A Late Iron Age and Romano-British Settlement at Hardwick

By R. A. Chambers and G. Williams

THE site was discovered after topsoil stripping on the Hardwick bypass during September 1974. Pottery indicated a settlement commencing in the late Iron Age and desertion occurring some time after the mid 3rd century A.D.

INTRODUCTION

The site, area centred SP 38000595, lay on terrace gravel 250 m. above sea level, near the edge of the River Windrush flood plain (FIG. 3). The archaeological features lay under 0·25–0·3 m. of plough soil which was mechanically stripped, revealing the light coloured gravel subsoil which in places was capped by a thin loessial deposit of reddish-brown silty clay. The gravel itself has been derived from Jurassic limestones, is alkaline, and has a small flint content.

THE EXCAVATION

Excavation[7] within the line of the carriageway was confined to an area approximately 70 m. by 80 m. Gravel required for the bypass was obtained on the southern side of the carriageway and this revealed more features, including three graves. It should be noted that this area has since been filled in and returned to agricultural use.

In the feature descriptions listed below all depths are quoted from the stripped gravel subsoil surface except where indicated.

F1 Circular area of dark soil comprising several pits with the remains of a hearth showing intense local heating, inserted into the top of the uppermost fill (FIG. 4, S1–2).

F2 Dark area revealing 4 intersecting pits.

F3 Child inhumation, S.E.–N.W. (head S.E.). Only the skull remained in undecayed condition, although crushed. Grave pit 2 m. × 1 m., 0·35 m. deep.

F4 Pit, 2·5 m. square with near vertical sides, over 1·5 m. deep.

F5 Pit, circular, 1 m. diam., 0·55 m. deep.

F6, 7, 9 Circular ditch, bottom only remaining, 0–0·15 m. deep, clayey fill with a 0·10 m. deep post-hole, F17, at the bottom.

F8 Complex of small pits (FIG. 4, S5–6), both cutting and cut by F6, 7 & 9.

F9 See F6.

F10 Adult inhumation, N.–S. (head north), male. Lower legs and feet lost to machine, preservation fair. Supine, skull crushed, head turned eastwards, left arm straight, right forearm across stomach, hand below left elbow, legs flexed together,

[7] The site records and finds will be deposited at the Oxfordshire Museum, Woodstock, P.R.N. Nos. 9730–2.

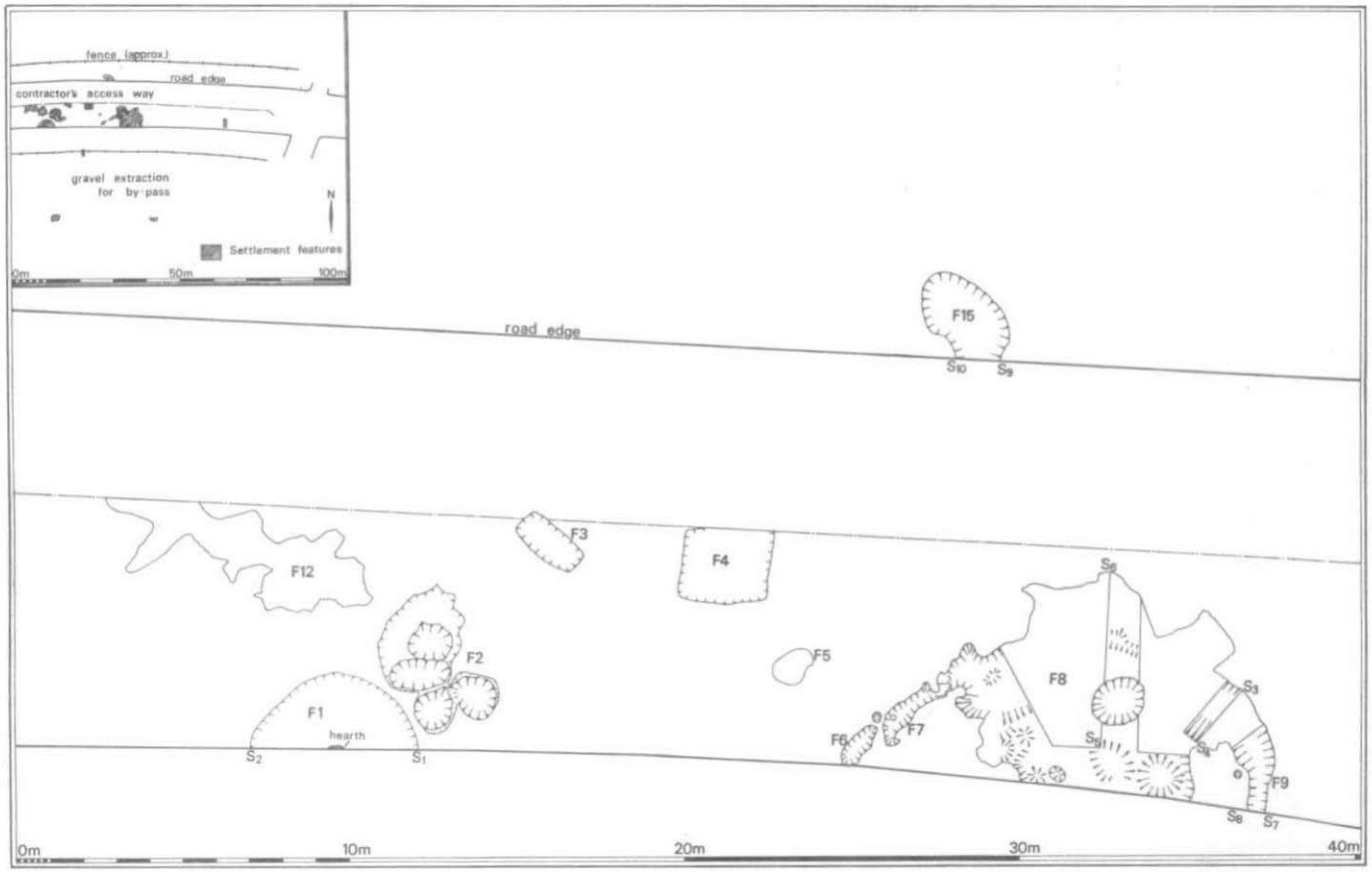

FIG. 3
Excavation at Hardwick, 1974—Plan.

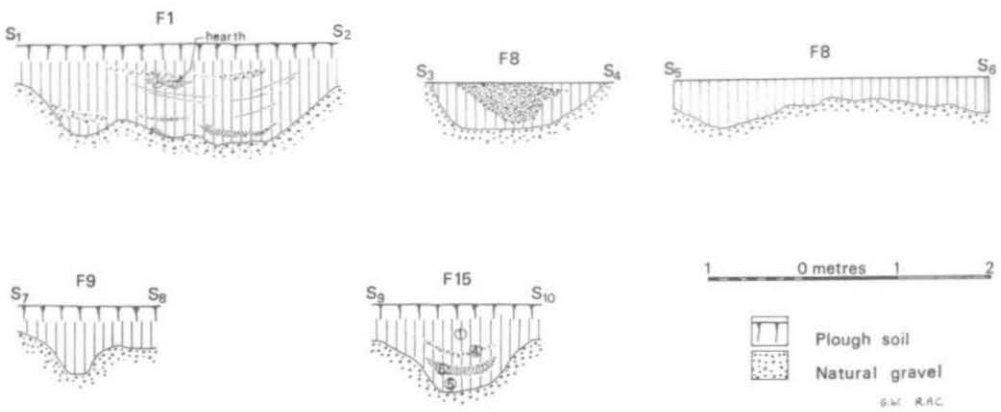

FIG. 4
Excavation at Hardwick, 1974—Sections.

knees to the east. Grave pit 0·4 m. deep. Iron pruning hook by left shoulder (FIG. 5, No. 4).

F11 Pit, 0·6 m. diam., 0·5 m. deep.

F12 Surface spread of dark loamy clay with many fragments of storage jar.

F13 Shallow, sub-rectangular feature 3·0 m.×2·6 m., 0·3 m. deep, with dark clayey-loam fill, burnt daub and charcoal.

F14 Adult inhumation N.–S. (head north), male. Damaged by machine during quarrying which left only the skull and 6 iron nails, possibly from a coffin. The attitude of the skull suggested a supine inhumation.

F15 Pit, S9–10, partly exposed in road edge.

1 Dark loam with some daub and clay inclusions.
2 A central layer of orange clay.
3 Burnt daub and charcoal inside N. edge of pit.
4 Gravel.
5 Gravelly loams with some charcoal.
6 Dark loam.

F16 Post-hole 0·24 m. diam., 0·2 m. deep. Dark loam fill.

F17 Post-hole 0·12 m. diam., 0·1 m. deep. Dark loam fill.

F18 Pit, 1·8 m. diam., 0·5 m. deep. Fill comprised very dark loams. Cut occupational spread F8.

F19 Hearth.

THE FINDS

Abbreviations used in this section :

Brodribb et al., I–IV — A. C. C. Brodribb, A. R. Hands and D. R. Walker, *Excavations at Shakenoak I–IV*, (1968–73).

Chambers 1973 — R. A. Chambers, 'An Iron Age Enclosure at Hailey Wood, Lewknor', *Oxoniensia*, XXXVIII (1973), 168–173.

Chambers 1975 — R. A. Chambers, 'A Romano-British Settlement Site and Seventh-Century Burial, Ducklington, Oxon., 1974', *Oxoniensia*, XL (1975), 171–200.

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Farrar R. A. H. Farrar, ' The Technique and Sources of Romano-British black burnished Ware ', Council for British Archaeology Research Report No. 10, ed. A. Detsicas, *Current Research into Romano-British Coarse Pottery* (1973), 67–103.
Frere S. S. Frere, ' Excavations at Dorchester on Thames, 1962 ', *Archaeol. J.*, CXIX (1962), 114–49.
Harden D. B. Harden, ' Two Romano-British Potters' Fields near Oxford ', *Oxoniensia*, I (1936), 81–102.
Harding D. W. Harding, *The Iron Age in Lowland Britain* (1974).
Harris and Young E. Harris and C. J. Young, ' The " Overdale " Kiln Site at Boar's Hill, near Oxford ', *Oxoniensia*, XXXIX (1974), 12–25.
Hawkes and Hull C. F. C. Hawkes and M. R. Hull, *Camulodunum*, Report of the Research Committee of the Society of Antiquaries of London, XIV (1947).
Lowther A. W. G. Lowther, ' A Study of the Patterns on Roman Flue Tiles and their Distribution ' monograph from the *Surrey Archaeol. Soc.* (1949).
Wheeler R. E. M. Wheeler, *Maiden Castle, Dorset*, Report of the Research Committee of the Society of Antiquaries of London, XII (1943).
White K. D. White, *Agricultural Implements of the Roman World* (1967).
Young 1972 C. J. Young, ' Excavations at the Churchill Hospital, 1971, Interim Report ', *Oxoniensia*, XXXVII (1972), 10–31.
Young 1973 C. J. Young, ' The Pottery Industry of the Oxford Region ', Council for British Archaeology Research Report No. 10, ed. A. Detsicas, *Current Research in Romano-British Coarse Pottery* (1973), 105–15.

FLINTS

Eight small waste flakes and fragments from broken blades were recovered from the fill of Pit F18 and one flake from Pit F15. The majority of the fragments showed few signs of secondary working or wear.

TILE (FIG. 5). By WARWICK RODWELL

1. Roller-stamped flue tile fragment from F8. Tile broken on all edges but with a crisp and unabraded pattern on the outer face. There are no traces of mortar adhering to the pattern ; instead the grain of the wooden roller is clearly visible in the sunken parts of the stamp.

The pattern belongs to *Lowther's* Group 5 (diamond lattice), and in particular it is closest to his Die 46. Flue tiles of Group 5 are widely distributed throughout south-east Britain, with one example recorded from Oxfordshire (Die 13, from Beckley Villa). Die 46 is, however, only recorded by Lowther at Chelmsford, Essex. Several fragments have been found there in the *mansio* baths, but not in stratified contexts. Lowther's illustration of Die 46 is in fact a partial reconstruction—we do not have a complete impression of the roller. Comparison of the Hardwick and Chelmsford fragments suggests that they are almost certainly the products of the same roller-stamp. No major advance has been made in the study of roller-stamped flue tiles since Lowther's pioneer work, and their dating and distributional significance are still far from certain.

A late 1st-century date may be in order for Die 46.

BURNT DAUB

Pieces of burnt daub totalling 2·3 kg. came from F2, F8, F13 and F15, the majority from F13 and F15. The fabrics were generally light red to reddish brown on the exterior and reduced to dark grey or black at the core. The fragments from F15 were tempered with varying amounts of sand and water-worn grits (2–15 mm.) and a little vegetable matter. Daub from F13 was heavily grass marked and of a more ' corky ' fabric. Both F8 and F2 produced daub of a mixed tempering. Many fragments displayed the usual

finger marks and smears. Several of the larger pieces contained impressions of wattle (10–15 mm. diam.), and several clear impressions of bark remained. Where measurable the daub varied in thickness from 65 mm. to a very occasional 10 mm. suggesting the construction of heating appliances rather than hut walls.

IRON OBJECTS (FIG. 5)

The Brooches. By D. F. MACKRETH

2. Penannular. Iron. Heavily corroded, the ring appears to have a circular section and the terminal is turned up and curled at right angles to the plane of the ring. From F1. This belongs to Fowler's Type C and is given a date range right through the Roman period (*P.P.S.*, XXVI, 1960, 149 ff.). Mid 1st-century examples of this style in bronze are known from Camulodunum (*Hawkes and Hull*, 327) and Maiden Castle (*Wheeler*, 265, Fig. 86, No. 6).

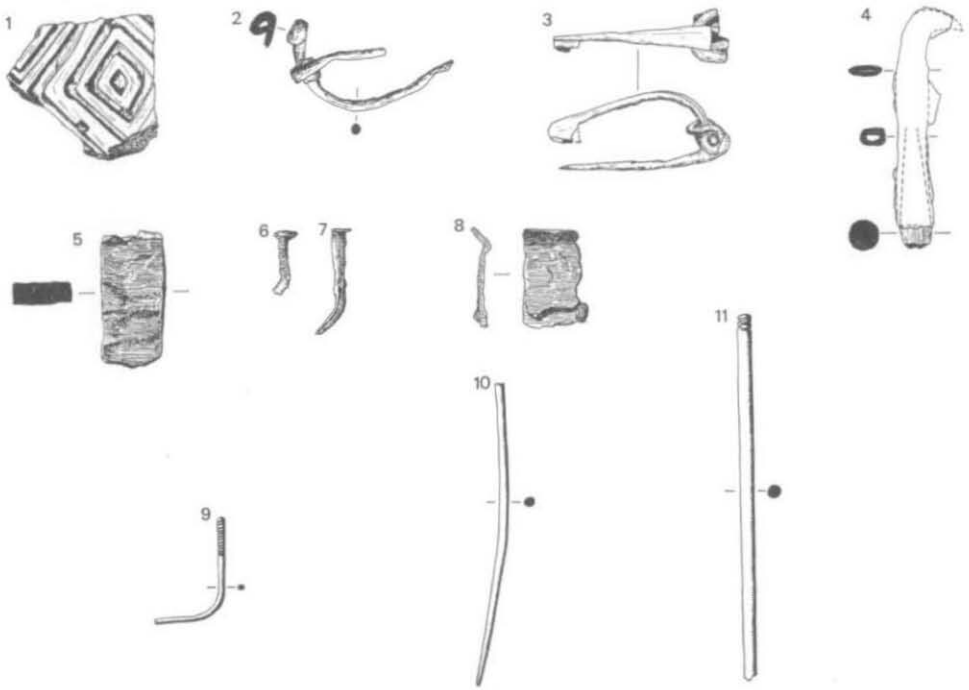

FIG. 5

Objects of Tile, 1 (½); Iron, 2, 3 (½), 4–8 (¼); Bronze, 9, 10 (½); Bone, 11 (½). From Hardwick, 1974.

3. Nauheim Derivative. Iron. This is a four coil internal chord one piece brooch, whose bow has a flat rectangular section and tapers from a fairly broad top to a pointed foot. From F15/2. The date range of this type is within the 1st century A.D., but simple examples such as this cannot be dated more precisely. Its form does not suggest that it should be much before the Roman Conquest : the early specimens tend to be larger and to have circular sectioned bows with a fairly straight profile. Iron is more characteristic of pre-Conquest times, but simple, easily made types continued in manufacture at least for the first two decades after the Conquest.

Other Objects

4. Socketed reaping or pruning hook with the remaining stub from a wooden handle, F10. Not closely dateable, *cf. White*, Figs. 58–62 ; also *Brodribb et al.*, *I*, Fig. 34, No. 21.

5. Wrought iron billet, rectangular cross-section, tapering at one end. F15/5. Irregular surface showing hammer marks suggests that this piece formed part of a smith's store of iron.

6. Nail. F15/5.

7. As last.

8. Fragment of iron band, 3 mm. thick, approx. 35 mm. at its widest, two square iron rivets. F15/5.

BRONZE OBJECTS (FIG. 5)

9. Screw decorated pin, traces of gilding on surface. F15/2. Common form, not closely dateable, *cf. Brodribb et al., I*, Fig. 30, No. 35, A.D. 300–350 and *Brodribb et al., II*, Fig. 49, No. 84, earlier than A.D. 120.

10. Pin, plain, head missing. F15/5.

COIN

From the topsoil came a Roman bronze coin of Vespasian, *c.* A.D. 71–79. *Obverse* = IMPCAESAR VESPASIANVS (Avb COS III). *Reverse* = Eagle on globe SC.[8]

SLAG

One fragment of porous, glassy slag was recovered from Ditch F9. Five similar fragments came from F15/3 and F15/5.

BONE OBJECTS (FIG. 5)

11. Pin, point broken, either manufactured without a head or smoothed off after the head had broken away ; two turns of screw thread decoration. F15/5, *cf. Brodribb et al., II*, Fig. 53, Nos. 20–25 and p. 124, type a, from 2nd–4th-century deposits.

THE POTTERY. Identified by CHRISTOPHER J. YOUNG

Of the features excavated that yielded pottery, F5 and F13 appear from the pottery evidence to be of pre-Roman date. F6 and F12 are either pre- or post-conquest. F8 and F15 are post-conquest. F1 contained pre-conquest fabrics except for a flange from a colour coat copy of a samian bowl, Form 38, possibly from the Dorchester kilns (*Harden*, Fig. 15, Nos. 14 and 15 ; his type VI). The earliest bowls of this type occur at Shakenoak (*Brodribb et al., I*, 60), but not before the 2nd half of the 3rd century and become dominant after *c.* 350 A.D. Because of its late date, this bowl may well be intrusive into the otherwise early fill of this feature. F8 and F15 contained fine, hard, sandy grey wares. F15 also contained later 3rd-century Oxford colour-coated sherds.

A small quantity of samian ware was also recovered from F8 and F15. If F8 is all one group then a late 1st-century date is most likely, but allowing the possibility of survivals running into the early 2nd century, especially as Form 30 is a late type and has been cut down. The mid 2nd-century samian dating for Pit F15 must be discounted by the presence of later Oxford kiln products.

The majority of the pottery from the site represents common Belgic types with a few local fabric variations (*cf.* F12). The vessels were generally plain except for occasional burnished bands and simple decoration on some body sherds. Fragments from four more elaborately shaped Belgic vessels were present. A large body sherd suggested a carinated or angular bowl. Three corrugated necked bowls (FIG. 7, No. 36 and FIG. 8, Nos. 52–3) of Aylesford-Swarling type decoration (*Harding*, Fig. 75, D) and two rims from carinated cups? (FIG. 8, Nos. 57–8, *cf. Harding*, Fig. 75, F) came from F2, F1 and F12 and form part of a group of similar fabrics. A pedestal base in a grey fabric (below, FIG. 7, No. 34) was also present.

Fragments from several, large, heavy-rimmed storage jars were recovered, all in the usual very heavily gritted fabrics, and only the decorated rim sherds have been illustrated.

[8] Kindly identified by the staff of the Heberden Coin Room, Ashmolean Museum, Oxford.

The more important rims have been published here but for the full range of the Belgic tradition pottery, especially the more readily recognizable light coloured fabrics with common rim forms, the finds themselves must be viewed.

Of the Romano-British wares not illustrated are the following Oxford kiln products from Pit F15. Two strap type flagon handles in fine cream ware, probably 2nd-century (*Young 1972*, 23), and a body sherd from a decorated, parchment ware bowl, not before 2nd half of 3rd century (*Young 1972*, 27). A red colour-coated mortaria edge fragment (*cf. Young 1973*, 113, Fig. 2, No. 20) and a fragment of white ware mortaria.

In this catalogue the description gives first the texture and temper of the fabric, followed by its colour (E = outside surface ; I = inside surface ; Bk. = cross-section).

Samian Pottery. By WARWICK RODWELL

None of the samian fragments found merited illustration.

F8 Three joining fragments of a base, form 30. The vessel has been cut down most carefully, in order to convert the base into a lid. All but the lowest 5 mm. of decoration has been trimmed off ; the surviving fragment shows a much damaged scroll design. There are faint, incomplete and illegible traces of a signature, cut in the mould ; this is now partially overlaid by the footring. The trimmed edge has been partially blackened by soot. South Gaulish ; late Flavian-Trajanic.

Chip of platter. South Gaulish ; probably Flavian.

Fragment of form 27. South Gaulish ; Flavian.

Half base, form 15/17 or 18, with unidentifiable stamp beginning OFV [. This could be one of the many dies of Vitalis. South Gaulish ; Flavian.

Part base, form 18, with unidentifiable stamp beginning CA [. There are several possibilities for its identification. South Gaulish ; Flavian (probably early).

F15/1 Small decorated fragment of form 30 or 37, showing a badly smudged ovolo. Central Gaulish ; Trajanic or Hadrianic.

Rim, form 18/31 or 31. Central Gaulish ; Hadrianic or Antonine. Rim, form 27. Central Gaulish ; Antonine, but before *c.* A.D. 160.

Fragment of R12 or Curle f. 15. South Gaulish ; Flavian.

Rim chip, possibly form 27. South Gaulish.

Rim, form 33. Central Gaulish ; Hadrianic or Antonine.

Two unidentifiable crumbs.

F15/2 Rim, form 27. Central Gaulish. First half of 2nd century.

Frag., form 33. Central Gaulish ; Hadrianic or Antonine.

Frag., form 18/31 ; Central Gaulish ; 2nd century.

F15/5 Rim, form 18. Probably part of base stamped OFV [(above).

Small frag., possibly form 38. Central Gaulish ; probably Antonine.

Small frag., form 31. Burnt. Hadrianic or Antonine.

Fine Cream Ware (FIG. 6)

1. Flagon rim ; hard, fine ; E, I, Bk. white, smooth surfaces. F15/5. Oxford kiln product, *cf. Young 1972*, 23 ; fine cream ware belongs to his Phase I which probably dates to the 2nd half of the 3rd century.

Colour-Coated Wares

Not illustrated is a bowl sherd with flanged rim, hard sandy fabric with traces of an off-white-buff slip identical to a rim sherd from Ducklington, *cf. Chambers 1975*, Fig. 6, No. 15.

2. Segmented bowl ; hard, fine ; E, I, orange, Bk. grey ; burnished exterior below rim, white barbotine decoration around rim. F8. *Cf. Frere*, Fig. 15, No. 70 and p. 129 —2nd century.

3. Segmented bowl ; hard, fine ; E, I, orange, Bk. grey ; dark brown colour-coat streaked concentrically on inside of rim and exterior coated in thin pinky-white wash,

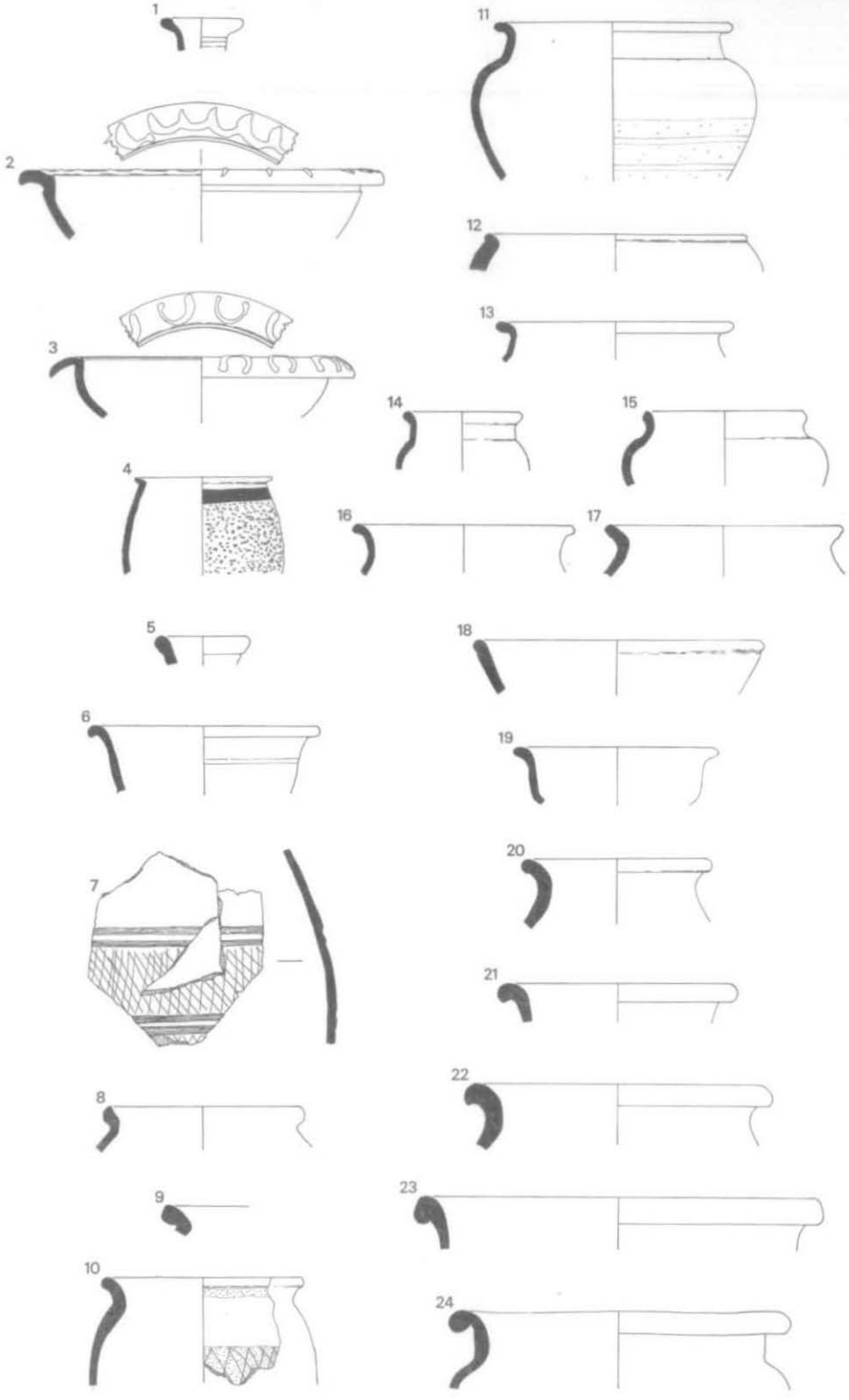

FIG. 6
Pottery from Hardwick ($\frac{1}{4}$).

white barbotine decoration on rim. F8. *Cf. Frere*, Fig. 15, No. 70 and p. 129—2nd century.

4. Rough-cast beaker ; hard, fine ; E, I, orange, Bk. grey ; thin, worn, mid-brown colour-coat wash over exterior and lip of rim, dark brown band painted around neck (shown black on drawing). F15/2.

5. Flagon rim ; hard, sandy ; E, I, Bk. orange ; white colour-coat. F15/2. Oxford kiln product, *cf. Young 1973*, 110—not before mid 3rd century. White colour-coated wares were produced at the kiln site at Baldon.

6. Rim ; hard and sandy ; E, I orange-buff, Bk. reddish-brown ; traces of thin, brownish-buff colour-coat wash? on rim lightly burnished with burnished line below rim on exterior. F15/2.

Butt-Beaker Types

7. Body sherd ; fine, hard, grey ; E, I dark grey, Bk. light grey. F13.

8. Rim ; hard, coarse sandy fabric with slightly rough pimply surface from the filling ; E, I grey, Bk. brown-grey. F8.

9. Rim ; coarsely gritted hard fabric ; E, grey, I orange-brown, Bk. brown-grey. F8. This fabric suggests a very local, less skilled imitation.

Black Burnished Wares

Not illustrated is a black burnished ware ' dog bowl ' rim sherd of same fabric as No. 10 below, burnished on inside only.

10. Wide mouthed jar ; white quartz sand, E, I, Bk. black ; burnished inside rim above shoulder, around lip bead and externally on the body at and below the shoulder ; acute lattice. F15/5. Before mid 3rd century, *cf. Farrar*, 77.

Grey Wares

11. Jar ; fine, hard, sandy ; E, I light grey, Bk. very light grey ; lightly burnished exterior with unburnished slightly granular surfaced bands. F8.

12, Bead rim jar ; fabric as before ; E, I light grey, Bk. lighter grey ; lightly burnished exterior. F8.

13. Jar, as above ; burnished lip and exterior. F8.

14. Jar rim ; hard, fine sandy ; E, I mid grey, Bk. dark grey ; surfaces dark grey, thin burnished concentric lines on exterior. F15/2.

15. Jar rim ; hard, fine sandy ; E dark grey, I, Bk. light grey ; concentric burnishing on exterior which is also heavily sooted. F15/5.

16. Jar rim ; as above. F15/5.

17. Jar rim ; fabric as above ; E, I dark grey, Bk. light grey ; burnished on exterior, also sooted. F8.

18. Bead rim bowl ; fabric as above, E dark grey, I, Bk. light grey ; concentric burnishing on exterior. F15/1.

19. Carinated bowl?, fabric as before ; E dark grey, I, Bk. medium grey ; concentrically burnished and sooted exterior. F15/1.

20. Jar ; coarse sandy, hard fabric, E, I grey, Bk. lighter grey. F15/1.

21. Jar ; as above ; exterior burnished below rim. F8.

22. Jar ; as above ; E, I, Bk. grey. F15/2.

23. Jar ; as above ; E, I grey, Bk. light grey ; concentric burnished lines on exterior. F15/1. This rim shows a degree of triangulation.

24. Jar ; as above ; E, Bk. grey, I pink, concentric exterior burnishing. F15/1.

(FIG. 7)

25. Jar ; hard, coarsely gritted, giving slightly lumpy surfaces ; E, I mid-grey, Bk. lighter grey, light external burnishing. F8.

26. As above. F8.

27. Jar ; hard, heavily and coarsely gritted giving ' digestive biscuit ' surfaces ; E mid-grey, I, Bk. lighter grey ; sooted exterior. F8.

28. Jar ; as above ; sooted exterior surface. F8.

29. Jar ; fabric as above ; E, I mid-grey, Bk. lighter grey ; some light exterior burnishing. F8.

30. Storage jar ; less coarsely gritted than above and does not show dimpled surfaces ; E, I grey, Bk. light grey. Unstratified. Note pierced holes—for suspension?

Other Wares

31. Jar ; hard coarsely gritted with pimply surfaces as 28 above ; E, I pink, Bk. grey ; surfaces dark grey with top, outer edge and body decorated with traces of a dull, dark red-brown, very poor colour-coat. F8.

32. Jar ; as above ; similar quality colour-coat, concentric lines. Probably both from the same kiln. F15/5.

33. Storage jar ; coarse, hard fabric ; E grey, I buff, Bk. grey ; light exterior horizontal burnishing. Pattern band. F2.

34. Pedestal base ; coarse sand ; E, I dark grey, Bk. medium grey, some red grog. Unstratified.

35. Bead rim jar ; some coarse grits ; E reddish grey, I grey, Bk. grey ; black surfaces, light horizontal burnishing around rim. Unstratified.

36. Corrugated necked bowl ; coarse sand, calcareous grit and some red flecks grog? E black, I brownish-grey, Bk. grey ; burnished rim, neck and corrugation furrows ; pierced hole—for suspension? F2.

37. Lid ; fine, hard, sandy ; E, I, Bk. grey ; blackened lip and outside surface. F15/1.

38. Lid ; coarse fabric, ' digestive biscuit ' finish as for 28 above ; E, I dark grey, Bk. light grey. Sooty line 1 cm. in from lip on underside. F15/2.

39. Bowl ; fine sandy fabric ; E black, I, Bk. black except on inside of base ; burnished rim, as slightly on exterior which is also sooted. F15/5.

40. Jar ; hard, some coarse sand, micaceous ; E, I dark grey, Bk. light buff-grey ; slightly sooty surfaces, horizontal burnishing on rim and body. F15/5.

41. Jar ; as above. F8.

42. Jar ; as above. F8.

43. Bead rim jar ; sandy granular fabric ; E, I, Bk. dark grey ; lightly burnished rim and exterior. F15/2.

44. Jar ; as above but Bk. lighter grey. F15/5.

(FIG. 8)

45. Jar ; very sandy paste ; E browny buff, I, Bk. light buff ; surface abrasive. F8.

46. Jar ; rolled over rim ; coarsely gritted ; E, I black, Bk. light greyish brown ; lumpy surface. F15/5.

47. Body sherd ; coarse sandy fabric ; E buff, I brown-grey, Bk. brown grey ; note drilled hole. F12.

A hole had been drilled through this sherd after firing, cut two-thirds from the exterior and one-third from the interior. This was perhaps to take a plug to stop and repair a crack, rather than for suspension, such as in Nos. 31 and 37 above. The method of drilling adopted is the same as for a similar instance in a similar sandy fabric from Hailey Wood (*Chambers 1973*, Fig. 3, No. 6).

48. Bowl or platter ; hard, fine sandy, micaceous ; E, I, Bk. reddish-orange. F15/2.

49. Jar ; very granular paste, hand made, E, I, Bk. brownish-black. F2.

50. As above. F2.

51. Rim ; soft fine gritted fabric with a soapy feel ; E, I buff-brown and black, Bk. dark grey ; cordon at base of neck, exterior burnished. F1.

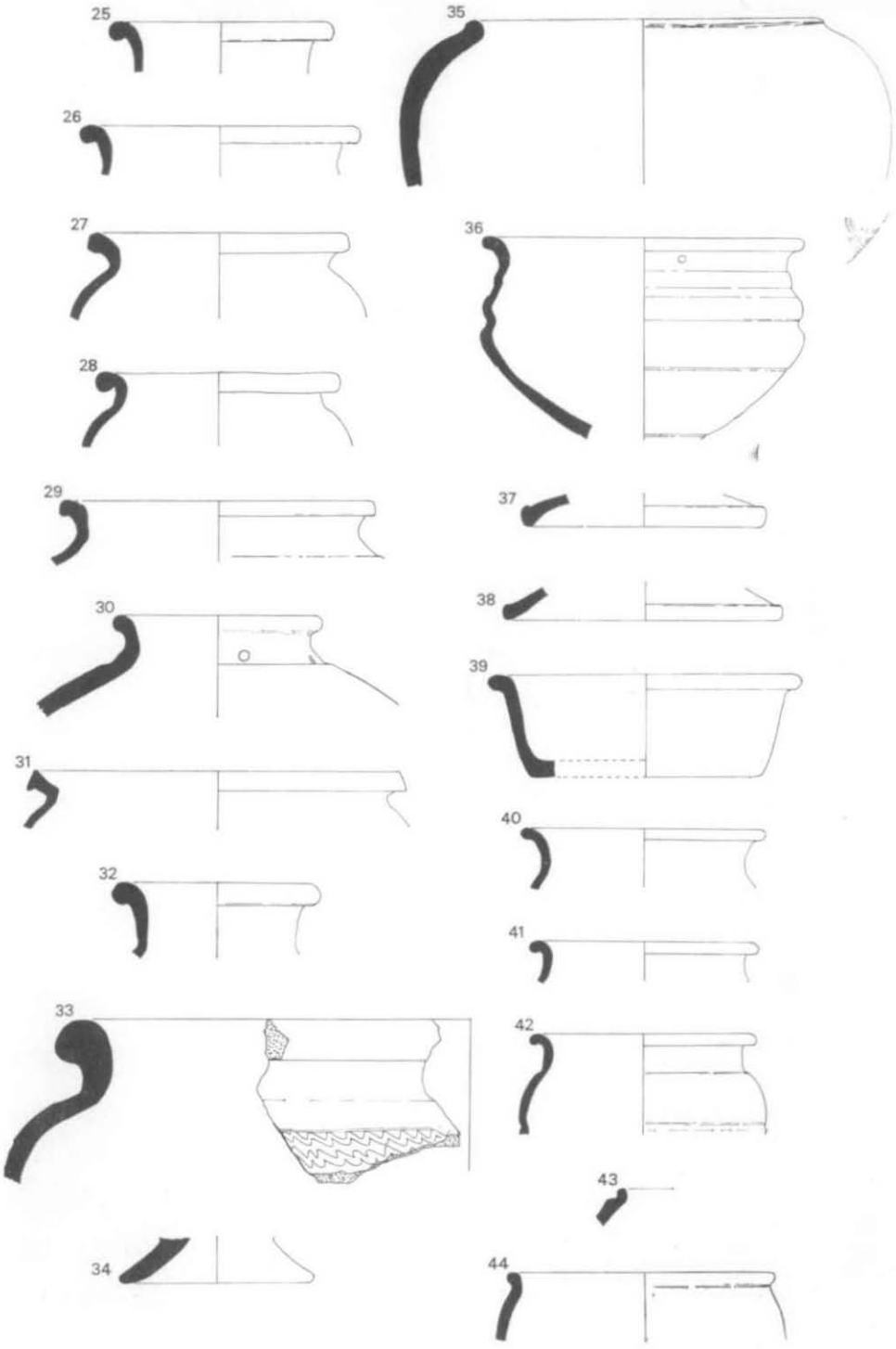

FIG. 7
Pottery from Hardwick ($\frac{1}{4}$).

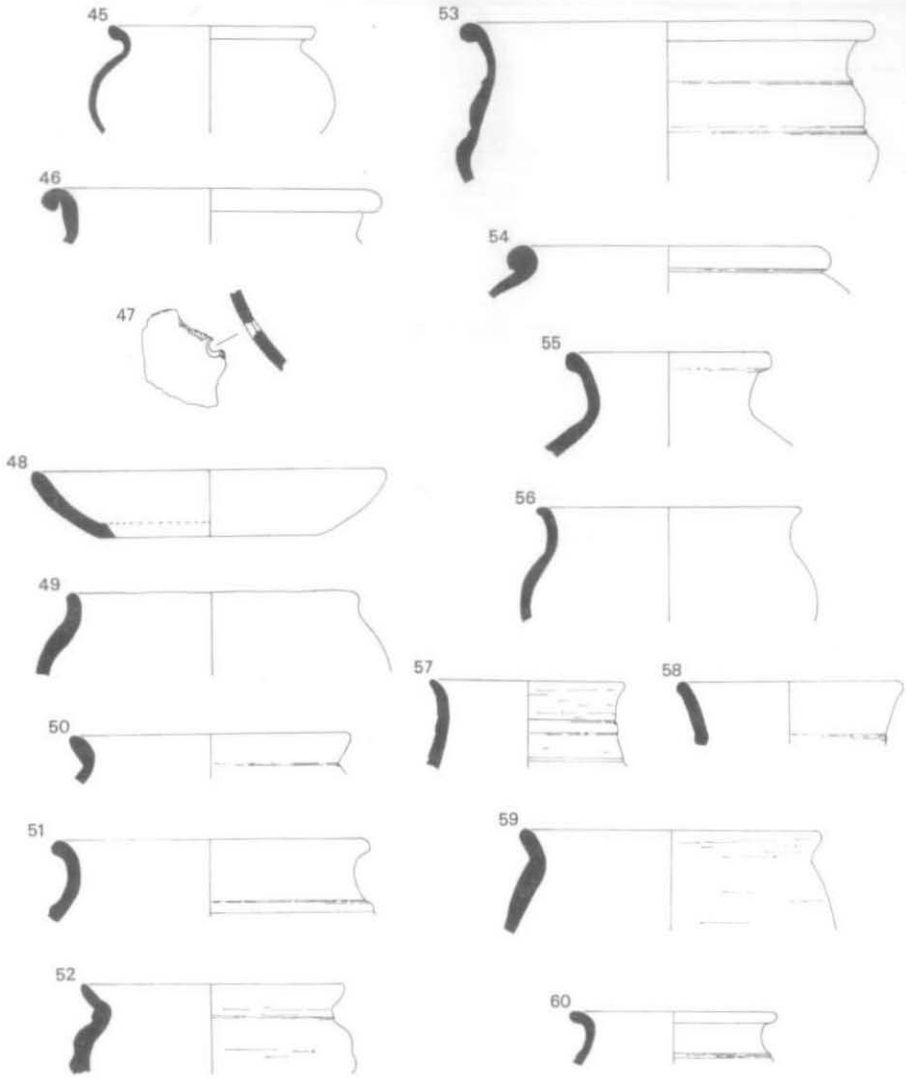

FIG. 8
Pottery from Hardwick (¼).

52. As above, but fabric slightly harder ; corrugated below rim ; burnished lip and exterior. F1.

53. As above ; E dark brown, I reddish brown, Bk. grey ; burnished lip and exterior ; corrugated. F1.

54. Bead rim jar ; light calcite gritting in otherwise similar ' soapy ' fabric to above ; E black and brown, I buff-brown, Bk. grey ; slight burnishing on rim. F12.

55. Rim ; fine, sandy, smooth and ' soapy ', E, I, Bk. red-grey, traces of burnishing, but weathered. F12.

56. Rim ; coarse sandy, but otherwise as above ; dark surfaces ; light exterior burnishing. F12.

57. Rim ; as above, cordon round neck, burnished exterior. F12.

58. Rim ; as above ; E, I, Bk. brown-black ; similar style, cordon at base of neck, burnished exterior. F12.

59. Rim ; finer sand, but soapy feel ; E, I, Bk. buff to black ; burnished inside lip and on body. F1.

60. Rim ; hard, coarse sandy, pimply surface ; E, I black, Bk. buff-grey ; burnished inside lip. F12.

THE ANIMAL BONES. By BOB WILSON

From a sample of 493 well preserved bones (weight 6·2 kg.), 39% were identified (88% of bone weight). Fragments likely to be from cattle or horse make up 42% of the unidentified fragments (76% of weight) and 36% of the identified fragments (68% of weight) suggesting a slight bias toward identifying more fragments of the larger animals. At least 18% of the identified and 40% of the unidentified bones are freshly broken (by definition, where ancient fragment length cannot be measured)—the limb bones of smaller mammals appearing more readily broken during excavation. The bones are 2% burnt, 3% gnawed, but only one fragment is relatively more weathered than the rest.

Fragment numbers. (Those from definite Roman features, *i.e.* F8 and F15 are excluded but given in brackets). Cattle 56 (8), sheep 80 (20), pig 17 (2), horse 2 (1), dog 1 (1), also bird (1) and oyster (1).
Minimum number of individuals. 9 sheep (from 18 radii),[9] 4 cattle (3 fused distal tibiae, one juvenile mandible), 3 pigs (3 humeri), horse and dog 1 each.
Percentage by weight of identified bone. 66% cattle, 23% sheep, 8% pig, 2% horse and less than 1% dog and bird.
Fused epiphyses. 7 of 9 early fusing and all 6 late fusing cattle epiphyses, all 6 early fusing and 4 of 12 late fusing sheep epiphyses, 3 early and 1 of 2 late fusing pig epiphyses, and 1 late fusing horse epiphysis. Divisions between early and late fusing epiphyses are the modern age equivalents of 2 years for pigs and 1½ years for the other three species.[10]
Mandibles with third molar in wear. 6 sheep.
Immature mandibles. 3 cattle (also one maxilla), 6 sheep and 2 pigs.
Sexual dimorphism. Three cattle horn cores, one notably immature, possibly all castrates. From sheep, two probable female horn cores, two possible male cores—castration effects on sheep cores are not known to me.
Pathology. One ewe sheep horn core appears to have been broken and healed over with new bone callus before death. Most cores are hollow where they are broken.
Measurements (Total lengths). Cattle tibia 316 mm. (F1), sheep humerus 118 mm. (F4).
Notes on butchery. Cattle : three horn cores (i) cuts around base, (ii) chopped around base, (iii) chopped posteriorally at base (F1), frontal with parallel cuts anterior of missing horns and cut transversely on midline, and diagonally above orbit (F4), transverse (F1) and vertical (F12) parallel cuts on lateral mandible below condyle, mandible condyle trimmed laterally and medially (F2), trimmed scapula blade (F5), anterior ilium chopped vertically (F6), medially cut pubis below acetabulum (F15), humerus chopped laterally, ulna chopped through articulation from anterior, calcaneum with nicked posterior proximal end, diagonally chopped proximal lateral lobe from lateral and anterior direction (all F12).

Sheep : parietal chopped in midline (posterior or dorsal blow) (F4), posterior mandible trimmed anteriorly (F15), atlas divided medially and lumbar vertebra with lateral process cut off from ventral side (both F12), lumbar vertebra with trimmed lateral process, and parallel vertical trimming off the body on the other side (posterior chops F15). Over half of the limb bones broken at both ends—more upper limb bones than metapodials—transverse cuts on humerus lateral shaft (F2) and dorso-medial distal humerus (F4).

Pig : medially divided thoracic vertebra (F15), anterior cut above articulation of calcaneum and two cuts on medial dorsal articulation of ulna (F1).

[9] R. E. Chaplin, *The Study of Bones from Archaeological Sites* (1971), 70–5.
[10] I. A. Silver, ' The Aging of Domestic Animals ', *Science in Archaeology* (1969), Table B, 285–6.

Discussion. Apart from the presence of oyster and domestic fowl in F8 and F15 the bones appear to be a homogeneous sample in terms of preservation and distribution of species remains within the features. Future reports on larger bone collections at Ashville and Barton Farm, Abingdon, should help to clarify the typical patterns of animal abundance, maturation and butchery which are detailed in the results.

BIRD BONE. By D. BRAMWELL

Fowl, domestic, 1 bone. F15.

THE HUMAN BONES. By E. W. EDWARDS

In both this and the following report on the Curbridge cemetery by Mary Harman the following criteria have been used. The age of the individuals at death was assessed from the evidence of tooth eruption and degree of tooth wear (attrition), and also the state of epiphyseal fusion using the criteria published by Brothwell.[11]

The state of dental characteristics is shown by a chart employing the following symbols :

Upper Jaw

Right side	8 7 6 5 4 3 2 1	1 2 3 4 5 6 7 8	Left side
	8 7 6 5 4 3 2 1	1 2 8 3 4 5 6 7	

Lower Jaw

—	part of jaw missing	×	Loss before death
/	tooth missing post mortem	U	tooth unerupted
O	tooth erupting	Np	tooth not developed

Deciduous teeth are represented by lower case letters.

F3 Child, poorly preserved. Consisting of immature skull fragments and some long bones of lower limbs (tibiae plus a fibula).

Mixed in with the bone fragments was one possible animal bone. This infant, as indicated by the calcified areas of cranial fontanelles, was approximately 1 yr. old. The mandible components were not present.

F10 Adult, male, 5 ft. 10 in., 22–25 yrs. Preservation fair.

8 7 6 5 4 3 2 1	1 2 3 4 5 6 7 8
8 7 6 5 4 3 2 ×	××3 4 5 6 7 8

The dentition was nearly complete, showing disease in the form of erosion of the area below the base of the crown. This was associated with advanced alveolar resorption and root exposure. This was certainly due to chronic gum infection in the form of periodontal disease that would have led to several abscesses and progressive tooth loss.

The skeleton showed evidence resembling osteochondrosis intervertebralis associated with the bodies of the lumbar vertebrae.

F14 Adult, male, senile, preservation poor.
Dentition missing, attrition not determined, tooth loss accompanied by healing. No disease in evidence because the specimen consisted of upper skull and lower jaw only. Mandibular resorption characteristic of advanced age. Tooth loss and mandible form indicated senility, or advanced age.

CONCLUSIONS

At Hardwick, topsoil stripping removed most of the upper archaeological levels and only the deeper settlement features remained. Limited excavation revealed a

[11] D. R. Brothwell, *Digging up Bones* (1972), 44–8, 60, 69.

complex of pits and half an apparently circular, shallow ditch (F6, F7, F9). The ditch contained late Iron Age pottery and may have been a hut circle. Pottery from the excavation suggested that this was a pre-Roman Iron Age settlement which continued into the late third or early fourth century A.D. The lack of recognizable post-conquest pottery from some features indicated a pre-conquest date for several of them.

Three supine inhumations were discovered, a child burial (F3) and two adults (F10 and F14). Iron nails suggesting a coffin only occurred in the adult male grave F14, a second adult male, in grave F10, provided the only grave good found, an iron pruning hook (FIG. 5, No. 4). Burials and small cemeteries, as also found at Curbridge, are common on deserted areas of Romano-British settlements around the end of the Roman period, and the situation of the three burials from Hardwick suggests that these are of a similar date.

The size and nucleus of the settlement at Hardwick remains unknown. South of the bypass, cropmarks forming two circles, block marks and linear markings have been recorded,[12] although the same photographs do not show the present site. A Bronze Age beaker burial found close by during gravel digging[13] suggests that either one or both of the cropmark circles may also be Bronze Age in origin.

[12] D. Benson, *et al.*, *The Upper Thames Valley, an Archaeological Survey of the River Gravels* (1974), map 19.

[13] H. Case, 'Beaker Pottery from the Oxford Region, 1939–1955', *Oxoniensia*, XXI (1956), 10. National Grid: 42/376 058. P.R.N. 5527.