Pit 3/11		
Cepaea nemoralis (L.) fragments	2	(1 is 00300, 1 is 00300S).

EAST SETTLEMENT

Pit N/2		
Cepaea nemoralis (L.)	1	(this is 00000).
Cepaea nemoralis (L.) juvenile	2	(1 is 12345, 1 is 12345S).
Cepaea nemoralis (L.) fragments	1	(this is 003??).
Pit N/3		
Cepaea nemoralis (L.)	1	(this is 10345).
Cepaea nemoralis (L.) fragments	2	(1 is 003??, the banding of the other is uncertain).

SUMMARY OF ALL SAMPLES

Vallonia excentrica	1
Marpessa laminata	1
Cecilioides acicula	43
Cepaea hortensis	3
Cepaea nemoralis	34
Hygromia striolata	3
Hygromia hispida	3
Discus rotundatus	1
Oxychilus sp.	1

Morphs of *Cepaea nemoralis*

00000	6
00300	10
00300S	11
12345	1 juvenile
12345S	6

Two of the 00300S have the spread more or less organized into bands ; two of the 12345S have band 3 very prominent and might perhaps be 00300S. The juvenile cannot be scored for presence of S.

COMMENTS

SITE 4

Outer ditch, unstratified : No comment possible.

Inner ditch, at base : *Vallonia excentrica* is characteristic of open grassy land (not woodland) of a fairly to very dry sort. The other species are all widespread, but *Cecilioides acicula* needs comment. This is a species inhabiting rather dry and definitely calcareous grassy places, and is subterranean, burrowing according to Adams (1900) to a depth of some feet. A carnivorous diet has been suspected (Adams 1896) but not proved (Adams 1900). The large number in the east cutting found in association with a large bone of *Bos* in loam at the bottom of a trench, are probably a population more or less contemporary with the bone. It is not likely that they would live in the gravel above.

Inner ditch, layer 5 : Both *Cepaea nemoralis* and *hortensis* are widespread species. *Marpessa laminata* is a woodland snail but a thick hedge with much leaf-litter is as good as a wood for it ; it need not indicate more than a small copse or patch of scrub.

Inner ditch, layer 3 : No comment possible (but see below on *C. nemoralis* in general).

SITE 3

Pit 3/11

Cepaea nemoralis is a very widespread species in somewhat to very calcareous country.

Pits N/2, N/3

No comment possible.

THE GENUS *Cepaea* IN THESE SAMPLES

The samples of *Cepaea nemoralis*, taken together, show a surprisingly high proportion of the midbanded form 00300, and this at the present day is characteristic of some areas of high downland, in which also the spread-banded gene occurs (Cain and Currey, 1963a, Cain and Currey, 1963b, M. A. Carter, in preparation). The comparative scarcity of *Cepaea hortensis* is also consistent with (but does not prove) rather high dry and very calcareous grassland at the present day.

The genus *Vallonia* is represented in this country at the present day by three species, all about the size of a pin's head when full-grown. Their value as indicators

of open grassy country is now established (see, e.g. Kerney, 1963) and their specific distinctions and value as indicators of damp or dry grassland have been carefully examined (Sparks, 1953). Several other minute species are of great value and the importance of collecting these as well as the larger species should be pointed out. In this country (but not necessarily on the Continent) some of the larger species are almost equally good indicators, and it now seems that the proportions of the different forms of *Capaea nemoralis* may also be of value, especially if large samples can be collected ; they are certainly of great interest to population geneticists and students of evolution.

BIBLIOGRAPHY OF REPORT ON SUBFOSSIL MOLLUSCA

ADAMS, L. E. (1896), *The collector's manual of British land and freshwater shells*, 2nd edition, Leeds, Taylor Brothers.

ADAMS, L. E. (1900), ' Observations on some British land and freshwater shells ', *J. Conch.* **9**, 297-302.

CAIN, A. J. and CURREY, J. D. (1963a), 'Area affects in *Cepaea nemoralis* ', *Phil. Trans. Roy. Soc. Lond. B*, **246**, 1-81.

——— (1963b), 'Area effects in *Cepaea* on the Larkhill Artillery Ranges, Salisbury Plain ', *J. Linn. Soc.* (*Zool.*), **45**, 1-15.

KERNEY, M. P. (1963), ' Late-glacial deposits on the Chalk of south-east England ', *Phil. Trans. Roy. Soc. B*, **246**, 203-54.

SPARKS, B. W. (1953), ' Fossil and recent English species of *Vallonia* ', *Proc. Malac. Soc. London*, **30**, 110, 121.

CHARCOALS

By Professor G. W. Dimbleby, Institute of Archaeology, London University

Site 4, eight samples from revetment posts of inner ditch, carbonized butts and main parts of stems, including sample similar to GrN—1685 : All oak.

Site 3, cutting III, layer 3 : Bark.

Pit 5/1 : Oak, small fragment hazel, bark.

Pit N/3 : Mostly oak, but some hazel. Two pieces each of hawthorn type and elder (*Sambucus*).

Pit 2/2 : Oak.

REPORT ON PITS N/3 AND N/4

By Henry Cleere, The Iron and Steel Institute, London

1. PITS

Pit N/3. The dimensions of this pit (FIG. 12) suggest that it was used for ore-roasting rather than smelting. It would have been impossible with primitive bellows to achieve smelting conditions in a furnace of this size. Parallels are known from the Roman period (e.g. Ridge Hill, East Grinstead).[212] The clay lining would be reddened by heat, but would not be permeated with slag, as is generally found in smelting furnaces. The slag and clay specimens confirm this view (see below), as does the presence of charcoal in large quantities.

[212] Straker, *SAC*, LXIX (1928), 183-5.

Pit N/4. The same comments apply as for Pit N/3. The central depression (FIG. 12) does not appear to be connected with iron-making, since there was no evidence of a heat-affected lining. It may represent a secondary layer of rubbish tipping, overlying a natural subsidence of the primary filling of the pit.

2. SPECIMENS

Pit N/3 : Slag. This is a dark-grey material, very vesicular in character. It is slightly magnetic, and contains a small inclusion of white crystalline material.

The material is a slag containing at least 30–40% Fe. It could have been formed at about 900° C., and has been exposed to continued heating. It does not appear to have been raised to the 1,000°-1,200° C. necessary for tapping molten from the furnace. This type of material would be consistent with the limited low-temperature reduction associated with ore-roasting furnaces.

Pit N/4 : Slag. Similar to the material from Pit N/3 above, but slightly less vesicular. There are some small inclusions of iron ore (hematite) in the slag.

Pit N/4 : Furnace lining, ore. (i) A piece of clay, burnt red, about 4 ins. by 1 in. by 1 in. This is a piece of furnace lining, with partly reduced ore adhering to it. The clay is not permeated with slag, as would be the case with the higher temperatures associated with smelting. It is unlikely that the temperature at this point exceeded 700°-800° C.

(ii) and (iii). Two pieces of partly reduced ore. On one of the specimens, the yellow of the original limonite can be seen changing to the red of hematite.

CONCLUSIONS

The pits were probably used for roasting the ore. Ore and charcoal would have been heaped up and the mass ignited, being left to burn itself out. The heat engendered would drive off combined water and reduce any carbonate ore to the more easily reducible oxide. Temperatures would be unlikely to exceed about 800° C., though localized conditions of draught might produce higher temperatures and consequent partial reduction of some of the ore. After roasting the ore would be sieved to remove fine material and charged, as a relatively water-free oxide material, to the bloomery furnaces for reduction.

BIBLIOGRAPHY

ANNABLE, F. K. and SIMPSON, D. D. A., *Guide Catalogue of the Neolithic and Bronze Age Collections in Devizes Museum* (1964).

ARTHUR, B. V. and JOPE, E. M., 'Early Saxon pottery kilns at Purwell Farm, Cassington, Oxfordshire', *Medieval Archaeology*, VI/VIII (1962/3), 1-14.

APSIMON, A. M., 'Dagger Graves in the "Wessex" Bronze Age', *London University Institute of Archaeology, 10th Ann. Rep.* (1954), 37-62.

ASHBEE, P., *The Bronze Age Round Barrow in Britain* (1960).

ATKINSON, R. J. C., PIGGOTT, C. M. and SANDERS, N. K., *Excavations at Dorchester, Oxon. : First Report* (1951).

———, BRAILSFORD, J. W. and WAKEFIELD, H. G. ' A Pond Barrow at Winterbourne Steepleton, Dorset ', *Arch. J*, CVIII (1952), 1-24.

BECK, H. C. and STONE, J. F. S., ' Faience Beads of the British Bronze Age ', *Archaeologia* LXXXV (1936), 203-52.

BRADFORD, J. S. P. (1942a), ' An Early Iron Age Site at Allen's Pit, Dorchester ', *Oxoniensia* VII (1942), 36-60.

——— (1942b), ' An Early Iron Age Settlement at Standlake, Oxon. ', *Ant. J*, XXII (1942), 202-14.

———, and GOODCHILD, R. B., ' Excavations at Frilford, Berks., 1937-8 ', *Oxoniensia* IV (1939), 1-70.

CALKIN, J. B., ' The Bournemouth Area in the Middle and Late Bronze Age . . . ', *Arch. J*, CXIX (1962), 1-65.

CASE, H. J. (1952/3), ' Mesolithic finds in the Oxford Area ', *Oxoniensia* XVII/XVIII (1952/3), 1-13.

——— (1956), ' Beaker Pottery from the Oxford Region : 1939-1955 ', *Oxoniensia* XXI (1956), 1-21.

——— (1956/7), ' The Lambourn Seven Barrows ', *Berks. AJ* LV (1956/7), 15-31.

——— (1963), ' Notes on the Finds and on Ring-Ditches in the Oxford Region ', *Oxoniensia* XXVIII (1963), 19-52, following HAMLIN, A.

CATLING, H. W., ' A Beaker-Culture barrow at North Stoke, Oxon. ', *Oxoniensia* XXIV (1959), 1-12.

COLLINS, A. E. P., ' Excavations at Blewburton Hill, Berks., 1947 ', *Berks. AJ* L (1947), 4-29.

———, and COLLINS, F. J., ' Excavations at Blewburton Hill, 1953 ', *Berks. AJ* LVII (1959), 52-73.

CUNNINGTON, M. E. and GODDARD, E. H., *Catalogue of Antiquities in the Museum . . . at Devizes*, Pt. II (1934).

DAWKINS, W. B., ' Traces of the Early Britons in the Neighbourhood of Oxford ', *Proc. OA & HS* I (1862), 108-16.

DAWSON, G. J., ' Excavations at Purwell Farm, Cassington ', *Oxoniensia* XXVI/XXVII (1961/2), 1-6.

FOWLER, P. J., ' Excavations at Madmarston Camp, Swalcliffe, 1957-8 ', *Oxoniensia* XXV (1960), 3-48.

FOX, C., *A Find of the Early Iron Age from Llyn Cerrig Bach, Anglesey* (1946).

GLASBERGEN, W. (1954a), ' Barrow Excavations in the Eight Beatitudes . . . I . . . ', *Palaeohistoria* II (1954), 1-34.

——— (1954b), ' Barrow Excavations in the Eight Beatitudes . . . II . . . ', *Palaeohistoria* III (1954), 1-204.

GRINSELL, L. V., *Dorset Barrows* (1959).

HALL, D. W., HASWELL, G. A. and OXLEY, T. A., ' Underground Storage of Grain ', Colonial Research Studies, No. 21, H.M. Stationery Office for the Colonial Office (1956).

HAMLIN, A., ' Excavations of Ring-Ditches and Other Sites at Stanton Harcourt ', *Oxoniensia* XXVIII (1963), 1-19.

HARDEN, D. B. and TREWEEKS, R. C., ' Excavations at Stanton Harcourt, 1940 ', *Oxoniensia* X (1945), 16-41.

HAWKES, C. F. C. (1955), ' Radley . . . Ring-Ditch 16 . . . ', *Inventaria Archaeologica* (Great Britain, 1st set 1955), GB 3.
——— (1959), ' The ABC of the British Iron Age ', *Ant.* XXXIII (1959), 170-82.
——— (1960), ' A Scheme for the British Bronze Age ' (Address to Conference of Council for British Archaeology, 1960).
KIRK, J. R., ' Anglo-Saxon Cremation and Inhumation in the Upper Thames Valley in Pagan Times ', *Dark-Age Britain* (ed. D. B. Harden, 1956), 123-31.
LEEDS, E. T. (1923, 1927, 1947), 'A Saxon Village near Sutton Courtenay, Berkshire ', *Archaeologia* LXXIII (1923), 147-92 ; ' . . . (Second Report), *loc. cit.*, LXXVI (1927), 59-80 ; ' . . . (Third Report) ', *loc. cit.*, XCII (1947), 79-93.
——— (1929), ' Bronze Age Urns from Long Wittenham ', *Ant. J*, IX (1929), 153-4.
——— (1931a), ' Chastleton Camp, Oxfordshire, . . . ', *Ant. J*, XI (1931), 382-98.
——— (1931b), 'An Iron Age site near Radley, Berks.', *Ant. J*, XI (1931), 399-404.
——— (1933), *Celtic Ornament* (1933).
——— (1935), ' Recent Iron Age Discoveries in Oxfordshire and North Berkshire ', *Ant. J*, XV (1935), 30-41.
——— (1936), ' Round Barrows and Ring-Ditches in Berskshire and Oxfordshire ', *Oxoniensia* I (1936), 7-23.
——— (1938a), ' Beakers of the Upper Thames District ', *Oxoniensia* III (1938), 7-30.
——— (1938b), ' Further Excavations in Barrow Hills Field, Radley, Berks.', ibid. *Oxoniensia* III (1938), 31-40.
——— (1940), ' New Discoveries of Neolithic Pottery in Oxfordshire ', *Oxoniensia* V (1940), 1-12.
——— and HARDEN, D. B., *The Anglo-Saxon Cemetery at Abingdon, Berkshire* (1936).
LONGWORTH, I. H., ' The Origins and Development of the Primary Series in the Collared Urn Tradition in England and Wales ', *PPS* XXVII (1961), 263-306.
MANNING, P., ' Notes on the Archaeology of Oxford and its neighbourhood ', *Berks. Bucks. & Oxon. AJ* IV (1898), 9-28, 39-47.
——— and LEEDS, E. T., ' An Archaeological Survey of Oxfordshire ', *Archaeologia* LXXI (1921), 227-65.
MYRES, J. N. L., ' A Prehistoric and Roman Site on Mount Farm, Dorchester ', *Oxoniensia* II (1937), 12-40.
PEAKE, H., *Berkshire* (1931).
PIGGOTT, C. M., ' A Middle Bronze Age Barrow and Deverel-Rimbury Urnfield at Latch Farm, Christchurch, Hampshire ', *PPS* IV (1938), 169-87.
——— and SEABY, W. A., ' Early Iron Age site at Southcote, Reading ', *PPS* III (1937), 43-57.
RHODES, P. P., ' A Prehistoric and Roman Site at Wittenham Clumps, Berks.', *Oxoniensia* XIII (1948), 18-31.
RICHARDSON, K. M. and YOUNG, A., ' An Iron Age A site on the Chilterns ', *Ant. J* XXXI (1951), 132-48.
RILEY, D. N., ' A Late Bronze Age and Iron Age Site on Standlake Downs, Oxon.', *Oxoniensia* XI/XII (1946/7), 27-43.
SAVORY, H. N., ' An Early Iron Age site at Long Wittenham, Berks.', *Oxoniensia* II (1937), 1-11.
SMITH, I. F. (1955), ' Late Beaker Pottery from the Lyonesse Surface and the Date of the Transgression ', *Univ. London Inst. Arch. 11th Ann. Rep.* (1955), 29-42.

SMITH, I. F. (1961), ' An Essay towards the Reformation of the British Bronze Age ', *Helinium* I (1961), 97-118.

STONE, J. F. S., ' A Middle Bronze Age Urnfield on Easton Down, Winterslow ', *WAM* XLVI (1933), 218-24.

——— and THOMAS, L. C., ' The use and distribution of Faience in the Ancient East and Prehistoric Europe ', *PPS* XXII (1956), 37-84.

TYLECOTE, R. F., *Metallurgy in Archaeology* (1962).

VOGEL, J. C. and WATERBOLK, H. T., ' Groningen Radiocarbon Dates V ', *Radiocarbon* VI (1964), 349-69.

WARD PERKINS, J. B., ' Iron Age Metal Horses' Bits of the British Isles ', *PPS* V (1939), 173-92.

WILLIAMS, A., ' Excavations at Beard Mill, Stanton Harcourt, Oxon., 1944 ', *Oxoniensia* XVI (1951), 5-22.