

A Roman Settlement at Mansfield College, Oxford

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SUMMARY

A small excavation by Oxford Archaeological Unit in advance of development at Mansfield College revealed a single Neolithic pit, dated by flintwork, part of a Roman settlement and a section of a component ditch of the Civil War defences of Oxford. The Roman settlement was of rural character and based on ditched enclosures. It was of two main phases, of late 1st- to mid 2nd-century date and late 3rd- to 4th-century date respectively. Despite fairly clear evidence of chronological discontinuity there were close similarities of feature alignment between the two phases. Within the settlement a small late Roman timber structure was associated with deposits of domestic rubbish including significant charred plant remains. The site is discussed in the context of adjacent evidence for prehistoric and Roman activity.

INTRODUCTION

In 1998 and 1999 the Oxford Archaeological Unit (OAU) carried out small-scale excavations on behalf of Oxford University Surveyors' Department at Mansfield College, Mansfield Road, Oxford, in advance of the construction of a new Institute for American Studies (centre c. NGR SP 516068) (Fig. 1). The western boundary of the site was formed by Love Lane, which runs parallel to Parks Road along the line of part of the Civil War earthwork defences on the N. side of the city (Fig. 1). The work, to a specification prepared by the Oxford Archaeological Advisory Service (OAAS), took the form of a watching brief during the removal of topsoil by contractors over the areas of proposed development. The intention was to examine the ditch forming part of the Civil War earthworks, plus any other features that might be revealed. While the anticipated ditch was identified, the majority of archaeological features revealed on the site related to a Romano-British settlement and it was agreed that a brief programme of more formal archaeological excavation and recording was appropriate given the quantity and character of the features revealed. On this basis, features in the S. half of the site were excavated and recorded in March-April 1998, and a second phase of earthmoving, to the N., was treated in a similar fashion in March-April 1999. The two areas examined amounted to c. 550 and 680 sq. m. respectively. Removal of topsoil from a narrow strip of ground between the two areas was also observed in April 1999, but was not recorded in detail. The continuation of linear features between the two main areas was noted.

On-site work for OAU was supervised by Sean Cook and the project was managed by Paul Booth and monitored for OAAS by Brian Durham. Mike Thrift of the University Surveyors' Department provided much help at all stages of the project, and the assistance and interest of Arthur Evanson, site manager for the main contractors Sunley Turriff, from 1999, is also gratefully acknowledged. Thanks are owed to all the specialist contributors to the report. In addition Fiona Roe and Philip Powell kindly provided advice on the quern stone and Mr. Powell also arranged access to finds in the University Museum. Alison Roberts helped locate

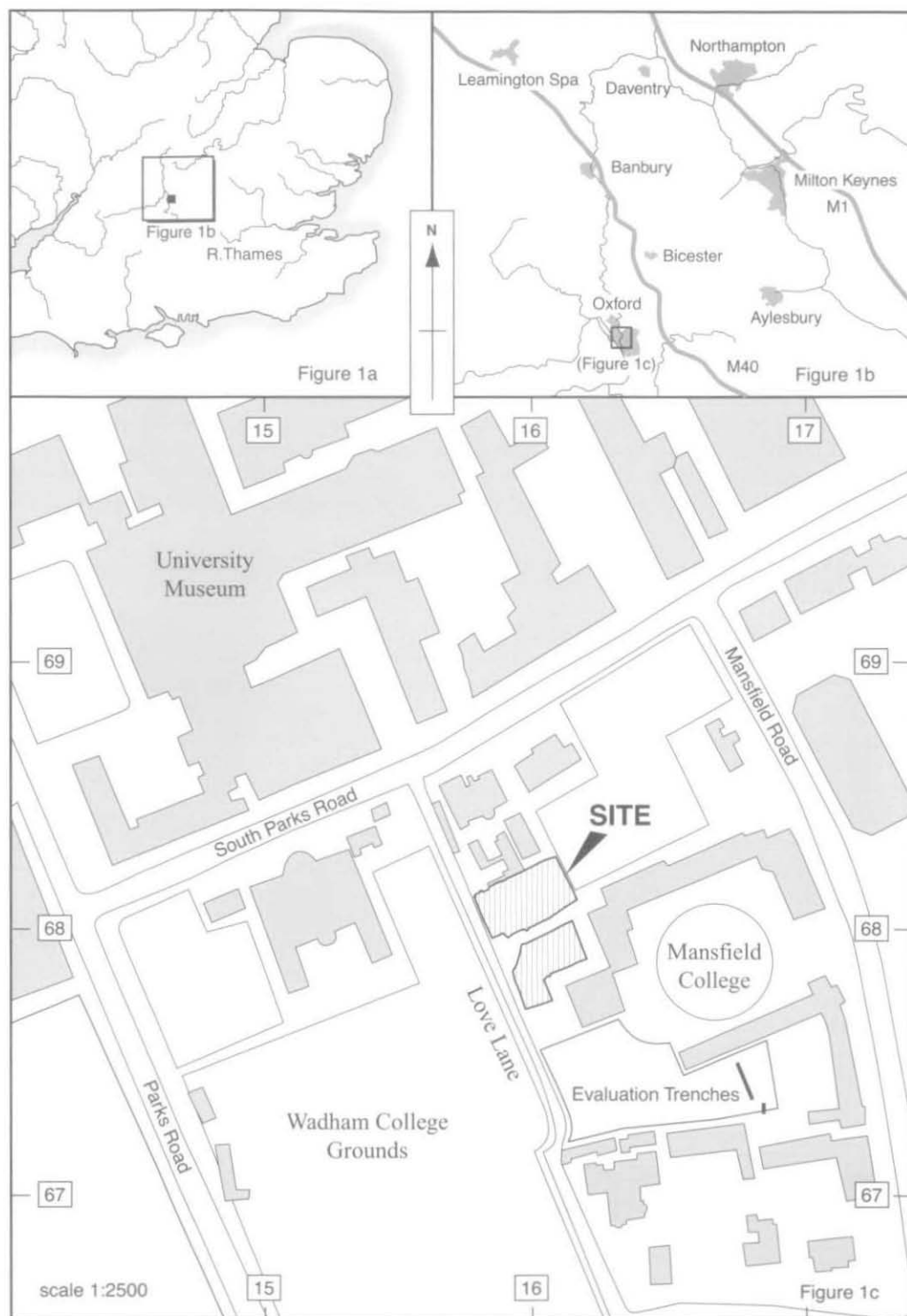


Fig. 1. Site location.

finds from the Parks Road area in the Ashmolean Museum. The illustrations are the work of Mel Costello and Sarah Lucas. Text is by Paul Booth except where indicated otherwise. The report was edited by Ian Scott.

THE SITE SEQUENCE by CHRIS HAYDEN

Introduction

The features found during the excavation can be divided into four phases on the basis of the pottery and other artefacts they contain, and their stratigraphic relationships, (overall plan Fig. 2, for phasing see Fig. 8). Only one feature, a pit dating from the Neolithic, belongs to the first phase. The second, early Roman, phase covers the later 1st and early 2nd centuries AD, and the third, late Roman, phase starts in the second half of the 3rd, or more probably the 4th century AD. There is little evidence for occupation of the site between these two phases, in the later 2nd and early 3rd centuries. Although the paucity of evidence for this period hints at a break, there nonetheless appear to be many points of continuity between the two phases in the layout of the site. The fourth phase is represented by the Civil War ditch which may be associated with a line of postholes and a gully.

While the larger features can be assigned quite confidently to these phases, and the overall development of the site is clear, some of the smaller features, especially the pits and postholes and some of the shallow gullies, can be dated only tentatively. Many of these features were very shallow having been truncated substantially by later activity. Such disturbance, together with the slightness of the features, means that it is not possible to be completely certain that the pottery they contain is not intrusive.

The earliest features in Phase 2 may be a series of shallow gullies aligned slightly askew to most of the later features, but subsequently, in both of the Roman phases, the site seems to have consisted of a number of probably subrectangular enclosures defined by large boundary ditches. In both Roman phases these ditches appear to have been laid out on similar, rectilinear alignments, later ditches sometimes being cut along or from the edges of earlier ditches (Fig. 2).

The areas enclosed by the ditches lie largely outside the excavated area, and perhaps not surprisingly, only a relatively small number of associated features were found. The majority of these are pits and postholes, many of which cannot be confidently dated. The most significant, and happily some of the few that can be dated, are a series of gullies belonging to the later Roman phase which may have formed part of a rectangular structure from which large samples of charred plant remains and an infant burial were recovered. The location of these gullies is mirrored by others dating to the earlier Roman phases, hinting, albeit much less clearly, at the existence of a similar structure in this phase also.

Phase 1: The Neolithic (Fig. 8)

A pit (525) in the N. corner of the site produced 13 pieces of flint which suggest that it may date from the Neolithic period (see below Lamdin-Whymark, 'Flint'). The pit survived only as a shallow scoop, 0.14 m. deep, although it was 0.90 m. wide (Fig. 7 section 64). It had a single fill of dark grey silt with a little gravel and a few flecks of charcoal (524).

Phase 2: The late 1st and early 2nd centuries

The features dating to the 1st or 2nd centuries were concentrated in the SE. of the excavated area. The earliest may have been a series of small gullies which lay on an alignment slightly different from that of the later ditches. Some of these small gullies may have formed part of a structure. Two slightly later larger boundary ditches seem to have defined subrectangular enclosures most of which would have lain outside the excavated area to the E. A small number of pits and postholes scattered thinly across the S. part of the site may also have dated from this phase, though most of the features of these types cannot be accurately dated.

The earliest gullies and possible early structure (Figs. 2 and 3). A number of shallow gullies in the SE. corner of the site (349, 378=421, 347, 361 and 359) were aligned slightly askew to the roughly rectilinear alignments shared by the larger ditches of both Roman phases. Two of these gullies (349 and 361) were cut by the eastern ditch, which was the earliest of the large ditches, and thus were stratigraphically amongst the earliest features on the site. One of the gullies (361) contained a single sherd of late 1st- or early 2nd-century date. All were filled with similar deposits of light to dark brown clayey silt with a little gravel. Gullies 349 and 361 lay on

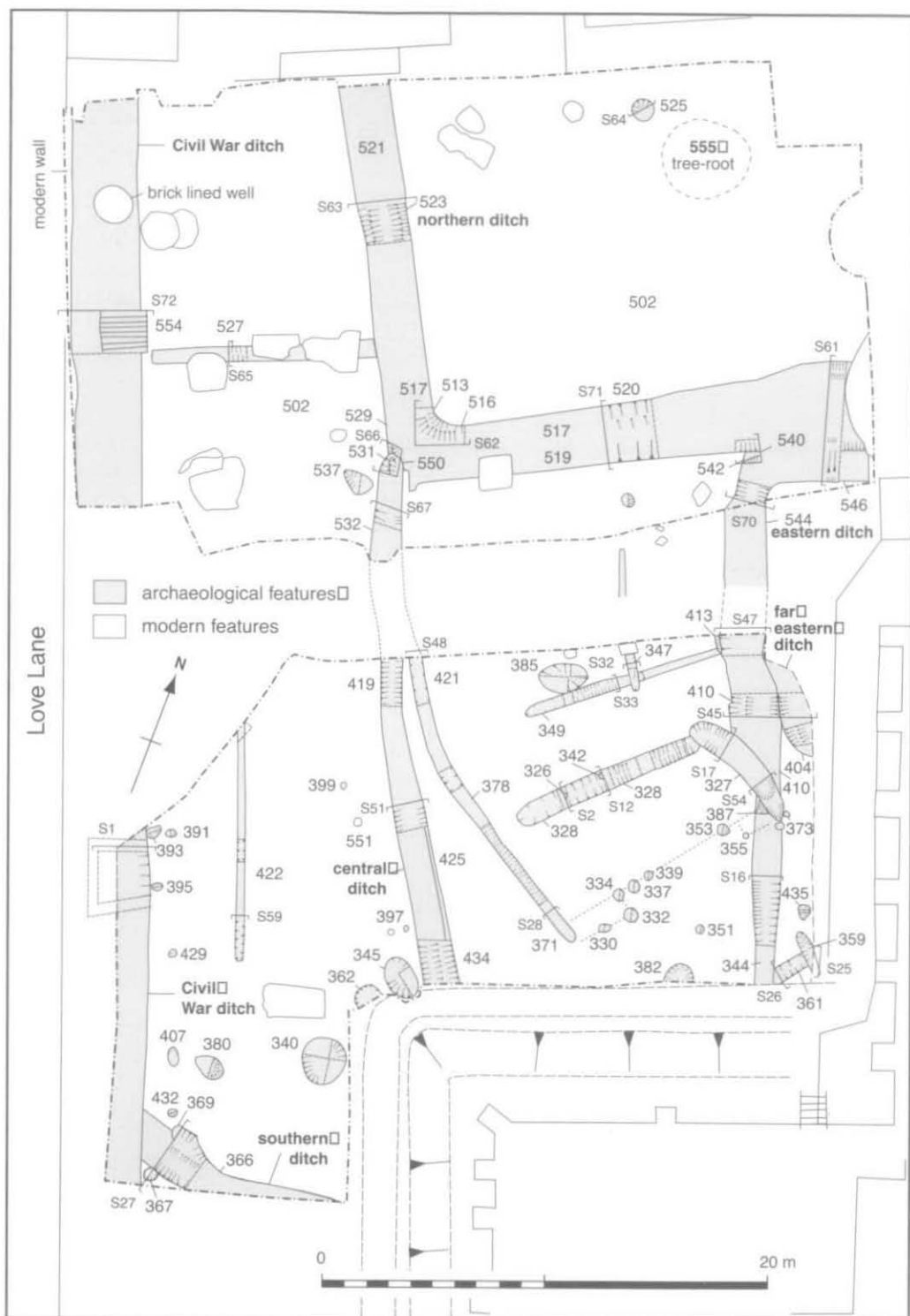


Fig. 2. Overall plan of features.

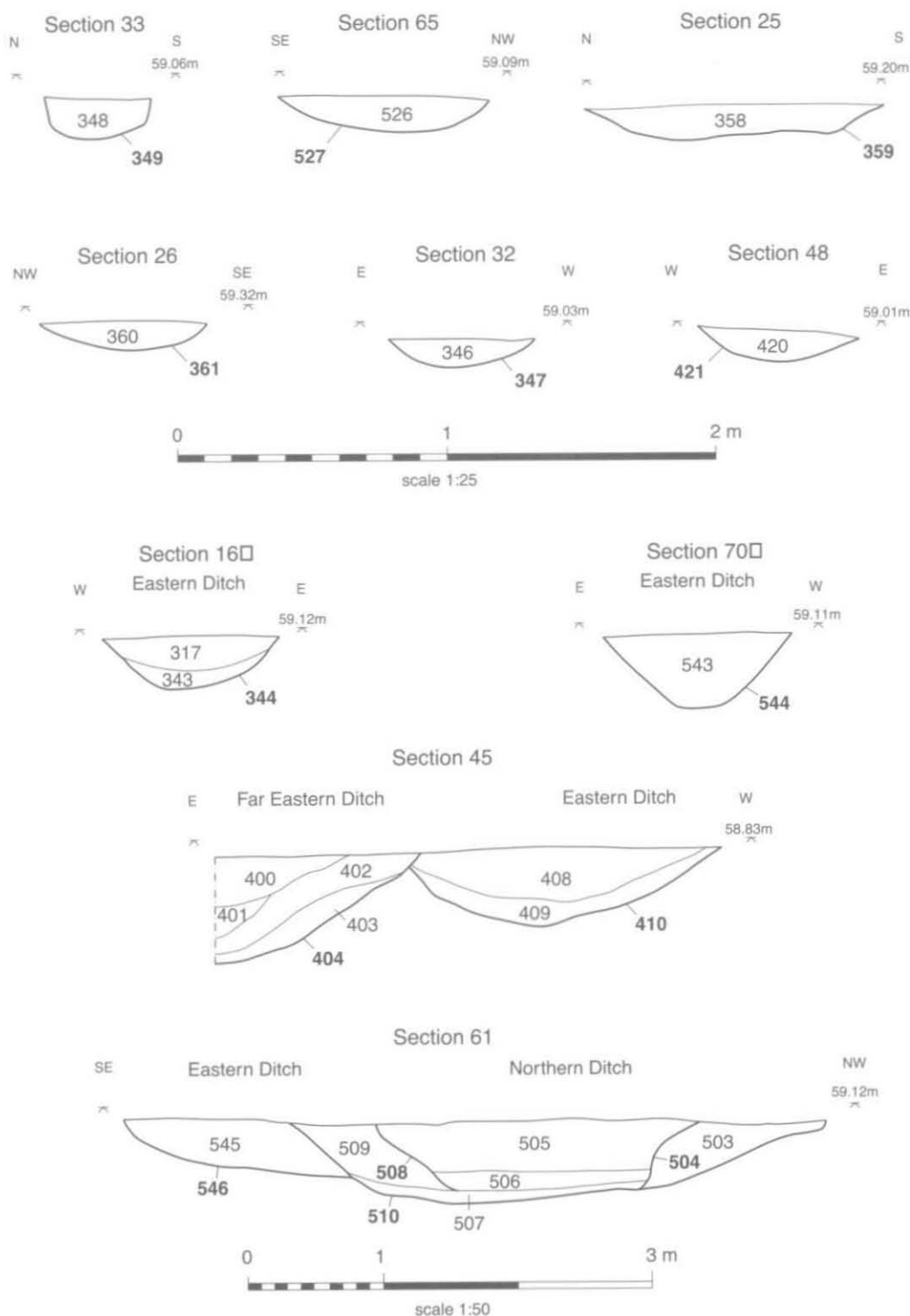


Fig. 3. Phase 2 early gully and ditch sections.

more or less parallel alignments and both were cut, roughly orthogonally, by further shallow gullies (347 and 359), the ends of which just crossed gullies 349 and 361. Together these gullies hint at the existence of an early phase of occupation in which features were aligned slightly differently from those of the following phases.

Three of the gullies, 349, 347 and 378=421 may have formed a structure. The alignments of gullies 349 and 378=421 are paralleled, a few metres to the S., by two gullies (328 and 371) which, together with a number of postholes, probably formed parts of a structure of 3rd- or 4th-century date (see below) (Fig. 2). It is tempting to see gully 328 and its associated features as a later, slightly relocated, replacement for an earlier structure of which gullies 349, 347 and 378=421 were surviving traces. No postholes were found which obviously relate to this earlier structure, but if they were shallow they may not have survived. Gully 378=421 was recut by later gully 371, and like the latter may have functioned as a drip or eaves gully. Although the gap between gully 378 and gully 349 was rather wider than that between gully 371 and gully 328, the fact that gully 378=421 curves at just the point where it passed the end of gully 349 strengthens the suggestion that the two were related. In support of the conclusion that these features did form a structure it is worth noting that all of the possible Roman nails from the site were recovered from gullies 378=421 and 371, though all but one of these was from the later 3rd- or 4th-century recut 371.

One further stretch of gully (527), found in the W. part of the northern trench, ran in a straight line from just short of the Civil War ditch up to the large 3rd- or 4th-century boundary ditch which had cut away its other end. It was therefore on an alignment slightly different from the other early gullies. Much of its length had been destroyed by modern pits. Although it contained one small sherd of late 1st- or 2nd-century date, it did not obviously relate to any of the other features of that date, and its location suggests that it may in fact have been associated with the Civil War ditch. Unlike the other early gullies it was filled with reddish-brown sandy clay.

Gully 349 was aligned SW-NE. and was c. 10 m. long, 0.40 m. wide and only 0.05 m. deep (Fig. 3, section 33). It contained no dateable artefacts itself, but its relative chronology is fixed by the fact that it was cut by the larger eastern ditch (344, 410, etc.) and by gully 347, both of which contained small quantities of late 1st- to 2nd-century pottery. Gully 349 was aligned slightly off right-angles with respect to the larger eastern boundary ditch.

Gully 347 was probably c. 6 m. long – a short stretch of gully which may be the N. end of gully 347 was observed in the strip between the two main excavation areas – and was 0.40 m. wide and 0.15 m. deep (Fig. 2). The gully was shallower towards its S. end (Fig. 3, section 32). It cut gully 349 near its centre, roughly orthogonally, and ended just to the S. of it. It contained a single potsherd of 2nd-century date.

Gully 378=421 ran from the N. edge of the southern trench in a roughly SE. direction for 8 metres. It was shallow with a depth of just 0.13–0.16 m. It widened from 0.45 m. near its S. end to 0.60 m. at the N. (Fig. 3, section 48). It curved slightly at the point at which it passed gully 349. It was not found to the N. of the southern excavation trench and presumably it had been cut away by the 3rd- or 4th-century central ditch, or at least by its later recut. Its S. end too had been cut away by the 3rd- or 4th-century gully 371, which appears to have followed the same alignment as gully 378=421 and perhaps extended it. Gully 378 contained four sherds of 2nd-century or later date, and may, therefore, have been slightly later in date than gully 349. An iron nail was also found.

Gully 361 ran in a straight line across the SE. corner of the southern trench. It was shallow, surviving to a depth of only 0.12 m. despite being 0.60 m. wide (Fig. 3, section 26). It occupied a stratigraphic position similar to that of gully 349, being cut by the large eastern ditch (344, 410, etc.) and a smaller gully 359 both of which contained 1st- to 2nd-century pottery. Gully 361 contained one sherd of 2nd-century date.

Gully 359 ran from just to the N. of gully 361 for a short distance into the SE. corner of the southern excavation trench, cutting across gully 361. It contained two sherds of 2nd-century pottery. It was 0.46 m. wide but again was shallow, being preserved to a depth of only 0.12 m. (Fig. 3, section 25).

Gully 527, in the northern excavation trench, was 0.18 m. deep and 0.72 m. wide (Fig. 3, section 65). It ran at right angles to the Civil War ditch, from a squared-end just short of that ditch for 14 m. up to the late Roman large boundary ditch (523, 529, etc.) which appeared to have cut away its E. end. It contained one small sherd of late 1st- or 2nd-century date, but may have been much later, and was perhaps associated with the Civil War ditch.

The Eastern Enclosure Ditches (Fig. 3). After the filling of most of the early gullies, a large ditch (the eastern ditch) was dug along the E. side of the site. It cut through some of the smaller earlier gullies. At its N. end, the eastern ditch turned at right angles, before disappearing into the NE. edge of the excavation. The ditch

may have defined an enclosure, perhaps subrectangular in shape, as the later ditch to the N. appeared to do, but because the excavated portion of the eastern ditch lay close to the edge of the excavation, this was not established with any certainty.

Unlike the later large boundary ditches, there were no clear signs in the sections cut across this ditch that it had been recut (Fig. 3, section 45). In all the sections the sequence of filling appears to have been very simple, with only one or two layers of fill, perhaps deriving from deliberate backfilling. However, although small quantities of late 1st- or 2nd-century pottery were found in almost all of the sections cut across the ditch, a larger assemblage of 4th-century pottery was found in its upper fill (317) near its S. end. It is unlikely that the quantities of pottery involved could all have been intrusive, and it is probable that this section of the ditch was recut to a much shallower depth in the later Roman phase (Fig. 3, section 16).

In the NE. corner of the southern excavation trench the eastern ditch was cut by another ditch of comparable size (404: the far eastern ditch, Fig. 3, section 45), which seems to have followed the same alignment. No trace of this ditch was found in the northern trench so, assuming that it runs straight, it cannot have continued to the N. for more than about 9 m. Although the short section of this ditch which lay within the excavated area provided only the scantiest indication, it is possible that it too formed the corner of a subrectangular enclosure. Its sequence of filling was more complex than that of the eastern ditch, but there was no indication that it had ever been recut (Fig. 3, section 45). Small quantities of late 1st- or 2nd-century pottery were found in all layers of its fill.

One side of the N. arm of the eastern ditch (546) was cut away by the northern ditch (510) which is dated to the 3rd or 4th century (Fig. 3, section 61). Despite the chronological gap between them, the northern ditch appears to have been cut along the same alignment as the N. arm of the eastern ditch (Fig. 2), so far as the evidence was revealed in the excavation. It seems likely that by the time the northern ditch was dug, the eastern ditch would have been nearly completely filled, although the bank which may have accompanied it would perhaps have been more visible. Whatever the case, the boundary marked by the eastern ditch appears to have retained in part its significance. Here, as a number of other ditches and gullies also indicate, it seems that the 3rd- or 4th-century settlement was laid out on roughly the same alignment as the 1st- or 2nd-century settlement.

The eastern boundary ditch (344, 410, 544) ran a roughly straight course for over 23 m. from the E. corner of the southern trench into the E. corner of the northern trench where it turned at right angles, running for a further 6 m. to the edge of the excavation. It cut through the early gullies 349 and 361, but was itself cut by the far eastern ditch 404 (Fig. 3, section 45) which also dates from the late 1st or 2nd century, and by the northern ditch 510 and gully 327, both of which date from the 3rd or 4th centuries (Fig. 3, section 61).

Small quantities of pottery of late 1st- or 2nd-century date were recovered from the sections cut across the ditch in the southern trench, although none was found in the sections in the northern trench. A larger assemblage of 4th-century pottery was found in the upper fill (317) of the ditch near its S. end. This assemblage could have derived from a recut of the ditch, although the stratigraphic evidence does not support this idea (Fig. 3, section 16). However, the stony light brown clay silt, which formed fill 317, contrasted with the generally greyish brown sandy silts which filled the rest of the S. end of this ditch. The N. end of the ditch was filled with orange-brown clay sand.

The form of the ditch varied along its length. It was preserved to a depth of only 0.36 m. at its S. end, deepened to 1 m. at the N. edge of the southern trench, but became gradually shallower in the northern trench, measuring 0.50 m. deep at the edge of the trench (Fig. 3, section 61). The ditch was also narrowest near its S. end, measuring 1.30 m. in width. It widened to 2 m. near the N. edge of the southern trench before narrowing again in the northern trench. It measured 1.40 m. at the S. edge of the northern trench.

The far eastern ditch (404) ran from the N. baulk along the edge of the southern trench for 6 m., cutting the side of the eastern ditch before appearing to turn, perhaps at right angles, into the E. edge of the trench. Small quantities of pottery were recovered from all layers of fill. The pottery from the upper fills (400, 401, 402) (Fig. 3, section 45) was of late 1st- or 2nd-century date, but that from the primary fill (403) was of 2nd-century date and indicates that the earlier pottery in the upper fills was residual. Only part of the W. side of ditch 404 fell within the excavated area and its full dimensions are therefore not known. The excavated portion shows that it was preserved to a depth of at least 0.8 m. and it must have been at least 2 m. wide. It was filled by a series of yellowish or orange-grey sandy silts containing substantial proportions of gravel.

Pits, Postholes and Tree Holes (Fig. 2). Most of the pits and postholes found during the excavation either formed part of the late Roman structure described below or were associated with the Civil War ditch. The small number of remaining features were concentrated along the S. edge of the excavation, only a very few occurring elsewhere on the site. The concentration in this area hints at possible differences in the use of space which can be only dimly perceived. Although pottery was found in a few of these features, it was always in small quantities, and given that almost all of them were only very shallow, there is a high probability that this pottery was intrusive. The chronology of these features is, therefore, very uncertain, and they cannot be

reliably assigned to phases. The undated features are thus described here, and although the features which contained later pottery are described with the appropriate phases below, little confidence can be attached to these chronological divisions. Most of the undated features were filled with reddish-, greyish- or orange-brown clay silt.

The most significant of these poorly dated features was a possible pit 555 in the NE. corner of the site. This was observed by the contractors in the course of the removal of a 'soft spot' in the gravel subsoil after the excavation was completed. It was probably a pit, the presence of which had been obscured by an immediately adjacent tree stump. A large rotary quern, made of Lower Greensand (see below 'Miscellaneous finds'), was found within this area as well as two sherds of 2nd-century or later date. The pottery sherds may have been associated with feature 555, and their presence, together with relative dearth of features of other dates in this part of the site, suggests that the pit was Roman in date. The association between the quern and the pottery must, however, remain uncertain.

Pits 382 and 345. Both pits were located at the S. edge of the excavation and contained small numbers of sherds of 2nd-century or later date. The pits were very shallow with depths of only 0.25 m. Pit 382 measured 1 m. wide and lay only partially within the excavation, while pit 345 was 2 m. across and oval in plan. Both had gently sloping sides and rounded bases. Pit 382 contained a fragment of very corroded iron strip or plate. These pits were filled with orange brown clay silt.

Postholes 351 and 397. Posthole 351 was located near pit 382 and was large, comparable in size to the postholes belonging to the late Roman structure nearby. It measured 0.40 m. wide and 0.20 m. deep. It was filled with mid-brown clay silt. Posthole 397 was near pit 345, and measured 0.26 m. wide and 0.12 m. deep. It was filled with dark brown sandy silt. Neither feature contained datable finds.

Irregular features 380 and 537. These were probably tree holes and contained no pottery. Feature 380 was filled with mid grey-brown silty clay, and contained a fragment of oyster shell and a flint blade. Feature 537 was filled with red-brown silty clay.

Phase 3: The late 3rd and 4th centuries

During the 3rd and 4th centuries, large enclosure ditches, which formed a broadly rectilinear grid across the excavated area, were cut and recut. Within one of these enclosures a rectangular structure was erected. Traces of the structure survived as gullies and postholes. Samples of charred plant remains, including large quantities of emmer and peas, were recovered from these gullies. Also found were the partial remains of an infant. A small number of other pits and postholes may also date from this phase.

The Large Enclosure Ditches (Fig. 4). The northern ditch (510, 521, 513, etc) was the largest ditch on the site, and also provides the clearest indication that the ditches formed subrectangular enclosures. This ditch clearly forms the right-angled corner of a larger complex (Fig. 2). The pattern of filling in one of the sections (Fig. 4 section 63) might suggest that there had been a bank on the SW., or outer, side of this ditch. However, no clear indications of slumping as if from a bank were found elsewhere and the central ditch, which cut into the corner of the northern ditch, does not appear to have respected an outer bank.

The sections cut across the E. arm of the northern ditch clearly show that this stretch of the ditch had been recut at least twice (Fig. 3 section 61; Fig. 4 section 71). There were, however, no clear indications of recutting along the W. arm of the ditch, and it is uncertain whether the original cut of the ditch has survived here or has been completely removed by recutting (Fig. 4, section 63). It is possible that the recutting of the E. stretch of this ditch was intended to form the N. side of a new enclosure created when the central ditch was cut (see below).

Pottery of late 3rd- or 4th-century date was recovered from fills of both the original cut and the recut, as well as from other sections of the ditch where there was no indication of recutting. A 4th-century coin was also found in the upper fill (511) of the ditch (see below 'Coins'). A small number of sherds of late 1st- or 2nd-century date was found in upper fills of the ditch where it cut the eastern ditch, and may have been derived from disturbance of the earlier eastern ditch. Despite the chronological gap between the cutting of these two ditches, they nevertheless both appear to have followed the same broad alignment.

When the northern ditch was already at least partially filled, its corner was cut by the central ditch 550, or at least by its recut 531 (Fig. 4, section 66), both of which ran to the S. edge of the excavation. Although it lies slightly to the W., the alignment of the central ditch is broadly the same as the NW.-SE. section of the northern ditch, and it may have been intended to extend southwards the boundary defined by that ditch, or perhaps to have formed a new enclosure with the recut SW.-NE. stretch of the northern ditch. The N. end of the central ditch appears also to have cut away the end of gully 378=421, but, where this earlier gully curves to the E., the central ditch continues its roughly straight line.

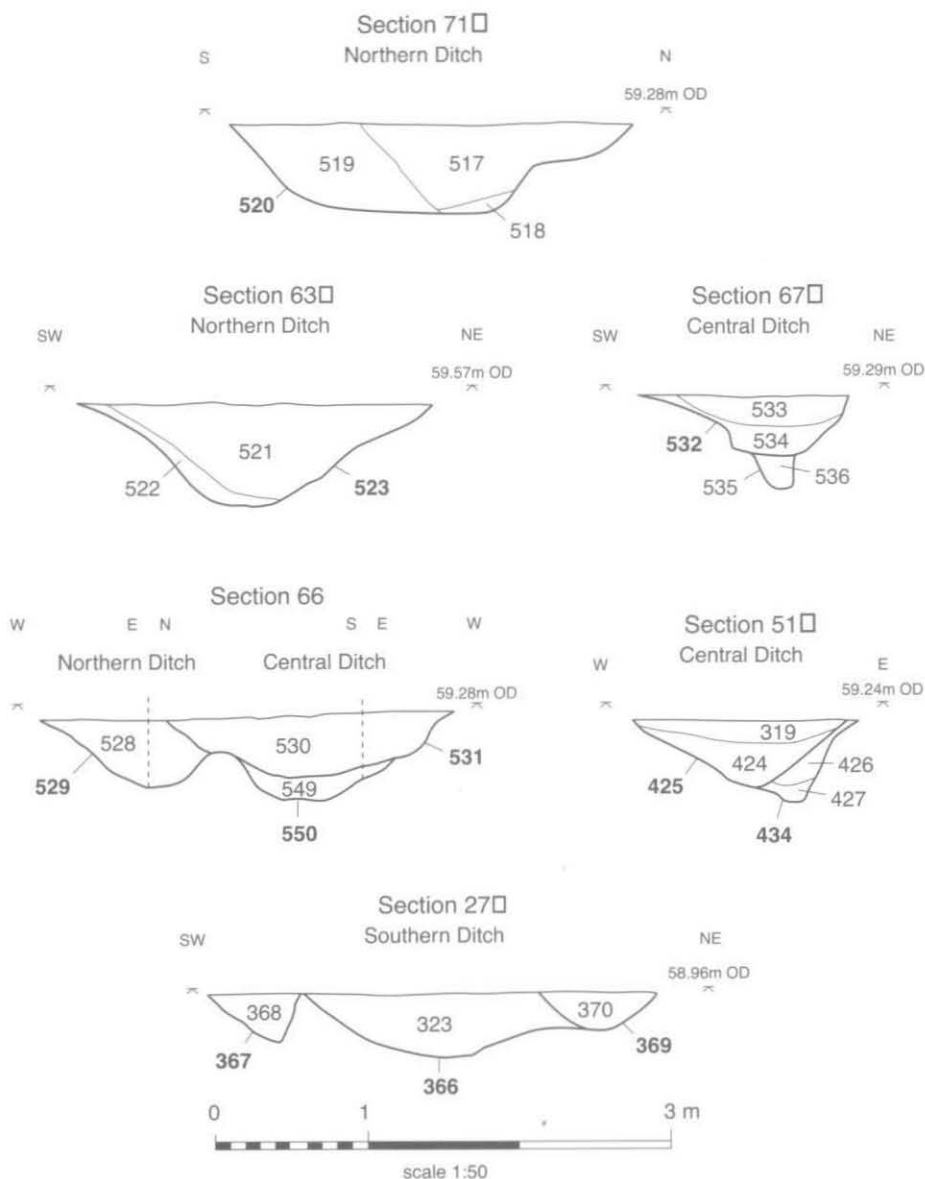


Fig. 4. Phase 3 ditch sections.

There was clear evidence from all but one of the sections cut across the central ditch that it had been recut for most of its length along almost exactly the same line, deviating only slightly at the S. end (Fig. 4, section 51). What remains of the original cut has a slot-like base which may have been intended to hold timbers, although no other trace of them was found. The base of the recut was wider and was distinguished by the presence of a more or less clear step in its W. side (Fig. 4, section 67). A small number of sherds of mid 3rd- or 4th-century date was found in the fill of the original cut and in one of the fills of the recut. However, most of the upper fills of the recut contained very small numbers of probably redeposited sherds dated to between the 1st and 3rd centuries, although most were of 2nd-century date. Some of this pottery may have derived from disturbance of gully 378=421.

A short section of a further ditch 366 (the southern ditch), which from its size may also have been an enclosure boundary, was found running across the S. corner of the excavation. The alignment of this ditch, however, differed from that of all of the other boundary ditches, and although it seems to have been roughly contemporary with the late Roman ditches, its relationship with them is unclear. A reasonably large assemblage of pottery, possibly of 3rd-century date, but more probably of 4th-century date, was found in the single layer of fill (323; Fig. 4, section 27).

The N. side of ditch 366 was cut by pit 369, which contained no artefacts and can be dated only by its stratigraphic relationship with the ditch (Fig. 5). Another pit or posthole (367), again undated, lay on the opposite side of the ditch, immediately adjacent to it, but not cutting its edge. Despite their opposed locations, because of chronological uncertainties, no relationship between these two pits can be established. They may have belonged to the row of postholes which ran along the line of the Civil War ditch and may thus have been much later in date (see below Phase 4).

The northern ditch (510, 521, 513, etc) ran from the NE. edge of the excavation in a straight line to the SW. for 22 m. before turning at right angles to the NW. and running for 18 m. to the NW. edge of the trench. Two stratigraphic recuts (504 and 508) were visible in section 61 (Fig. 3), and one (between 519 and 518) in section 71 (Fig. 4). The sides of the ditch generally sloped gently to a rounded base, though the recuts in section 61 had less regular, steeper sides and the base of the ditch was flatter along the NE.-SW. stretch of the ditch. There was also a distinct step on the N. side of the ditch in section 71 (Fig. 4). The ditch was shallow being only 0.5 to 0.7 m. deep. For most of its length ditch 510 measured 2.2 to 2.6 m. in width, but widened to 4 m. in section 61.

Pottery of late 3rd- or 4th-century date was recovered from fill 503 in the original cut and from fill 518 in the recut in sections 61 and 71. Pottery of similar date was found in fills 521 and 522 (Fig. 4, section 63) and 511=514 and 512 in sections where there was no sign of recutting. The largest assemblages of pottery found in the excavations were recovered from contexts 511=514 and 517 (Fig. 4, section 71). A coin dated AD 341-346 was also found in layer 511. Small numbers of sherds of late 1st- or 2nd-century date were found in both the upper fill (509) of the first cut and one of the fills (506) of the second recut at the E. end of the ditch where it cut the eastern ditch (Fig. 3, section 61). These sherds may have become redeposited as a result of disturbance of the fill of the eastern ditch. A fragment of oyster shell was also found in an upper fill (511) of the ditch. The deposits filling the ditch varied along its length. Its W. arm was filled with orange-brown sandy silts containing a little gravel, the corner section by brown and grey silty clays, and the E. end by a series of orange, yellow and grey sandy clays, some of which were distinctly gravelly.

The central ditch (419, 425, 434) ran from the corner of ditch 510, which it just cut, in a roughly straight line for 24 m. to the SE. edge of the excavation. It was shallow with a depth of 0.4 to 0.5 m., though the most northerly portion was 0.62 m. deep (Fig. 4, section 67). It was narrower than the other enclosure ditches, measuring 1.0-1.4 m. in width. Recuts were clearly evident (Fig. 4, sections 67 and 51). Context 427 the primary fill, and context 424 in the recut, both contained sherds of mid 3rd- or 4th-century date (Fig. 4, section 51). However, the upper fills of the recut, contexts 319, 417 and 530, contained a few sherds dating from the 1st to 3rd centuries which were residual and may have derived from disturbance of gully 378=421. Single fragments of oyster shell were also found in layers 417 (the upper fill of the recut) and 427 (the primary fill). A flint blade and a flake, possibly Neolithic, were also found in layer 319, and a rejuvenation flake in layer 424. The ditch was filled with varying reddish or yellowish clayey silts with small amounts of gravel.

The southern ditch (366) ran for 10 m., on a broadly E.-W. alignment across the S. corner of the excavation. It was shallow, being only 0.38 m. deep, but it was 1.7 to 2 m. wide (Fig. 4, section 27). It had a single fill of yellow brown clay loam.

The Late Roman Structure (Figs. 2, 5 and 6) Three gullies (328, 371 and 327) in the SE. corner of the excavation lay in relative positions analogous to those of some of the earliest Phase 2 gullies (see above), and like the earlier gullies were on an alignment slightly different from the larger boundary ditches. Together these gullies enclosed an approximately rectangular space measuring 12 m. by 7 m. overall. A series of wide, shallow postholes (330, 332, 334, 337, 339, 353, 355, 373 and 387) formed the fourth side of this rectangle, between the S. ends of gullies 371 and 327, and parallel to the third gully 328, which lay 6 m. to the N.

The presence of two postholes (326 and 342) cut from the base of gully 328 suggests that the gully was a foundation trench for the NW. wall of the structure, rather than a drip gully (Fig. 6, sections 2 and 12). No corresponding postholes were found in gullies 371 and 327, however, and their function is less clear. Due to the substantial truncation of features on the site the gap between gullies 328 and 371 now appears greater than it would have originally been. Three nails were found within gully 371, the only other Roman nail from the site coming from the earlier gully (378=421) which lies on the same alignment.

The exact line of the SE. wall formed by the postholes is unclear. Two postholes (330 and 332) near the S. corner of the structure lay slightly further S. than the alignment of other postholes, albeit parallel to it. It is possible that these two postholes formed a porch over the entrance to the building. At the other end of the

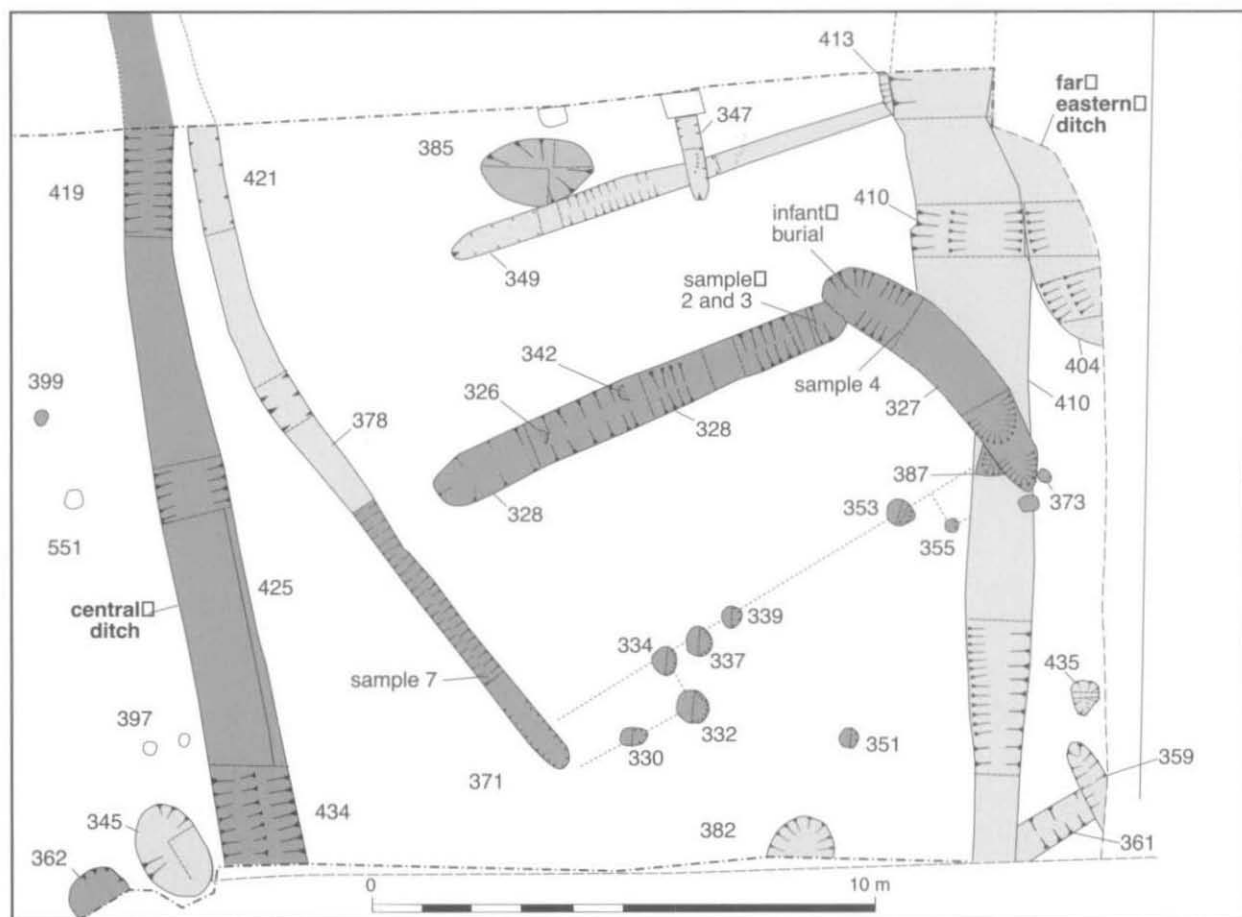


Fig. 5. Plan of Phase 3 structure.

building the line of postholes may have continued in a straight line, running from posthole 353 to posthole 387. There were however two further postholes (355 and 373) which, like postholes 330 and 332, lay slightly to the S. of the line of the other postholes and may have formed a feature matching that formed by postholes 330 and 332 at the other end. The fact that the evidence for the SE. wall has survived only as postholes suggests that its construction differed from that of the other walls and that it may have been left partially open.

Pottery was recovered from all of the gullies but from only one of the postholes. Large assemblages of 3rd- or 4th-century date were found in the fill of gully 371 and in the upper fills of gullies 327 and 328. Three coins, probably dating from the 4th century, were found in gully 371, and another coin of the same date from gully 328 (see below 'Coins'). Smaller numbers of sherds in the primary fill of gullies 327 and 328 are dated to the 2nd century, or later, and to the 4th century respectively. A single sherd of 2nd-century or later date in feature 334 was the only pottery recovered from the postholes.

Substantial samples of charred plant remains, consisting primarily of spelt or emmer and barley grains were recovered from both fills of gully 328 and from the upper fill of gully 327. Notable quantities of peas were also recovered from gully 371 (see below Pelling, 'Charred plant remains'). The partial remains of a neonate were also recovered from the upper fill of gully 327 (see below Boyle, 'Human skeletal remains').

Gully 328 was 9 m. long and aligned NE.-SW. It was wide and shallow: 0.3 m. deep and 0.95 m. wide (Fig. 6, sections 2 and 12). It had two fills, the lower a yellowish brown sandy clay with charcoal flecks (335) and the upper a dark brown sandy silt (314). A large assemblage of probably 4th-century pottery, and a possible 4th-century coin (see below 'Coins') were found in the upper fill 314, and one 2nd-century or later sherd in the primary fill 335. Samples of charred plant remains were recovered from the same contexts, and a fragment of oyster shell from the upper fill (314). A fragment of bone inlay, with simple incised ring and dot decoration (Fig. 11; see below 'Miscellaneous finds') and two pieces of iron strip or sheet were found in the same context. Towards its SW. end, there was evidence for two postholes (326 and 342) possibly cut into its base. They were filled with the same dark brown sandy clay as the gully and no traces of either the postholes, or postpipes, were found in the fill of the gully above them. Posthole 326 had a diameter of 0.30 m. but was only 0.07 m. deep, and posthole 342 had a diameter of 0.20 to 0.26 m. and a depth of only 0.10 m. (Fig. 6, sections 2 and 12). The NE. end of gully 328 was cut by gully 327.

Gully 327, a slightly curved shallow gully c. 5 m. long, was aligned approximately E-W. It was 0.30 m. deep and 1.30 m. wide (Fig. 6 section 54). Its primary fill was a dark brown gravelly clay silt (405), overlain by a dark brown silty loam (313). Pottery of 3rd- or 4th-century date was recovered from both fills, which also contained charcoal. Charred plant remains (see below Pelling, 'Charred plant remains') and the remains of a skeleton of a child (neonate) were recovered from the upper fill, 313 (see below Boyle, 'Human skeletal remains'). A piece of an iron bar was found in the same context.

Gully 371, a shallow gully 6 m. long was aligned NW.-SE. This gully cuts the end off, and appears to extend the line of the early gully 378=421. It measured 0.18 m. deep and 0.55 m. wide (Fig. 6, section 28). The finds from the single fill (320) included 3rd- or 4th-century pottery, three coins probably also dating from the 4th century (see below 'Coins') and a sample of charred plant remains consisting largely of peas (see below Pelling, 'Charred plant remains'). Three iron nails and a possibly Neolithic flint flake were also found in the gully.

Postholes 330, 332, 334, 337, 339, 353, 355, 373 and 387. These measured between 0.30 m. and 0.82 m. wide, but were only between 0.04 m. and 0.23 m. deep (Fig. 6, sections 7-11, 22-3, 30). They varied in shape, having flat, undulating or concave bases and steep, gently sloping or irregular sides. They were all filled with gravelly brown clay silt. A single sherd of pottery dating to the 2nd century or later was found in context 333, the only fill of posthole 334.

Pits, Postholes and Tree Holes. Only pit 362 can be assigned to phase 3. It was the only pit on the site to be preserved to any depth, and was 0.77 m. deep and 1.24 m. wide. Its irregular sides were slightly undercut and the section suggests that it had been recut (Fig. 7, section 31). Its lower fills were yellow silty sand (376 and 375) and its upper fills grey and orange brown clay silt (363 and 374). It produced three sherds of late 3rd- or 4th-century date.

A single posthole 399 just W. of the central ditch is assigned to this phase on the basis of a single potsherd. The posthole was only 0.06 m. deep and c. 0.30 m. wide. It was filled with dark brown sandy silt.

A small irregular feature (435), probably a tree hole, found near the SE. corner of the excavation was filled with greyish brown silty clay fill (436) and contained a larger assemblage of pottery of late 3rd- or 4th-century date, and a fragment of oyster shell.

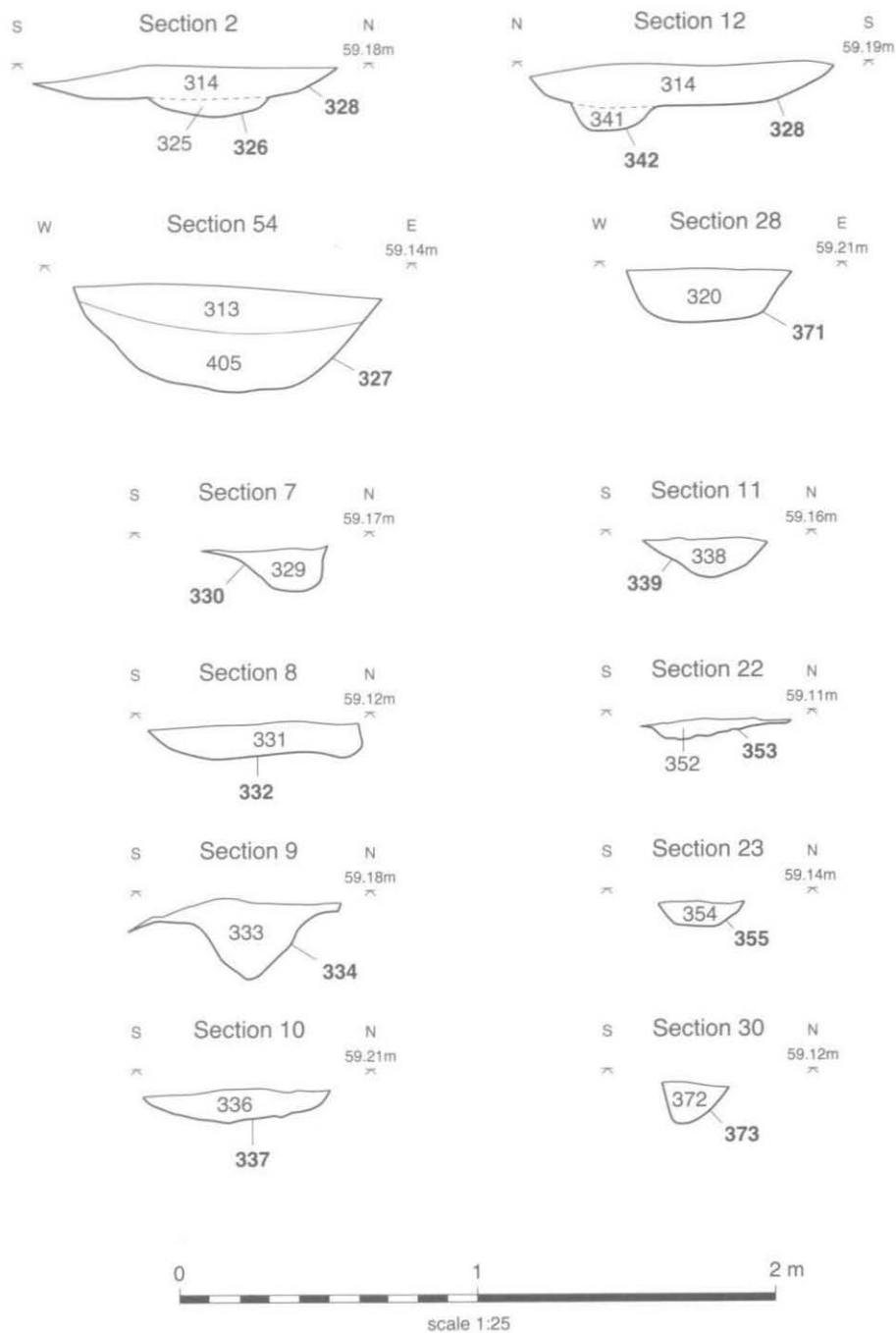


Fig. 6. Phase 3 structure and related feature sections.

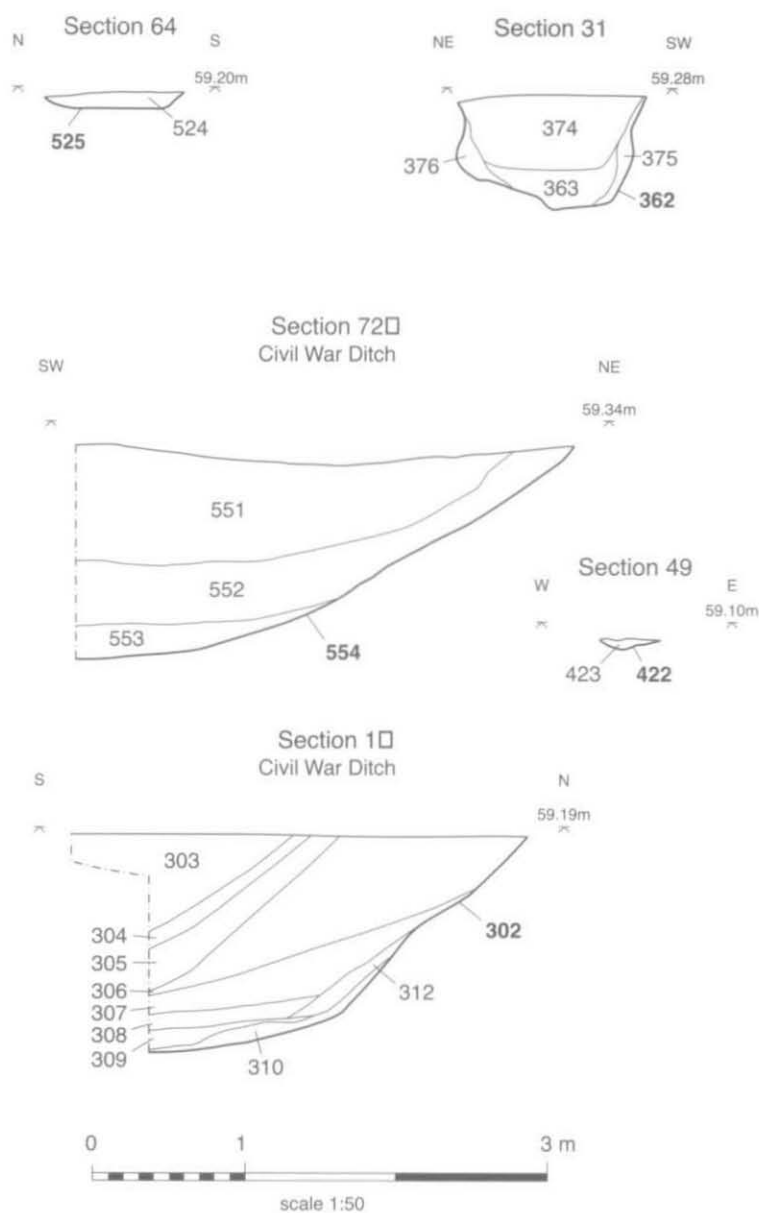
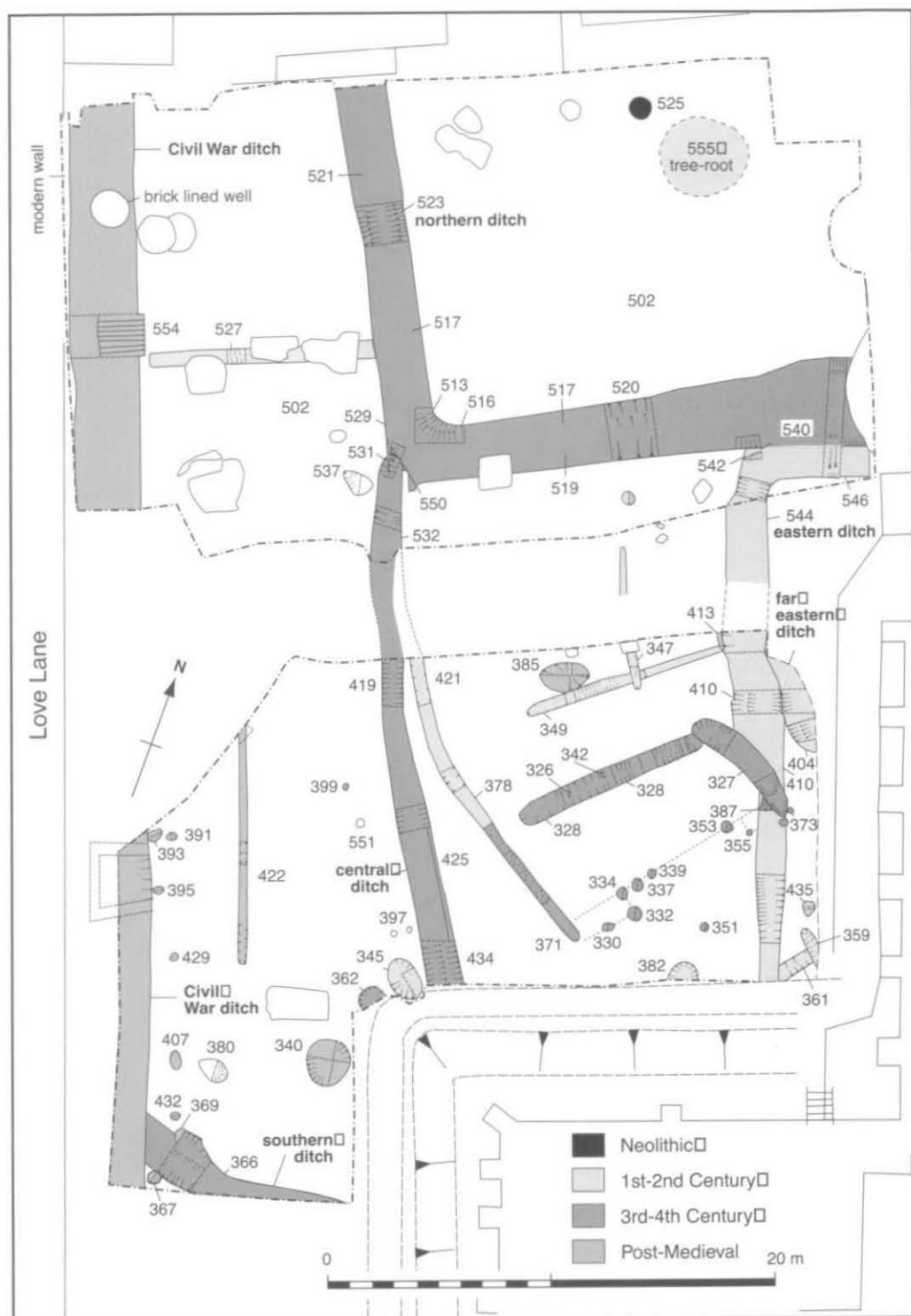


Fig. 7. Phase 3 pit sections and Phase 4 Civil War ditch sections.



Phase 4: The post-medieval period

The most significant post-medieval feature is the Civil War ditch. A line of postholes, and a shallow gully 422, running parallel to this ditch may have been associated with it. Two pits (340 and 385) were found which also contained finds of post-medieval date.

The Civil War Ditch and Associated Features (Figs. 7 and 8). The Civil War ditch ran the whole length of the SW. side of the excavation, but only the E. side of the ditch lay within the excavated area, and its full dimensions are not known. The ditch survived to a width of 3.4 m., which was perhaps half its original width, and to a depth of 1.4 m., in the section in the northern excavation trench (Fig. 7, section 72), while in section 1 in the southern trench (Fig. 7), the ditch was 3.2 m. wide and 1.5 m. deep. The sides of the ditch were irregular, and the base appears to have been flat.

Two further sets of features may have been associated with the Civil War ditch. A shallow gully 422, which was 0.06 m. deep and 0.40 m. wide (Fig. 7, section 49) was located 4 m. E. of the Civil War ditch. It ran parallel to it for at least 10 m. It is primarily its location and alignment which suggests that it was related in some way to the Civil War ditch, although two small sherds of late medieval or post-medieval pottery were found in the single fill, together with an iron nail.

Also possibly associated with the Civil War ditch was a line of postholes (391, 393, 395, 429, 407, 432) which perhaps also included postholes 367 and 369 already discussed above in relation to the southern ditch of phase 3, and which ran along the E. edge of the ditch. Together these features may have formed a further defensive barrier along this side of the ditch. They were not in a completely straight line, and not all of them need have been associated directly with the Civil War ditch.

Civil War ditch. The N. section (Fig. 7, section 72) across the Civil War ditch contained only three layers of fill, the uppermost (551) contained pottery probably dating from the 18th century or later. The primary fill was blue grey clay (553), the middle fill orange brown sandy silt (552) and the upper fill grey brown silt (551). In the S. section the sequence of filling appears to have been slightly more complex (Fig. 7, section 1). The lowest four layers of fill, which comprised grey, yellow and brown sandy clays (310, 309, 312 and 308), appear to have resulted from silting of the ditch, but the upper five layers, which comprised all light or dark brown sandy silts (307, 306, 305, 304, 303), seem to have been the result of deliberate backfilling. Pottery of 18th-century or later date was found in layer 308 and material probably of 18th- or 19th-century date came from the upper fill 303. Fragments of clay pipe stem were also recovered from fill 308.

Postholes 391, 393, 395, 429, 407, 432, 367 and 369. In size these features fall into two rough groups. Three (429, 395 and 432) measured around 0.45 m. in width, whilst a further four (367, 369, 393 and 407) measured between 0.60 and 0.77 m. in width. Only posthole 391, measuring 0.51 m. wide fell between these sizes. One of the larger features (407) was rather irregular and may have been a tree hole. None was very deep, their depths varied between 0.14 m. and 0.30 m. All but two of these features were filled with brown sandy silt. The exceptions were features 367 and 369 which were filled with greyish brown clay loams and may have been associated with the phase 3 southern ditch 366 rather than the Civil War ditch. A few sherds of medieval pottery were found in posthole 432, and single probably redeposited sherds of 1st- or 2nd-century date were found in postholes 407 and 429. A fragment of post-medieval glass was found in the fill (392) of posthole 393.

Other Medieval and Post-Medieval Features. Two pits, 340 and 385, also contained finds which suggest that they were of very late date. Pit 340, a shallow pit 0.26 m. deep but nearly 2 m. wide, near the S. corner of the excavation contained four sherds of 14th-century pottery, two fragments of oyster shell, a piece of iron rod or wire, and an iron strip (all in context 315). It was filled with a grey brown silty clay. Pit 385, a pit of similar dimensions near the N. edge of the S. excavation, cuts the edge of one of the early Roman gullies and appears also to be of very late date. Its fill was of yellowish-brown silty clay.

COINS

Five Roman coins were recovered from the excavation. Only one of these was identifiable, an AE3 VICTORIAE DDAVGGQNN type dated AD 341-346. This piece, possibly an imitation, was from fill 511 of the northern ditch (510, 521, etc.). The remaining coins were all very heavily encrusted and corroded but their general character would be consistent with a 4th-century date. They were a possible AE3 from fill 314 of gully 328, and three smaller coins found close together in fill 320 of ditch 371. These coins were c. 6, 7 and 10 mm. in diameter and perhaps, on the basis of their small size, could have been imitation issues of the period c. 350-365. Such a date would not be completely inconsistent with that of the pottery, but this interpretation is speculative.

A copper farthing of Charles II came from topsoil layer 300. This is assignable to the 1670s, though only the '7' of the date is legible.

IRONWORK by IAN R. SCOTT

The ironwork assemblage is very small and consists of 11 objects: two pieces from late 1st- to 2nd-century contexts (Phase 2), six pieces from late 3rd- to 4th-century contexts (Phase 3) and three pieces from medieval or post-medieval contexts (Phase 4). The eight pieces from Roman contexts include four nails.

The finds from 2nd-century (Phase 2) contexts comprise a nail from the fill (377) of gully 378, and a heavily encrusted strip or sheet fragment from the fill (379) of pit 382. The Phase 3 finds include material from 4th-century fills: three nails from fill 320 of ditch 311, a fragment of a corner binding, or possibly part of a lock case (sf 4) and a fragment of strip (sf 3) (both context 314, gully 328), and a small fragment of bar (context 313, gully 327).

The three pieces from medieval or post-medieval contexts (Phase 4) comprise a nail (fill 423, gully 422), a length of thin rod, or wire, flattened into an irregular flange at one end, and a fragment of strip (both context 315, pit 340).

ROMAN POTTERY

Introduction

Some 739 sherds of Roman pottery (14.306 kg., 14.42 REs) were recovered. The majority of the assemblage is of late Roman date, though a late 1st- to 2nd-century component is also present. The material was recorded using the established OAU recording system for Iron Age and Roman pottery. Sherds were examined by context and recorded by fabric, with details of form and decoration noted where these could be determined and other characteristics recorded as necessary. Quantification was by sherd count and weight, with quantification of vessels by rim count and REs (vessel rim equivalents, based on the measurement of the percentage of rim circumference present).

The pottery is generally in good condition, with a high average sherd weight (19.4 g.) and reasonable preservation of sherd surfaces. Sooting, indicative of vessel use, survived in some cases.

Fabrics

The pottery was divided initially into major ware groups, defined on the basis of significant common characteristics.¹ Sherds were then assigned either to the principal subdivisions of the ware groups or to individual fabrics/wares. Identification of fabrics was mostly by eye, with use of the x20 binocular microscope where necessary. The fabrics present are listed below with summary descriptions or common names and reference to published descriptions. Fuller descriptions can be found in the project archive.

S20. South Gaulish samian ware.

S30. Central Gaulish samian ware.

F51. Oxford red brown colour-coated ware.²

F52. Nene Valley colour-coated ware.

OF. Probable Oxford colour-coated ware (surfaces eroded).

A17. Buff sandy South Spanish ?fish sauce amphora.

M22. Oxford white ware mortarium.³

M31. Oxford white-slipped mortarium fabric.⁴

M41. Oxford red brown colour-coated mortarium fabric (fabric as F51).

W10. Fine white fabrics.

W11. Oxford parchment ware.⁵

W12. Oxford fine white fabric.⁶

¹ For a more detailed account of this aspect of the recording system see P. Booth, A. Boyle and G.D. Keevill, 'A Romano-British Kiln Site at Lower Farm, Nuneham Courtenay, and other Sites on the Didcot to Oxford and Wootton to Abingdon Water Mains, Oxfordshire', *Oxoniensia*, lviii (1993), 135-6.

² C.J. Young, *Oxfordshire Roman Pottery* (BAR Brit. Ser. 43, 1977), 123 (hereafter 'Young').

³ Young, 56.

⁴ Young, 117.

⁵ Young, 81.

⁶ Young, 93, fabric 1.

- W20. Oxford sandy white fabrics.⁷
 W23. Oxford burnt white ware.⁸
 O10. Fine sandy oxidised 'coarse' wares.⁹
 O20. Sandy oxidised coarse wares.¹⁰
 O60. Calcareous tempered oxidised fabrics.
 O80. Very coarse (usually grog-) tempered oxidised fabrics.
 O81. Pink grogged ware.¹¹
 R10. Fine sandy reduced 'coarse' wares.¹²
 R11. Very fine reduced ware.¹³
 R20. Sandy reduced coarse wares.¹⁴
 R21. Oxford sandy reduced coarse ware.¹⁵
 R30. Medium sandy reduced coarse wares.¹⁶
 R37. Fine abundantly sand-tempered fabric.¹⁷
 R38. As R37 with additional grog inclusions.¹⁸
 R90. Very coarse (usually grog) tempered reduced fabrics.¹⁹
 R95. Savernake ware.²⁰
 B11. Black-burnished ware (Dorset BB1).
 B30. Generally wheel-thrown black-burnished type fabrics.
 C10. Shell-tempered fabrics.
 C11. Shell-tempered fabrics, including Harrold products.²¹

The quantification of the pottery by fabric is given in Table 1.

The range of fabrics is generally unremarkable, the pottery coming largely either from local (principally Oxford) sources or from industries which are well established as suppliers to the region. Products of the latter are Nene Valley colour-coated ware (fabric F52), Pink Grogged Ware, from Buckinghamshire (fabric O81), Dorset black-burnished ware (fabric B11) and Harrold (Bedfordshire) late Roman shell-tempered ware (fabric C11, though it is possible that not all sherds categorised as C11 were from this source). Of these only fabric C11 occur in reasonable quantities. The only continental imports are small quantities of South and Central Gaulish samian ware and a single sherd of a Spanish fish sauce amphora (fabric A17), the latter a type not previously identified in Oxfordshire. The lack of other fine wares is likely to reflect the late Roman emphasis of the assemblage, in which most fine wares are locally derived.

The assemblage is dominated, as would be expected, by reduced (R) coarse wares, which together total 54.9% of sherds. The great majority of these are of local origin, although fabrics R37 and R38 (together just over 3% of the assemblage) derive from an unlocated industry thought to lie NW. of Oxford. The principal reduced wares are the fabric groups R10 and R30, with fine and moderate sand-tempering respectively. These groups, not always easily separated, are both characteristic of the Oxford industry and show little if any chronological development. Of the other reduced fabrics both groups R11 and R21 (and therefore probably R20, though this is less certain) are more chronologically diagnostic, both being particularly characteristic of

⁷ Young, 93, fabric 2.

⁸ Young, 113.

⁹ Young, 185, fabric 1.

¹⁰ Young, fabric 2.

¹¹ P. Booth and S. Green, 'The Nature and Distribution of Certain Pink, Grog-tempered Vessels', *Jnl. Roman Pottery Studies*, 2 (1989), 77-84.

¹² Young, 202-3, within fabric 3.

¹³ Young, fabric 4.

¹⁴ Young, 202, includes fabric 2 and some of fabric 3.

¹⁵ Young, 202, fabric 2.

¹⁶ Young, fabric 3.

¹⁷ P. Booth, *Asthall, Oxfordshire, Excavations in a Roman 'small town', 1992* (Thames Valley Landscapes Monograph No. 9, OAU, 1997), 114.

¹⁸ Ibid.

¹⁹ Young, 202, fabric 1.

²⁰ V.G. Swan, 'Oare Reconsidered and the Origins of Savernake Ware in Wiltshire', *Britannia*,

vi (1975), 42.

²¹ A. Brown, 'A Romano-British Shell-gritted Pottery and Tile Manufacturing Site at Harrold, Beds.', *Bedfordshire Archaeol.* 21 (1994), 19-107.

the later 1st- to mid 2nd centuries AD. Group R20 fabrics generally contain abundant medium quartz sand grains, but one vessel (Fig. 10, No. 19) is distinctive in containing fewer large sand grains and is probably later in date than the bulk of R20 sherds. Oxidised (O) coarse wares, in contrast to reduced wares, only amount to 5% of sherds and almost half of these are of the non-local fabric O81, from Buckinghamshire. Shell-tempered fabrics C10 and C11 together comprise an unusually high proportion of the total pottery assemblage, occurring consistently at about 12% by all measures except that of rim count, in which they are under-represented.

Despite the importance of reduced coarse wares the combined fine and specialist wares form a fairly substantial proportion of the assemblage, amounting to 25.7% by sherd count and almost 44% in terms of rim equivalents (RE). The non-local element comprises only 8 of the 190 sherds assigned to the fine and specialist ware grouping, the majority of which consist of Oxford colour-coated ware supplemented by mortaria in various fabrics together with a range of white wares. Not all of these (the W10 and W20 fabric groups) are certainly Oxford products but it is at least likely that all were locally produced. The confident identification of fabric W23 (Oxford burnt white ware) is also problematic, particularly as the range of jar types in this fabric is not well-understood (see below). Sherds assigned to the fabric OF category are probably Oxford colour-coated ware but have no surviving slip on their surfaces.

TABLE 1. ROMAN POTTERY: QUANTITIES OF FABRICS

Fabric/Ware	No. sh.	% sh.	Wt. (g.)	% wt.	MV	% MV (No. rims)	REs	% REs
S20	1	0.1	10	0.1	1	0.8	0.15	1.0
S30	5	0.7	39	0.3	4	3.1	0.17	1.2
F51	93	12.6	1651	11.5	21	16.3	2.80	19.4
F52	1	0.1	57	0.4	1	0.8	0.13	0.9
OF	2	0.3	13	0.1	-	-	-	-
A17	1	0.1	57	0.4	-	-	-	-
M22	37	5.0	1548	10.8	15	11.6	1.14	7.9
M31	3	0.4	210	1.5	2	1.6	0.33	2.3
M41	12	1.6	288	2.0	4	3.1	0.33	2.3
W10	2	0.3	7	+	-	-	-	-
W11	6	0.8	211	1.5	5	3.9	0.50	3.5
W12	11	1.5	205	1.4	2	1.6	0.28	1.9
W20	5	0.7	54	0.4	1	0.8	0.14	0.9
W23	11	1.5	157	1.1	3	2.3	0.36	2.5
Fine and specialist ware subtotal	190	25.7	4507	31.5	59	45.7	6.32	43.8
O10	12	1.6	185	1.3	-	-	-	-
O20	2	0.3	22	0.2	1	0.8	0.05	0.3
O60	1	0.1	6	+	-	-	-	-
O80	5	0.7	341	2.4	1	0.8	0.11	0.8
O81	18	2.4	387	2.7	2	1.6	0.22	1.5
R10	136	18.4	2100	14.7	21	16.3	2.33	16.2
R11	3	0.4	40	0.3	-	-	-	-
R20	33	4.5	455	3.2	4	3.1	0.57	4.0
R21	47	6.4	433	3.0	3	2.3	0.21	1.5
R30	151	20.4	3233	22.6	23	17.8	2.31	16.0
R37	20	2.7	304	2.1	4	3.1	0.30	2.1
R38	3	0.4	32	0.2	1	0.8	0.14	1.0
R90	13	1.8	409	2.9	1	0.8	0.04	0.3
B11	7	0.9	56	0.4	2	1.6	0.06	0.4
B30	3	0.4	67	0.5	1	0.8	0.03	0.3
C10	44	6.0	777	5.4	1	0.8	0.69	4.8
C11	51	6.9	952	6.7	5	3.9	1.04	7.2
TOTAL	739		14306		129		14.42	

Vessel types

Some 129 vessels are represented by rim sherds, amounting to 14.42 RE. While the former figure is a guide to approximate vessel numbers the latter measurement is generally considered a more reliable indicator when assessing the relative importance of vessel types. Percentages of vessel types given below are therefore based on the RE figures. Vessel types were recorded in terms of broad classes and (where appropriate) their subdivisions, though Young's type numbers²² are used where possible, and are employed consistently for all colour-coated ware and mortarium types. The principal vessel type class codes are B (jugs and flagons), C (jars), D (indeterminate jars/bowls), E (beakers), F (cups), H (bowls), I (indeterminate bowls/dishes), J (dishes) and K (mortaria). The incidence of these classes in relation to fabric is shown in Table 2.

TABLE 2. ROMAN POTTERY: QUANTIFICATION OF VESSEL CLASSES BY FABRIC;
QUANTIFICATION BY RIM EQUIVALENTS (RE)

Fabric	Vessel Class									Total
	B	C	D	E	F	H	I	J	K	
S20					0.15					0.15
S30					0.05	0.10	0.02			0.17
F51		0.30		0.59		1.85	0.06			2.80
F52								0.13		0.13
M22									1.14	1.14
M31									0.33	0.33
M41									0.33	0.33
W11						0.50				0.50
W12		0.28								0.28
W20			0.13							0.13
W23		0.36								0.36
O20		0.05								0.05
O80		0.11								0.11
O81		0.22								0.22
R10	0.05	2.13	0.15							2.33
R20		0.57								0.57
R21		0.21								0.21
R30		1.66	0.08			0.15	0.12	0.30		2.31
R37		0.08				0.17	0.05			0.30
R38		0.14								0.14
R90		0.04								0.04
B11								0.06		0.06
B30								0.03		0.03
C10		0.69								0.69
C11		1.00						0.04		1.04
Total	0.05	7.84	0.36	0.59	0.20	2.77	0.25	0.56	1.80	14.42
%	0.3	54.2	2.5	4.1	1.4	19.3	1.7	3.9	12.5	

The principal vessel class is jars (C), followed by bowls (H). Mortaria (K) were unusually well-represented, at 12.5% of the assemblage, but all other classes are of minor importance. Flagons/jugs (B) are only represented by a single rim of a spouted jug in fabric R10, and drinking vessels – beakers (E) and cups (F) – are also scarce. Cups are represented solely in samian ware (one South and one Central Gaulish example both of form 33) and their scarcity reflects the late Roman bias of the assemblage as a whole. Beakers occur exclusively in Oxford colour-coated ware. This ware also accounts for the majority of bowls (H), though these vessels are also found in samian (form 37, three joining sherds of a single Central Gaulish vessel being the only decorated

²² Young.

pieces from the entire site, and form 38), in parchment ware (there are five examples of the standard parchment ware carinated bowl Young type P24), and in reduced coarse wares. Dishes (J) are quite scarce, but are found in a variety of coarse wares. This is the only vessel class represented in black-burnished ware, both the Dorset product (fabric B11) and a wheel-thrown imitation (fabric B30), as well as in Nene Valley colour-coated ware. All of these and a single example in fabric C11 are likely to have been of 4th-century date and all are of simple straight-sided ('dog dish') form.

Jars occur in a wide range of fabrics, including colour-coated and white wares as well as oxidised and reduced coarse wares and the shell-tempered fabrics C10 and C11. In a number of these fabrics, jars are the only vessel class represented by rims. The white ware jars include an example of Young's type W34 in fabric W12 with a further example of this type apparently in burnt white ware (fabric W23). It is not entirely clear if this is simply an accidentally burnt vessel in the standard white ware fabric W12. However, a Young vessel type BW2 was also noted in fabric W23.

Specific Oxford colour-coated ware and mortarium types present (with numbers of rims in brackets) are: C18, C23 (body sherds only), C41, C45(2), C46, C51(7), C54, C68, C75, C77, C78, C97, C100(3), M17(2), M19, M22(12) and WC7(2). The Oxford colour-coated ware range also includes a previously unrecorded globular beaker type (Fig. 9, No. 6 below).

Phasing and chronology

The majority of the pottery assemblage derived from features assigned to the late Roman phase (Phase 3). Although both Phases 2 (early Roman) and 3 were subdivided initially for the purposes of describing the site sequence the resulting pottery groups are insufficiently large to produce meaningful data and are grouped together here to present a broad picture of the development of the assemblage. The Phase 4 (post-Roman) group is also small and is included here only for completeness. The numbers of vessels represented by rim sherds in Phase 2 is also too small for distinctions between this and the Phase 3 group to be meaningful, so the discussion of chronology is based largely on the fabrics (Table 3).

The early Roman Phase 2 is dated only by the pottery. The only significant groups assignable to this phase, from contexts 343 and 408, are both dated to the late 1st to mid 2nd centuries. Other context groups in this phase were mostly from small discrete features and are assigned to it solely on the basis of their finds. In each case they have a *terminus post quem* of the 2nd century. Some of these features could have been of later Roman date with either residual or chronologically undiagnostic material. Understanding of the broad development of the assemblage is not affected by this uncertainty, however.

The Phase 2 assemblage is dominated by reduced coarse wares, which amounts to 85.5% of the total sherds assigned to this phase. The coarse sandy fabric R21 was particularly important at this time, while other fabrics are individually insignificant. Fine and specialist wares, totalling 4.5% of sherds, consist of a single sherd of South Gaulish samian ware together with Oxford white wares, including one mortarium sherd. Black-burnished (B11) and shell-tempered (C10) wares are present. The latter was presumably a local product and is seen in some quantities at sites such as Yarnton at this time, but in fabric is not readily distinguished from similar, later, Roman wares. Fabric O81, like B11 and C10, is more common in Phase 3 and it is possible that pit 345, from which the single O81 sherd came, is of late Roman date rather than of Phase 2, but this need not necessarily have been the case. Only nine rim sherds are present in this phase group; one of samian form 33 and the rest jars.

In Phase 3, reduced coarse wares, while still the dominant ware class, declined to exactly 50% of the assemblage, while corresponding increases in importance are seen in shell-tempered wares (almost 15% of the group by sherd count) and fine and specialist wares (now 28.8%), the latter dominated by the range of Oxford products. The presence of these last is the defining characteristic in identification of groups of this phase, which are therefore dated after c. AD 240, the generally accepted date for the introduction of Oxford colour-coated ware and a number of distinctive forms in other wares. The balance of Oxford form types present (particularly C51 rather than C45, M22 rather than M17 and M18, and C100 rather than C97) suggests that many of the groups containing these vessels can be assigned to the 4th century rather than the second half of the 3rd, though it is unclear how late the latest groups may have been. The principal early Phase 3 ditch group, associated with a coin of AD 341-6, should belong to the second half of the 4th century, but groups assigned to the subsequent stages of Phase 3 need not have been much later in date.

The potential emphasis on 4th-century rather than late 3rd-century activity underlines the lack of material which can be assigned to the second half of the 2nd century and the first half of the 3rd. The total assemblage may be too small to demonstrate a complete hiatus in activity at this time, but the evidence certainly hints at this. Characteristic Antonine forms are for the most part very clearly absent. The obvious exception to this, a few Central Gaulish samian sherds, occurred in Phase 3 and later contexts, and such material is indeed characteristic of late Roman rural assemblages, where it seems to have remained in use for very long periods after its manufacture, and need not necessarily indicate contemporaneous settlement.

TABLE 3. ROMAN POTTERY: FABRICS BY PERIOD (QUANTIFICATION BY SHERD COUNT)

Ware	Phase 2		Phase 3		Phase 4		TOTAL	
	No.	sh. % sh.	No.	sh. % sh.	No.	sh. % sh.	No.	sh. % sh.
S20	1	0.9	-	-	-	-	1	0.1
S30	-	-	3	0.5	2	14.3	5	0.7
F51	-	-	91	14.8	2	14.3	93	12.6
F52	-	-	1	0.2	-	-	1	0.1
OF	-	-	2	0.3	-	-	2	0.3
A17	-	-	1	0.2	-	-	1	0.1
M22	1	0.9	36	5.9	-	-	37	5.0
M31	-	-	2	0.3	1	7.1	3	0.4
M41	-	-	10	1.6	2	14.3	12	1.6
W10	-	-	2	0.3	-	-	2	0.3
W11	-	-	6	1.0	-	-	6	0.8
W12	3	2.7	8	1.3	-	-	11	1.5
W20	-	-	4	0.7	1	7.1	5	0.7
W23	-	-	11	1.8	-	-	11	1.5
Fine and specialist ware subtotal	5	4.5	177	28.8	8	57.1	190	25.7
O10	2	1.8	9	1.5	1	7.1	12	1.6
O20	1	0.9	1	0.2	-	-	2	0.3
O60	1	0.9	-	-	-	-	1	0.1
O80	1	0.9	4	0.7	-	-	5	0.7
O81	1	0.9	17	2.8	-	-	18	2.4
R10	23	20.9	113	18.4	-	-	136	18.4
R11	-	-	3	0.5	-	-	3	0.4
R20	4	3.6	29	4.7	-	-	33	4.5
R21	44	40.0	3	0.5	-	-	47	6.4
R30	15	13.6	133	21.6	3	21.4	151	20.4
R37	6	5.4	13	2.1	1	7.1	20	2.7
R38	-	-	3	0.5	-	-	3	0.4
R90	2	1.8	10	1.6	1	7.1	13	1.8
B11	1	0.9	6	0.9	-	-	7	0.9
B30	-	-	3	0.5	-	-	3	0.4
C10	4	3.6	40	6.5	-	-	44	6.0
C11	-	-	51	8.3	-	-	51	6.9
TOTAL	110	(14.9)	615	(83.2)	14	(1.9)	739	

Discussion

The pottery assemblage conforms generally to fairly well-established regional norms, but it is of interest as almost the only group from Oxford which is not closely associated with one of the component sites of the pottery industry. As would be expected, products of the latter dominate, but do not completely exclude the use of pottery from other sources. These tend to be the industries most frequently represented in the region; the only unusual occurrence being that of the single sherd of Spanish fish sauce amphora.

One of the most striking aspects of the assemblage is the clear contrast between the character of the two main phase groups, and the implications that this has for the chronology of the site. Both the fabric and (as far as can be seen) the form composition of the Phase 2 group are typical of assemblages of mid/late 1st- to mid 2nd-century date in the region. Equally the Phase 3 group appears characteristic of later assemblages, although the representation of Oxford colour-coated ware is unusually high. This is probably explained by the proximity of the site to the relevant source(s). There is no indication of any intermediate chronological grouping, however. Such groups, of later 2nd- or early-mid 3rd-century date, would be expected to show a gradual move away from dominance by reduced coarse wares and by jar forms, and the absence of any such evidence is one of the clearest pointers to a potential break in the occupation sequence on the site at this time.

The high representation of Oxford colour-coated ware might also indicate that the life of the site extended to the end of the 4th century, since there is a tendency in the area for the proportion of colour-coated wares to increase in the latest Roman groups. The presence of Nene Valley and shell-tempered ware dishes would be consistent with such late dating as both, but particularly the latter, are much more typical of the second half of the 4th century than the first. Site status is a further factor which could have had a bearing on the level of fine and specialist wares.²³ The relatively high representation of these wares in Phase 3 (28.8% of sherds) exceeds that in all other recently recorded late Roman groups in the region except that from Beech House Hotel, Dorchester.²⁴ However, the absence of other indications that the Mansfield College site was of high status might indicate that the overriding factor in determining the frequency of the relevant wares was simply proximity to the source. Had the site been located further from Oxford, the high figures for fine and specialist wares would suggest that it be grouped in status with small towns and villas rather than with farms.

The pottery does not shed any particular light upon other aspects of the site such as its function. The one unusual aspect of the assemblage in this respect is the quite abnormally high representation of mortaria (see above), particularly in terms of REs (12.5%). Even in sherd count, however, the representation of mortaria (7%) was well above the norm, which is usually in a range from 1-2.5% for late Roman sites in the region. As with other aspects of the assemblage, the presence of nearby sources seems the most likely explanation of this phenomenon. It may be, however, that the overloading of the assemblage with mortaria means that the use of some of these vessels was non-standard, and the employment of some of them simply as bowls or dishes might be suggested, though there is no direct evidence for this.

Catalogue of illustrated vessels (Figs. 9 and 10)

The catalogued vessels are in Phase order (with the context number given immediately after the description of the illustrated vessel), though only one piece from Phase 2 was worth illustration. The Phase 3 vessels are presented in groups of related contexts, arranged in ware and vessel type sequence as in the tables above. Some good examples of well-known Oxford types have been included here as demonstrating the range of material present. Type numbers with C, P, R or W prefixes (e.g. C46) are forms in Young's 1977 corpus of Oxfordshire pottery.²⁵

Phase 2

1. Fabric R10 type CD medium mouthed jar. Context 343.

Early Phase 3

2. Fabric W11 type P24 carinated bowl with red painted decoration. Context 512.
3. Fabric R10 type C jar. Context 512.
4. Fabric R10 type CD medium mouthed jar. Context 512.
5. Fabric R37 type HB flanged bowl. Context 512.

This group should date at least to the later 3rd century on the basis of No. 5, which is an unusually late type for fabric R37. This fabric seems to have declined in importance in the later 3rd century. Type P24 (No. 2) is more common in 4th-century contexts than earlier, but given the proximity of the site to the source a late 3rd-century date would be possible.

6. Fabric F51 type ED squat globular beaker with simple slightly beaded rim. Context 514. This form is not paralleled in Young's corpus.
7. Fabric F51 type C41 bowl. Context 517.
8. Fabric F51 type C46 bowl. Context 514.
9. Fabric F51 type C77 rounded bowl. Context 514.
10. Fabric F51 type C78 bowl. Context 514.
11. Fabric M31 type WC7 mortarium. Context 511.
12. Fabric W12 type W34 jar. Context 514.

²³ P. Booth, 'Inter Site Comparisons between Pottery Assemblages in Roman Warwickshire: ceramic indicators of social status', *Jnl. Roman Pottery Studies*, 4 (1991), 1-10; P. Booth, 'Quantifying Status: some data from the Upper Thames Valley', *Jnl. Roman Pottery Studies*, forthcoming.

²⁴ P. Booth, op. cit. note 23. The data derive from T. Rowley and L. Brown, 'Excavations at Beech House Hotel, Dorchester-on-Thames 1972', *Oxoniensia*, xli (1981), 1-55.

²⁵ Young.

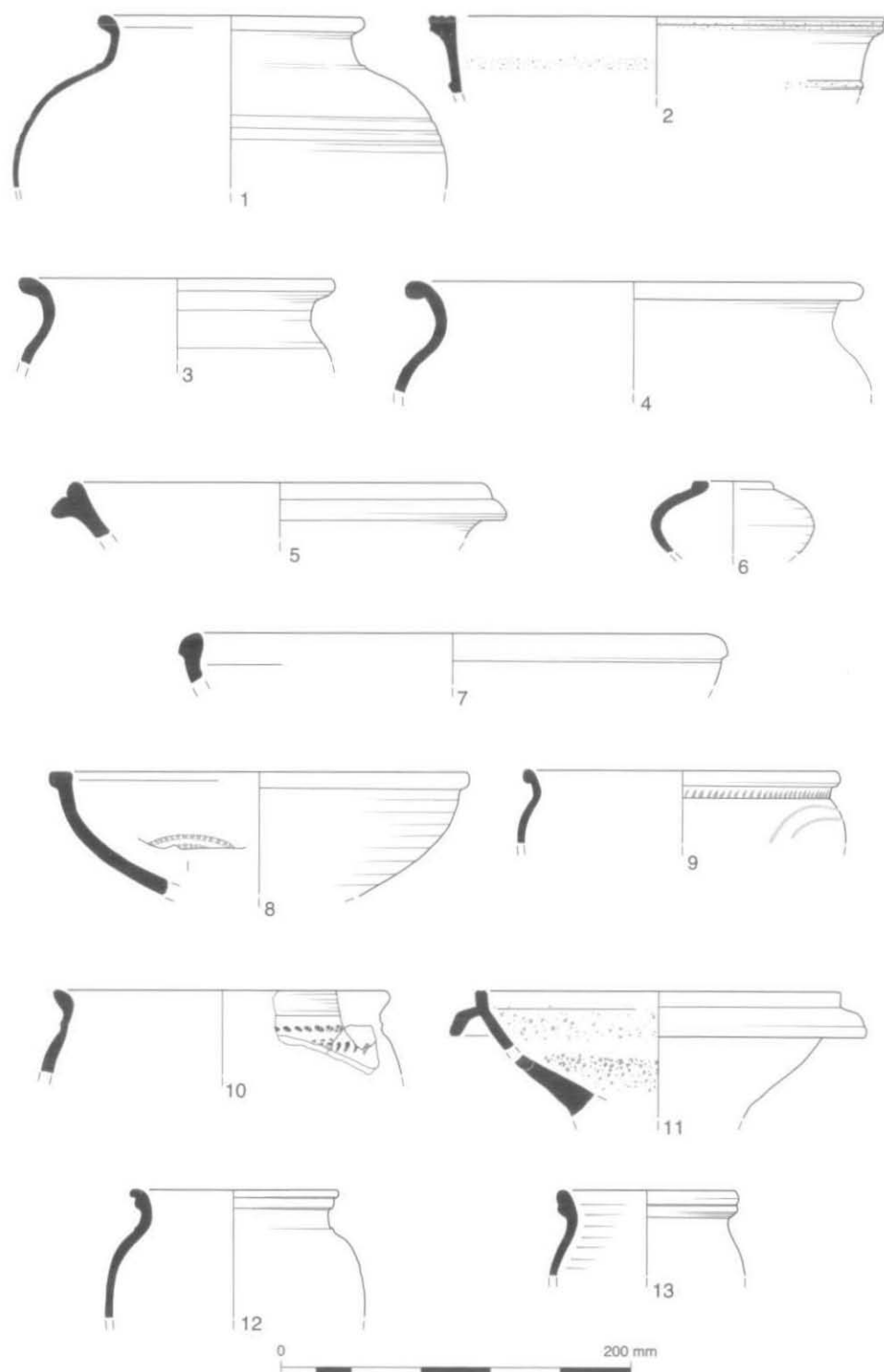


Fig. 9. Roman pottery nos. 1-13.

13. Fabric W23 type W34 jar. Context 514.

14. Fabric R30 type R24 jar. Context 514.

15. Fabric R10 body sherd decorated with band of rouletting and widely-spaced vertical lines of impressions. These may have been produced by a comb-type stamp such as those used on colour-coated wares²⁶ but the impressions in the two extant lines are not sufficiently similar to prove that they derive from the same stamp. The sherd could be either from a beaker or a bowl (e.g. comparable to Young type C73), though the latter seems more likely. Context 511.

16. Fabric B30 type JA dish. Context 511.

17. Fabric C11 type CK 'cooking pot type' jar. Contexts 511 & 514.

This group contains colour-coated ware types dated by Young after AD 340 (C46, C77 and C78). While some of these dates may be questioned,²⁷ the association of the group with a coin of AD 341-6 indicates a date in the second half of the 4th century.

18. Fabric R20 type CD medium mouthed jar. This vessel might be residual in this phase but the very slightly double-lipped rim hints at a late date.²⁸ Context 506.

Later Phase 3

19. Fabric R20 type CD medium mouthed jar. The fabric contains distinctive, large subrounded sand grains (up to 1.5 mm.) and contrasts with the typical early Roman R20 fabrics. Context 424.

Phase 3 general

20. Fabric M41 type C100 mortarium. Context 317.

21. Fabric W20 type D – uncertain jar or bowl. The form is not closely paralleled in Young's corpus, but may belong with his W33, a somewhat heterogeneous jar type. Context 317.

22. Fabric O80 type CN large storage jar. Context 317.

23. Fabric C10 type CK 'cooking pot type' jar. Context 317.

This group is not closely dated but is clearly assigned to the 4th century on the basis of the presence of mortarium type C100. The shell-tempered jar (No. 23) is of a type found in early 2nd-century contexts at sites such as Yarnton (unpublished) and may have been redeposited from the underlying ditch which was of this date.

24. Fabric O81 type CD medium mouthed jar. Context 313.

25. Fabric R30 type JA dish. Context 436.

Appendix: Pottery found at Mansfield College in 1887

Two complete small pottery vessels were found on the site of Mansfield College during construction work in 1887.²⁹ Both are of considerable intrinsic interest and were published by Young as Oxford white wares.³⁰ The simpler of the two³¹ appears to be in fabric W12. While this may be seen as a 'one-off', though Young related it to his 'crucible' form W73,³² the other vessel³³ is at once a more distinct Roman form but also unusual, in the context of other Oxfordshire white wares, with regard to its decoration, being rouletted overall and having a painted double arcade on the upper body. The dark 'paint' is not confined to the arcades, however, but is found within the grooves at the girth of the vessel and elsewhere amongst the rouletting. It seems very likely that the vessel originally had an overall dark greyish brown slip and it can be suggested that the 'painted arcades' indicate where this slip was originally over-painted with arcades in white, now eroded off. The original presence of the painted arcades would have resulted in the survival of the underlying slip at this point. Such decoration, along with the overall rouletting, is quite characteristic of some late Nene Valley

²⁶ Cf. Young, 130, no. 1.

²⁷ See e.g. Booth, Boyle and Keevill, op. cit. note 1, p. 163 for a suggestion that type C46 should be dated as early as AD 300.

²⁸ I.e. at least after AD 240, cf. Young, 105, re types W34, W35 and R23.5.

²⁹ J.L. Myres, 'Roman Vase from Foundations of Mansfield College', *Archaeologia Oxoniensis* (1892-1895), 108-110; *V.C.H. Oxon.* i, 301-3 and pl. XVIII A, a and c.

³⁰ Young, 108-110, types W74 and W67 respectively.

³¹ Ibid. type W74; Ashmolean accession no. 2804.1887; *V.C.H. Oxon.* i, pl. XVIII A, a.

³² Young, 110.

³³ Ashmolean accession no. 2803.1887; Young type W67.

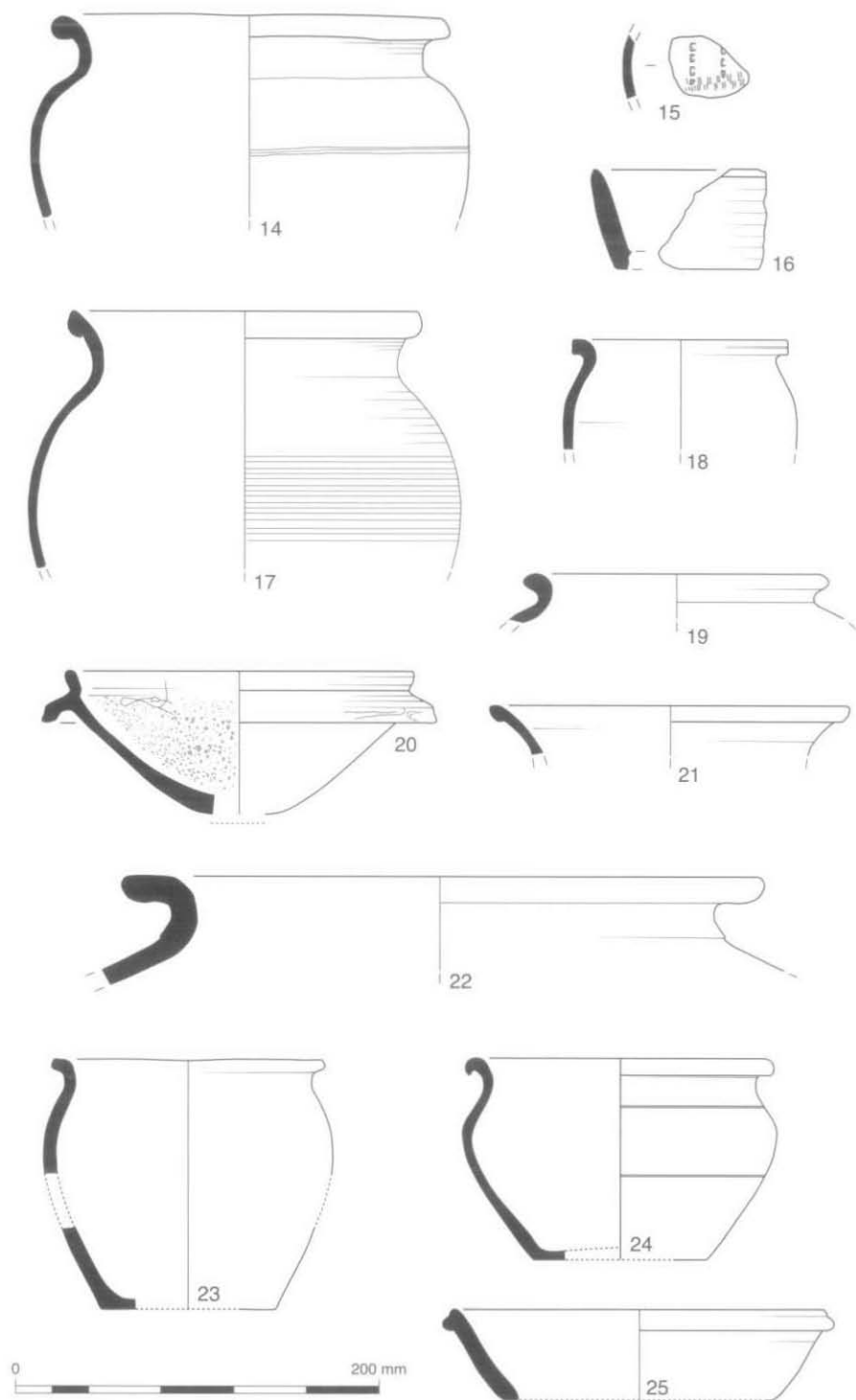


Fig. 10. Roman pottery nos. 14-25.

colour-coated vessels, and it is suggested that this vessel derives from that source rather than being an Oxford product. A 4th-century date would be very likely, and is consistent with the dating suggested by Young for the other vessel.³⁴ While it is not certain that the two vessels were found together it is certainly possible that they were.

One further characteristic of the rouletted jar/flask has not been noted previously. It has a small hole at the girth, formed by knocking in part of the vessel body between two parallel, roughly vertical cuts or grooves some 6 mm. apart. This appears to be an ancient feature, and if so probably represents a deliberate attempt to render the vessel non-functional. Such an act would be consistent with the use of the vessel in a funerary or other ritual context, and can be paralleled locally at Alchester, where a special deposit of pottery and other finds excavated in the northern extramural settlement area in 1991 included two vessels which had had narrow slots knocked out at the girth.³⁵

POST ROMAN POTTERY by PAUL BLINKHORN

The post-Roman pottery assemblage comprises 13 sherds with a total weight of 196 g. The pottery occurrence by number and weight of sherds per context by fabric type is shown in Table 4.

All the fabrics are types well-known in the area, and, where appropriate, the coding system and chronology of the Oxfordshire County type-series³⁶ has been used, as follows:

OXAM. Brill/Boarstall ware, AD 1200 – 1600

OXBN. Tudor Green Ware, late 14th century – c. 1500

OXDR. Red Earthenwares, 1550+

Creamware. 1740 – early 19th century

Whieldon-type ware. Mid/late 18th century

Miscellaneous 19th-century wares

TABLE 4. POST-ROMAN POTTERY: OCCURRENCE BY NUMBER AND WEIGHT (G.) OF SHERDS PER CONTEXT BY FABRIC TYPE

Cntxt	OXAM		OXBN		OXDR		Cream		Whieldon		Misc. 19th		Date
	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	
301	2	14											13thC+
303									1	15			M18thC+
308	1	12			1	125	1	3					M18thC+
315	4	17											14thC?*
423	1	1	1	1									L14thC+
551											1	8	19thC?
Total	8	44	1	1	1	125	1	3	1	15	1	8	

* Date based on vessel/fabric types

³⁴ Young, 110.

³⁵ P. Booth, J. Evans and J. Hiller, *Excavations in the Extramural Settlement of Roman Alchester, 1991* (Thames Valley Landscapes Monograph, OAU, forthcoming).

³⁶ M. Mellor, 'A Summary of the Key Assemblages. A study of pottery, clay pipes, glass and other finds from fourteen pits, dating from the 16th to the 19th century', in T.G. Hassall et al., 'Excavations at St Ebbe's', *Oxoniensia*, xlix (1984), 181-219; M. Mellor, 'Oxford Pottery: A Synthesis of middle and late Saxon, medieval and early post-medieval pottery in the Oxford Region', *Oxoniensia*, lix (1994), 17-217.

TILE AND FIRED CLAY

Small quantities of these materials were recovered. There are only four fragments (873 g.) of probable Roman tile, all in sandy fabrics, of which the most notable is a large piece of combed box flue from the upper fill (317) of the eastern ditch 344. Two small tile fragments (35 g.), one each from contexts 324 and 423 (gully 422), may be of medieval date, while 11 pieces (2078 g.) of post-medieval brick and tile were recovered. Comparable material from features obviously of modern date was not collected.

Some 65 fragments (1889 g.) of fired clay came from Roman and later contexts. The material is quite consistent in character and it is likely that the pieces in post-Roman contexts are redeposited material of Roman date. The fabric of all the pieces, while variable, clearly suggests a common origin. Most are tempered with variable proportions of quartz sand and rounded limestone fragments of varying size and frequency. The limestone inclusions are often common and up to c. 5 mm. in size. In some cases irregular voids are also present, and occasionally these replace sand as the secondary tempering agent. Most fragments are oxidised, though a few have lightly reduced surfaces.

None of the fragments is certainly identifiable in terms of function. A number of 'flat' pieces have surfaces which range from quite well smoothed to fairly irregular, but only one such piece has a straight edge as well. This piece is 24 mm. thick; other pieces of broadly similar character range in thickness from 12-14 mm. to 27-29 mm. The best finished of these pieces are not unlike tile, and the thickness of many of them is comparable to that of various tegulae, but they are generally softer than typical Roman tile fabrics, as well as being distinguished by their calcareous fabric. The function of these pieces is therefore uncertain. Two fragments from context 317 are notable for having slightly reduced rather than oxidised surfaces, but otherwise are of similar fabric to the rest, but are rather thicker; the larger piece has minimum width and depth dimensions of 40 mm. and 55 mm. These pieces are reminiscent of firebars from pottery or other kilns, but the fragments are too small to be identified with certainty. The general consistency of fabric and appearance of the remaining fragments suggests that they belong to the categories already discussed. Completely amorphous pieces are relatively rare and there are no obvious fragments of structural daub, whether from buildings or ovens.

FLINT by HUGO LAM DIN-WHYMARK

A total of 18 pieces of flint were recovered from the excavations (Table 5). Thirteen of the flints were found in fill 524 of pit 525. While not containing any diagnostic artefacts, on technological grounds, the pit group appears to be a coherent assemblage probably of Neolithic date; the majority of these flakes had been struck with a soft hammer and exhibited platform abrasion. The condition of the flint from this context is fine, with no post-depositional damage recorded. All the flints from context 524 have heavy white cortication. A number of retouched pieces, including two scrapers and a serrated flake, are present in the assemblage. The serrated flake has silica gloss on the ventral surface, a deposit which accumulates on the surface of a flint through the cutting of silica rich plants, such as cereals.³⁷ In total over half the flints from pit 525 show obvious damage from use, indicating that this deposit consists of utilised pieces rather than knapping debitage. The remaining five flints, which include an unfinished early Neolithic leaf arrowhead, all exhibit post-depositional damage and are residual finds in medieval and later contexts.

In summary all of the flint would appear to be of Neolithic date. The condition of flint in pit 525 suggests that the material is not residual and therefore indicates that the feature may date from the Neolithic period.

TABLE 5. FLINT: QUANTIFICATION OF THE ASSEMBLAGE

CATEGORY TYPE	Context 524	Other Contexts	Total
Flake	5	1	6
Blade	2	2	4
Rejuvenation flake tablet		1	1
Multiplatform flake core	1		1
Unfinished leaf arrowhead		1	1
End scraper	1		1
End and side scraper	1		1
Serrated flake	1		1
Retouched flake	2		2
Total	13	5	18

³⁷ R. Unger-Hamilton, *Method in Microwear Analysis: prehistoric sickles and other stone objects from Arjoune, Syria* (BAR Internat. Ser. 5435, 1988).

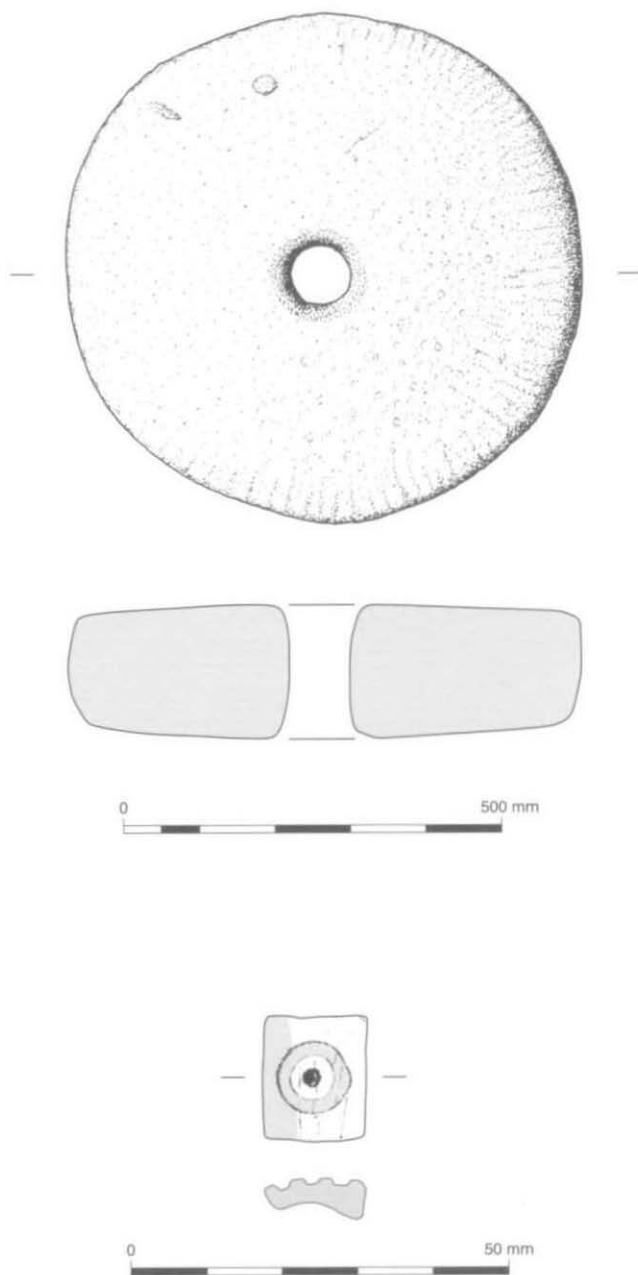


Fig. 11. Stone and bone objects.

MISCELLANEOUS FINDS

Quern (Fig. 11)

A large bottom stone of a rotary quern in Culham Greensand.³⁸ The stone is pierced right through by a central hole c. 80 mm. in diameter. The upper (grinding) surface is well worn but tooled grooves still survive towards the outer edge of the stone for just over half its circumference. The underside is only very roughly finished. Context 555, unphased.

The context of the stone is slightly uncertain. Context 555 was a 'soft spot' in the gravel subsoil which may have been a pit. Apparently associated pottery sherds suggest that possibly the pit could have been Roman in date. The stone type, however, would be most unusual in a Roman context in the region. While it is known to have been used for saddle querns in the Iron Age and to have been used in the medieval period, it has not been recorded by Fiona Roe in any of the numerous stone artefact collections of Roman date which she has examined from the Oxford region.³⁹ The date of the stone (and therefore of the feature from which it derived) is therefore uncertain and in the absence of Roman parallels may be best viewed as medieval. The thickness of the associated upper stone is of course unknown, but if it was anything like that of the lower stone (which weighs c. 73.5 kg.) this would suggest that the stone was from an animal powered mill, rather than being hand turned.

Worked bone (Fig. 11)

Burnt fragment of bone inlay 14 x 16 mm. and up to 5 mm. thick, cut from a long bone of a large (cattle-sized) animal, with simple incised ring and dot decoration. Context 314, SF5, Phase 3.

Clay pipe and glass

Clay pipe stem fragments were recovered from ditch 302 (fill 308; 5 fragments) and pit (fill 392). Pit fill 392 also produced a single fragment of post-medieval window glass.

HUMAN SKELETAL REMAINS by ANGELA BOYLE

The partial remains of an infant were recovered from the fill (313) of a late Roman gully 327, which also contained a substantial quantity of domestic refuse. A single canine phalanx is also present. Identifiable bones comprise left and right scapula and humerus, left ulna, left femur, left pelvis, ribs, vertebral arches, a metacarpal and a metatarsal. A fragment of the mandible is present. The estimation of age is based on maximum diaphyseal length of the left humerus and the left femur. Applying the regression formula of Scheuer et al.⁴⁰ gives an estimated age of 38.3+/-2.08 weeks, or 36-40 weeks. The infant may have been perinatal, that is very slightly premature. A term baby is born between the 38th and 42nd week of gestation. It has been argued elsewhere that, where ages at death cluster around the 38-40 week mark, infanticide, which was generally carried out immediately after birth, is the most probable explanation.⁴¹ It is not possible to be certain in this context.

ANIMAL BONES by BETHAN CHARLES

Introduction and Quantification

A total of 335 fragments of bone was recovered by hand during the excavations with an additional 7 fragments of bone recovered from environmental sampling (Table 6). The sieved bone was collected from a mesh of >10 mm. The majority of the animal bone came from ditches and gullies of Roman date. However, both Neolithic and 17th-century material was recovered from pits 525 and 385 respectively.

³⁸ I am indebted to Mr. Philip Powell of Oxford University Museum for this identification.

³⁹ J. Hinchliffe and R. Thomas, 'Archaeological Investigations at Appleford', *Oxonienia*, xlv (1980), 60, 62; Fiona Roe pers. comm.

⁴⁰ L. Scheuer, J.H. Musgrave and S.P. Evans, 'The Estimation of Late Foetal and Perinatal Age from Limb Bone Length by Linear and Logarithmic Regression', *Annals of Human Biol.* 7(3) (1980), 257-65.

⁴¹ P. Smith and G. Kahila, 'Identification of Infanticide in Archaeological Sites: a case study from the late Roman-early Byzantine periods at Ashkelon, Israel', *Jnl. Archaeol. Science*, 19 (1992), 667-75; S. Mays, 'Infanticide in Roman Britain', *Antiquity*, 67 (1993), 883-8.

TABLE 6. ANIMAL BONE: SPECIES REPRESENTATION BY PHASE AND METHOD OF RECOVERY (NO. OF FRAGMENTS)

	Neolithic ?		1st-2nd century		3rd-4th century		Post Medieval	
	Bulk	Sieved	Bulk	Sieved	Bulk	Sieved	Bulk	
Horse	0	0	1	0	10	0	0	
Cattle	4	0	4	2	48	0	3	
Sheep	0	0	3	2	54	0	47	
Pig	0	1	1	0	1	0	0	
Dog	0	0	0	0	5	0	0	
D. Fowl	0	0	0	0	2	0	0	
Unidentified	6	1	4	0	134	1	8	
Total	10	2	13	4	254	1	58	

Methodology. The species representation from the site was calculated by totalling the number of identifiable fragments of bone of each species (NISP) (Table 6). All fragments of bone were counted including elements from the vertebral centrum, ribs and long bone shafts. The minimum number of individuals (MNI) for the most common domestic species was also calculated using the most numerous bones from each phase (Table 8). For the Caprine sub-family an attempt was made to separate sheep and goat bones using the criteria of Boessneck and Prummel and Frisch.⁴² The similarity of sheep and goat bones often pose difficulties in identification, and since no goat bones were positively identified in the assemblage all caprine bones are listed as sheep. The ageing of the domestic animals is based on tooth eruption and epiphyseal fusion of the bone. Tooth eruption and wear was measured using a combination of Payne, Grant and Halstead's tables for sheep and cattle.⁴³ Silver's tables were used to give timing of epiphyseal closure for cattle, sheep and pigs.⁴⁴ The bone measurements taken are those defined by von den Driesch.⁴⁵ The sex of the cattle was determined using the criteria of Grigson and modern comparative material.⁴⁶ (The tables of detailed animal bone data are not published here but can be found in the archive.)

Condition of bone. The condition of the bone was measured by grading it on a scale of 1 to 5 using the criteria stipulated by Lyman,⁴⁷ grade 1 being the best preserved bone and grade 5 indicating that the bone had suffered such structural and attritional damage as to make it unrecognisable. Most of the bone from the site was in very good condition, and generally grade 2. However, ten fragments of bone with particularly bad attritional damage were recovered from the probable Neolithic pit 525.

Many of the bones from the site had butchery marks, the majority of which were found on long bones and are typical of dismembering and chopping (Table 7). All of the cattle bones from the post-medieval deposits had butchery chop marks. A small number of bones from the late Roman period had gnaw marks most likely made by dogs. Only three fragments from this phase had been burnt. Many of the bones had fresh breaks and some had been reduced to small fragments.

⁴² J. Boessneck, 'Osteological Differences in Sheep (*Ovis aries* Linné) and Goat (*Capra hircus* Linné)', in D. Brothwell and E. Higgs (eds.), *Science in Archaeology* (1969), 331-58; W. Prummel and H.-J. Frisch, 'A Guide for the Distinction of Species, Sex and Body Size in Bones of Sheep and Goat', *Jnl. of Archaeol. Science*, 13 (1986), 567-77.

⁴³ S. Payne, 'Kill-off patterns in Sheep and Goats: The Mandibles from Asvan Kale', *Anatolian Studies*, 23 (1973), 281-305; A. Grant, 'The Use of Tooth Wear as a Guide to the Age of Domestic Ungulates', in B. Wilson, C. Grigson and S. Payne (eds.), *Ageing and Sexing Animal Bones from Archaeological Sites* (BAR Brit. Ser. 109, 1982), 91-108; P. Halstead, 'A Study of Mandibular teeth from Romano-British Contexts at Maxey', in F. Pryor and C. French (eds.), *Archaeology and Environment in the Lower Welland Valley* (E. Anglian Archaeol. 27, 1985), 219-24.

⁴⁴ I.A. Silver, 'The Ageing of Domestic Animals', in Brothwell and Higgs, op. cit. note 42, 283-302.

⁴⁵ A. von den Driesch, *A Guide to the Measurement of Animal Bones from Archaeological Sites* (Peabody Mus. Bull. 1, 1976).

⁴⁶ C. Grigson, 'Sex and Age Determination of some Bones and Teeth of Domestic Cattle: a review of the literature', in Wilson, Grigson and Payne, op. cit. note 43, 7-23.

⁴⁷ R.L. Lyman, *Vertebrate Taphonomy* (Cambridge Manuals in Archaeol. 1996).

TABLE 7. ANIMAL BONE: CONDITION OF HAND COLLECTED BONE BY PHASE

Phase	Butchery	Burnt	Gnaw	Fresh Break	Total No. of fragments recovered
Neolithic?	0	0	0	3	10
1st-2nd century	2	0	0	4	13
3rd-4th century	52	2	3	105	254
Post Medieval	4	0	0	51	58
Total	58	2	3	163	335

Species Representation

Phase 1: Neolithic? Only ten fragments of bone were recovered from pit 525 (Table 6). Four were identified as cattle teeth and all were in poor condition.

Phase 2: 1st-2nd century. Thirteen fragments of bone were hand-recovered from contexts of this phase, the majority from the eastern ditch (Table 6). Elements from cattle, sheep and pig were found and one horse tooth was identified. A single pig tooth was identified from the sieved bone.

Phase 3: 3rd-4th century. The majority of the bone from the site came from late Roman features, and a large proportion of the assemblage was from the northern ditch. It can be seen from Table 6 and Table 8 that cattle appear to have been the most numerous animals within the assemblage. Only a single pig humerus was recovered from the Phase 3 assemblage.

TABLE 8. ANIMAL BONE: MINIMUM NUMBER OF INDIVIDUALS (MNI) FROM HAND COLLECTED BONE BY PHASE

	1st-2nd century	3rd-4th century	Post-Medieval	Total
Horse		1		1
Cattle	1	5	1	7
Sheep	1	3	1	5
Pig	1	1		2
Dog		2		2
Domestic fowl		1		1

Data from the mandible wear stages indicates that the majority of the cattle at the site appeared to have been killed at an early age (Table 9). The mandible wear stages of the sheep seem to indicate that the sheep may have been culled at different stages with some kept to a much older age (Table 10). The size of the sheep bones appeared consistent with unimproved breeds. Only two elements from cattle and sheep were identified from the sieved material.

TABLE 9. ANIMAL BONE: MANDIBLE WEAR STAGES OF CATTLE FROM HAND COLLECTED AND SIEVED BONE (AFTER GRANT, AND AFTER HALSTEAD)

	3rd-4th century
1-8 months	3*
18-20 months	1
Adult	1
Total	5

* Two of the mandibles are likely to come from the same individual

A cattle and a sheep mandible from this period both had signs of pathology. The cattle mandible appeared to show signs of a large abscess around the roots of the second molar (still in the jaw). The sheep mandible also appeared to have signs of a large abscess forming around the second molar and gap for second premolar, possibly as a result of trauma or root infection. All of the premolars had been lost and bone was forming over the gaps.

TABLE 10. ANIMAL BONE: MANDIBLE WEAR STAGES OF SHEEP FROM HAND-COLLECTED BONE (AFTER PAYNE, AND AFTER GRANT)

	1st-2nd century	3rd-4th century	Post-Medieval
1-2 years		2	
3-4 years	1		
6-8 years		1	2*
Total	1	3	2

* Both mandibles from sheep skeleton in deposit 521

Parts of a single horse skull were found in contexts 517 and 518 in the S. section of the northern ditch, along with a small part of a mandible in context 517. Other fragments of this species included metapodials and single fragments of humerus, radius, patella and rib from the northern and central ditches.

Five fragments of dog bone were found, including three mandibles, part of an ulna and a metacarpal, all from separate deposits. The mandibles were from two small and one larger dog. A radius and an ulna belonging to domestic fowl were also identified from the assemblage.

Phase 4: Post-medieval. Most of the bone from this period was from pit 385 and appeared to come from a single sheep skeleton. Elements included a small part of the skull and the left and right mandible, the left and right scapula, the left femur and pelvis and the right humerus, calcaneum, astragalus and a proximal phalanx along with fragments of the vertebrae and rib cage. A single proximal half of a large cattle radius was also found in the same context.

The mandibles indicated that the sheep was around 6 to 8 years old at death (Table 10). Two of the thoracic vertebrae had begun to fuse with signs of lipping and the astragalus and distal articulation of the humerus had a small amount of eburnation on the bone. The bones were larger than those of sheep found in the earlier phases indicating an improved breed.

The remainder of the bone included a cattle scapula and part of a pelvis found in the ditch. Both elements had butchery chop marks. One fragment of unidentified bone was retrieved from the environmental samples.

Discussion

The majority of the bone recovered was from Phase 3 late Roman deposits. Very little information could be gleaned from either the probable Neolithic or the early Roman material other than the identification of animals present at the site.

Cattle predominate in the late Roman deposits as is often found at well-established Roman sites.⁴⁸ Sheep was the second most numerous species but only one pig bone was found. Low numbers of pig have also been found at Asthall, Oxfordshire.⁴⁹ It is possible that pork was not eaten very much at this site or that the bones have not survived as well as those of the cattle and sheep.

The cattle from the late Roman deposits appeared to be mostly young individuals as was found for example at Exeter,⁵⁰ and this may indicate that they were kept mainly for their meat with a few older animals kept for breeding purposes. However, the small sample may not be representative of the economy of the site as a whole. A similar pattern was observed for sheep, most of which appear to have been killed at around 1 to 2 years of age with a few kept until much older, a situation similar to that found at Asthall.⁵¹ The sheep were probably valued for their wool, milk and dung as well as for their meat.

The majority of the horse bones recovered came from late Roman deposits, though they were only present in small quantities. It is possible that horses were buried separately or that they were not important to the economy of the site. A variety of dogs, both large and small, seems to have been kept and are likely to have been working animals as well as pets. Domestic fowl was the only bird species recovered from this period and is likely to have been valued for its eggs as well as for meat and feathers.

⁴⁸ A. King, 'A Comparative Survey of Bone Assemblages from Roman Sites in Britain', *Inst. of Archaeol. Bull.* 15 (1978), 207-32; M. Maltby, 'Iron Age, Romano-British and Anglo-Saxon Animal Husbandry: a review of the faunal evidence', in M. Jones and G. Dimbleby (eds.), *The Environment of Man: the Iron Age to the Saxon period* (BAR Brit. Ser. 87, 1981), 155-203; T.P. O'Connor, 'The Animal Bones', in J.D. Zienkiewicz, *The Legionary Fortress Baths at Caerleon - II The Finds* (Nat. Mus. of Wales, 1986), 224-45.

⁴⁹ A. Powell, K. Clark and D. Serjeantson, 'Animal Bones', in Booth op. cit. note 17, 141-7.

⁵⁰ M. Maltby, *The Animal Bones from Exeter 1971-1975* (Exeter Archaeol. Reports, 2, 1979).

⁵¹ Powell, Clark and Serjeantson, op. cit. note 49.

The information from the small number of bones retrieved from this period of occupation is not enough to give a clear indication of the status and economy of the site. However, on the basis of the similarities with Asthall the assemblage does appear to reflect some of the characteristics associated with a relatively 'urban' nucleated site.

The finds from the post-medieval period reveal very little regarding the economy of the site at the time. It is apparent that cattle and sheep were present and that at least some of the sheep were being kept to an old age, again most likely for their secondary products as found at other urban sites in Oxford.⁵² The cause of death of the sheep found in pit 385 is not known. There were no butchery marks on the surviving bones and it is possible that the animal died of disease and was not fit for human consumption.

One fragment of oyster shell was recovered from each of Phase 3 contexts 314, 417, 427, 436 and 511. Further fragments were from certain or probable Phase 4 contexts 315 (2), 364 and 381.

CHARRED PLANT REMAINS by RUTH PELLING

Introduction

Features sampled for the recovery of charred plant remains are mainly of Roman date, and include the fills of ditches and gullies, and pits and post-holes, with dates ranging from the 2nd to the 4th centuries AD. Samples were processed using bulk flotation and the flots were collected onto a 250µ mesh. The volume of deposit processed ranged from 10 to 40 litres, but in most cases was 40 litres. A total of 12 samples were processed, of which four (samples 2, 3, 4 and 7) were found to be rich in remains and were therefore processed further. The samples are all Phase 3 and of 3rd- to 4th-century AD date (Table 11).

TABLE 11. CHARRED PLANT REMAINS

		Sample	2	3	4	7
		Context	335	314	313	320
		Feature	328	328	327	371
		Date	3rd-4thC	4thC	4thC	4thC
		Fraction	100%	1/8	1/4	100%
		Volume (litres)	20	40	40	40
Cereal Grain						
<i>Triticum dicoccum</i>	Emmer wheat grain	118	2	87	-	
<i>Triticum dicoccum</i>	Emmer wheat short grain	26	-	-	-	
<i>Triticum cf. dicoccum</i>	cf. Emmer wheat grain	10	13	7	3	
<i>Triticum cf. dicoccum</i>	cf. Emmer wheat short grain	7	23	9	1	
<i>Triticum spelta</i>	Spelt wheat grain	-	201	-	4	
<i>Triticum spelta</i>	Spelt wheat grain, germinated	-	-	-	-	
<i>Triticum cf. spelta</i>	cf. Spelt wheat long grain	3	-	1	2	
<i>Triticum cf. spelta</i>	cf. Spelt wheat short grain	-	10	-	-	
<i>Triticum cf. spelta</i>	cf. Spelt wheat long grain germinated	-	43	-	-	
<i>Triticum spelta/dicoccum</i>	Spelt/Emmer wheat grain	135	86	48	27	
<i>Triticum spelta/dicoccum</i>	Spelt/Emmer wheat short grain	6	29	5	4	
<i>Triticum spelta/dicoccum</i>	Spelt/Emmer wheat, germinated grain	-	5	-	-	
<i>Triticum sp.</i>	Wheat grain	8	63	2	5	
<i>Triticum sp.</i>	Wheat, short grain	9	8	2	2	
<i>Hordeum vulgare</i>	Barley, hulled asymmetrical grain	61	25	81	2	
<i>Hordeum vulgare</i>	Barley, hulled straight grain	96	30	152	-	
<i>Hordeum vulgare</i>	Barley, hulled grain	630	177	588	5	
<i>Hordeum vulgare</i>	Barley grain	21	2	21	-	
<i>Cerealia indet</i>	indeterminate grain	94	195	68	24	

⁵² R. Wilson, 'The Animal Bones', in A. Hardy, 'Archaeological Excavations at 54-55, St. Thomas's Street, Oxford', *Oxonienia*, lxi (1996), 258-60.

Cereal Chaff

<i>Triticum dicoccum</i>	Emmer glume base	40	1	27	1
<i>Triticum</i> cf. <i>dicoccum</i>	cf. Emmer glume base	13	-	1	-
<i>Triticum spelta</i>	Spelt glume base	20	77	5	10
<i>Triticum</i> cf. <i>spelta</i>	cf. Spelt glume base	-	8	1	-
<i>Triticum spelta/dicoccum</i>	Spelt/Emmer wheat glume base	41	133	23	23
<i>Triticum</i> sp.	Wheat, basal rachis	1	-	-	-
<i>Hordeum vulgare</i>	Lax eared barley lemma base	9	-	-	-
<i>Hordeum vulgare</i>	Barley rachis	7	3	3	-
Cerealia indet	indeterminate cereal embryo	25	55	24	3
Cerealia indet	sprouted cereal embryo	-	16	1	-
Cerealia indet	cereal size culm node	-	1	-	-

Pulses

<i>Pisum sativum</i>	Pea	-	-	-	35
cf. <i>Pisum sativum</i>	cf. Pea	-	1	-	16
<i>Pisum sativum/Vicia</i> sp.	Pea/Bean/Vetch etc. large seeded	-	3	1	212

Weeds

<i>Ranunculus</i> sp.	Buttercup	-	-	1	-
<i>Fumaria</i> sp.	Fumatory	-	2	-	-
<i>Raphanus raphanistrum</i>	Wild radish	2	-	-	-
<i>Agrostemma githago</i>	Corn Cockle	1	5	1	1
cf. <i>Agrostemma githago</i>	cf. Corn Cockle	2	-	-	-
<i>Chenopodium album</i>	Fat hen	-	-	-	1
<i>Vicia/Lathyrus</i> sp.	Vetch/Vetchling/Tare, small seeded	-	1	-	-
<i>Medicago lupulina</i>	Black Medick	1	-	-	-
<i>Medicago</i> sp.	Medick	2	-	-	-
Leguminosae	Legume, small seeded	-	-	3	2
<i>Aphanes arvensis</i>	Parsley-piert	2	-	-	-
<i>Polygonum aviculare</i>	Knotgrass	-	-	-	2
<i>Fallopia convolvulus</i>	Black Bindweed	-	-	1	-
<i>Rumex</i> sp.	Dock	7	3	3	2
Polygonaceae		-	-	1	-
Labiatae	Labiatae, small seeded	-	1	-	-
<i>Anthemis cotula</i>	Stinking mayweed	200	65	67	-
<i>Tripleurospermum inodorum</i>	Scentless mayweed	3	2	2	-
<i>Centaurea</i> sp.	Knapweed/Thistle etc.	5	-	2	-
<i>Carduus/Cirsium</i> sp.	Thistle	8	1	2	-
Compositae	Compositae, large seeded	2	-	-	-
Compositae	small seeded	-	1	-	-
<i>Carex</i> sp.	Sedge	1	-	-	1
<i>Eleocharis palustris</i>	Common spikerush	1	-	-	-
Cyperaceae		-	1	-	-
<i>Avena</i> sp.	Oats	29	2	7	-
<i>Avena</i> sp.	Oats, awn fragment	1	-	-	-
<i>Avena fatua</i>	Wild oat, floret base	2	-	2	1
<i>Bromus sterilis</i>	Sterile Brome	-	1	-	-
Gramineae	Grass, large seeded	-	-	2	2
Gramineae	Grass, small seeded	2	1	-	1
Indet	Indeterminate weed	6	5	9	1

Methodology

Samples 3 and 4 (contexts 314 and 313) produced very rich flots and were therefore first split using a riffle box to 1/8 and 1/4 respectively and fractions only were sorted. Samples 2 and 7 (contexts 335 and 320) were sorted in their entirety. Each flot or fraction of flot was sorted under a binocular microscope at $\times 10$ to $\times 20$ magnification. Identifications were made using morphological criteria and by comparison with modern reference material. Nomenclature and taxonomic order follow Clapham, Tutin and Moore⁵³ for the weeds and pulses, and Miller⁵⁴ for the cereals. The results are displayed in Table 11.

Results

All four samples are unusually rich and of varying nature and for these reasons are interesting. Cereal grain dominates samples 2, 3 and 4 while pulses dominate sample 7. Both *Hordeum vulgare* (barley) and hulled *Triticum* sp. (wheat) are present within the cereal assemblage. *Hordeum vulgare* (barley) is present in large numbers in samples 2, 3 and 4. The presence of hulled asymmetric grains demonstrates that a many-rowed variety is represented. This is further confirmed by occasional examples of lateral and central grains which are fused together and retain their original position indicating that each rachis segment supported three fertile florets. In sample 2 a few well-preserved lemma bases display the characteristic horseshoe depression of lax-eared barley.⁵⁵ It is therefore likely that a lax-eared six-row barley is represented. The theoretical ratio of asymmetrical to straight grains is 2:1. In the Mansfield College samples, however, straight grains considerably outnumber asymmetrical ones, which may suggest two-rowed barley is also present. However, six-row barley rarely achieves this theoretical ratio as the lateral grains are more susceptible to failure if growing conditions are not ideal. It is also likely that these ratios are artificially affected by the difficulties of assigning, as either straight or asymmetrical, grain distorted by charring. Rachis fragments are rarely present and are not sufficiently well-preserved to enable identification of many or two-rowed barley.

At least two species of long grained wheat, *Triticum spelta* (spelt) and *Triticum dicoccum* (emmer), are represented. Both cereal grains and glume bases of each species were identified. The *Triticum spelta* grain displayed a flat ventral surface and parallel sides, had no dorsal ridge, and had blunt apex and embryo ends. Occasional *T. spelta* grains also displayed signs of germination. The *T. dicoccum* tended to be narrow, with a flat or slightly concave ventral surface, a humped dorsal ridge and slightly pointed apex and embryo ends.

Several short and very rounded *Triticum* sp. grains were also present in the samples, often with very steeply sloping embryos, in shape resembling short grained bread wheat (*Triticum aestivum* type). However, the presence of longitudinal compression grooves and ridges resulting from being held within tightly adhering glumes, suggests that these grains were in fact of hulled wheat. While the majority of grains were not identifiable to species, a number were identified with caution as short grained *Triticum dicoccum*. Such grain displayed a pronounced dorsal ridge, steeply sloping and concave embryo, and pointed embryo and dorsal ends. Less well preserved grain was identified as *Triticum* cf. *dicoccum*, *T.* cf. *spelta* or *T. spelta/dicoccum*. None of the short-grained wheat grains were positively identifiable as *Triticum spelta* which suggests that the short grained hulled wheat is all derived from *Triticum dicoccum*.

Occasional grains of *Avena* sp. are present in samples 2, 3 and 4. The presence of the floret bases of wild *Avena fatua* type suggests, however, that the oats are wild rather than cultivated. They are therefore recorded with the weeds.

A large number of well-preserved cultivated legumes, which form the bulk of the assemblage in sample 7, were recorded. All those which retained sufficient hila and testa were identified as *Pisum sativum* or cf. *Pisum sativum* (pea). It is probable that the remaining pulses are also of *Pisum sativum*.

Weeds are present in all four samples but form only a small proportion of the assemblage. *Anthemis cotula* (stinking mayweed) and *Agrostemma githago* (corn cockle) are particularly associated with arable crops by the Roman period. *Anthemis cotula* tends to be associated with calcareous clay soils. A seed head is present in sample 2 in addition to 110 loose seeds, probably derived from another seed head. The figure of 200 seeds is an estimated minimum number of individuals. A number of the weed species, such as *Centaurea* sp. (knapweed), *Carduus/Cirsium* sp. (thistle), *Rumex* sp. (docks) and *Polygonum aviculare* (knotgrass), are characteristic of ruderal as well as arable habitats. *Raphanus raphanistrum* (wild radish) is particularly abundant on non-calcareous soils, although all the weed seeds could be supported on circum-neutral soils. The grasses could have been growing as arable weeds or on the field margins. *Eleocharis palustris* (common spike rush), represented by a single seed, is characteristic of seasonally flooded grassland and is usually interpreted as suggesting the cultivation of flood plain soils.

⁵³ A.R. Clapham, T.G. Tutin and D.M. Moore, *Flora of the British Isles* (3rd edn. 1989).

⁵⁴ T.E. Miller, 'Systemics and Evolution', in F.G.H. Lupton (ed.), *Wheat Breeding: Its Scientific Basis* (1987), 1-30.

Sample Composition

All four samples are clearly rich in charred plant remains. Cereal grains dominate samples 2, 3 and 4 while sample 7 is dominated by peas. Chaff and weed seeds form only a minor element of the assemblages. Where large numbers of weed seeds were recorded this is due to the presence of seed heads or clusters of *Anthemis cotula*. The remaining weed seeds are predominantly large, notably the *Raphanus raphanistrum*, *Fallopia convolvulus*, and *Avena* sp., all of which could be retained within a large sieve with the cleaned grain. Many of these seeds, such as the grasses, might be tolerated with the grain.

Samples 2 and 4 are dominated by barley grains, with emmer wheat also present. Although the number of glume bases in these samples is lower than the number of grains, this is likely to be partly as a result of differential preservation.⁵⁶ The remains do probably therefore represent spikelets of emmer wheat. Spelt wheat grains in these samples are very scarce while the glume bases are more frequent. As glume bases do not survive better than grain, it would appear that the spelt chaff had entered these deposits as processing waste. Given the close proximity of the deposits from which these samples were derived, however, it is plausible that the spelt wheat glume bases derive from the spelt wheat deposits represented by sample 3.

Sample 3 is much more mixed, with spelt wheat and barley occurring in similar proportions and fewer numbers of emmer grains. The emmer in this sample is all short grained while emmer glume bases were very rare.

Given the distribution of remains it is suggested that the cereal rich assemblages represent post-depositional mixing of three basic deposits: clean barley grain, emmer wheat spikelets including a short-grained emmer, and spelt wheat spikelets. Some spelt wheat processing waste may also be represented. A deposit of processed peas seems to be represented by sample 7. Small weed seeds (with the exception of the *Anthemis cotula* seed heads) are absent, suggesting that a first stage of fine sieving had been conducted in antiquity and the by-products disposed of elsewhere.

Discussion

The Mansfield College samples provide some useful information about the cereal economy of the rural Romano-British population of the area around Oxford. Both barley and spelt wheat are considered to be the characteristic cereal staples of much of Roman Britain, representing a continuation of Iron Age agricultural traditions. Emmer wheat is less frequently recorded from Romano-British settlement sites, although an increasing body of evidence is emerging to suggest that it was being cultivated at least occasionally. On sites such as Tiddington, Warwickshire,⁵⁷ or Barton Court Farm,⁵⁸ emmer is present but only as a minor crop compared to spelt, possibly even as a weed of the spelt crop. The large numbers of both grain and glumes in the present samples strongly suggest that emmer was actually cultivated as a crop in its own right at this period, at least on a regional basis.

The emmer wheat represented is unusual in that it includes a short grained variety. While some fungal diseases might cause fore-shortening of grain it is not thought likely in this case. The grain appears to be plump and healthy with no signs of the withering usually associated with fungal attack. The large numbers of short grains in the samples would also suggest that it is a characteristic of the variety grown rather than the result of disease. Short grained spelt wheat has been noted by several authors occurring in material of Iron Age and Roman date, for example from the Danebury Environs Project,⁵⁹ and from Tiddington, Warwickshire.⁶⁰ While not seen in modern reference material Moffet

⁵⁵ S. Jacomet, *Prähistorische Getreidefunde: Eine Anleitung zur Bestimmung prähistorischer Gersten- und Weizenfunde* (1987), 31 (Prehistoric cereal finds: a guide to the identification of prehistoric barley and wheat finds. Transl. J. Greig, 1989).

⁵⁶ S. Boardman and G. Jones, 'Experiments on the Effects of Charring on Cereal Plant Components', *Jnl. Archaeol. Science*, 17 (1990), 1-12.

⁵⁷ L. Moffet, 'Crops and Crop Processing in a Romano-British Village at Tiddington: The Evidence from the Charred Plant Remains' (Ancient Monuments Lab. Report 15/86, 1986).

⁵⁸ M. Jones and M. Robinson, 'The Crop Plants', in D. Miles (ed.), *Archaeology at Barton Court Farm, Abingdon, Oxon* (CBA Res. Rep. 50, 1986), microfiche 9.

⁵⁹ G.V. Campbell, 'The Charred Plant Remains', in B. Cunliffe, *The Danebury Environs Project*, vols. 1 and 2, in press.

⁶⁰ Moffett, op. cit. note 57.

suggests that short grains may have occurred occasionally in the past amongst a much more extensive gene pool. Short grained emmer has not previously been encountered by the author. Its identification in the present samples demonstrates not only the extreme difficulty in assigning wheat grains to species but also the diversity of types of grain in ancient cereal forms.

Pulses tend to be less well represented in archaeological deposits than cereals, as processing prior to cooking does not require contact with fire. While peas are known from the Roman period, they only occur in low numbers, for example at Goathill villa,⁶¹ Stonea near March, Cambridgeshire⁶² or Tiddington in Warwickshire.⁶³ A large deposit such as the present one is unusual, therefore, and presumably represents either accidental charring of stored product or a cooking accident. The peas might have been grown as a garden or even a field crop. In rotation with cereals their nitrogen fixing qualities would help maintain soil fertility.

The four rich samples were all derived from gullies forming three sides of a late Roman building. It is tempting to suggest therefore that they represent accidentally burnt stored product from within that building. Certainly charring appears to have occurred at a stage when the products were in a suitable state for storage with small weed seeds removed, the wheats in spikelet form and the peas and barley clean of waste. It must be considered, however, that the fills of the ditches relate as much to post-abandonment activity as to function while in use. It is important to note that other samples on the site did not produce large quantities of remains and that these may be more representative of deposits on the site generally.

RADIOCARBON DATE

A single radiocarbon date was obtained from charred glumes of *Triticum dicoccum* (emmer wheat) recovered in sample 4 from the late Roman (Phase 3) fill 313 of gully 327. The date, 70-380 cal AD (95% confidence NZA-11598; 1806±65BP; (δ¹³C ‰ -24) confirmed the occurrence of emmer in the Roman period.

GENERAL DISCUSSION

In the Upper Thames Valley, the second gravel terrace on which the Mansfield College site lies was a favoured location for settlement and other activity from at least the Neolithic period onwards. The occurrence here of a single pit, very probably of Neolithic date, is in keeping with this assertion, though its immediate context and associations are unknown. Elsewhere in Oxford Neolithic material concentrates in the area around Christ Church,⁶⁴ while on present evidence Bronze Age activity, which appears most clearly in the form of ring ditches, is more widely dispersed. Five ring ditches in the University Parks are known from the air while a sixth lies nearby at the Rex Richards Building off South Parks Road.⁶⁵ Further probable ring ditches or barrows are known from the High Street,⁶⁶ from St. Michael's Street⁶⁷ and from the site of the new Sackler Library off St. John Street.⁶⁸ The

⁶¹ K. Branigan, 'Villa Settlement in the West Country', in K. Branigan and P. Fowler (eds.), *The Roman West Country* (1976), 133.

⁶² M. Van der Veen, 'Consumption or Production? Agriculture in the Cambridgeshire Fens', in J. Renfrew (ed.), *New Light on Early Farming* (Proc. of 7th Symposium of IWGP, 1986) (1991), 349-61.

⁶³ Moffett, op. cit. note 57.

⁶⁴ T. Hassall, 'Archaeology of Oxford City', in G. Briggs, J. Cook and T. Rowley (eds.), *The Archaeology of the Oxford Region* (1986), 116.

⁶⁵ A. Parkinson, A. Barclay and P. McKeague, 'The Excavation of two Bronze Age Barrows, Oxford', *Oxoniensia*, lxi (1996), 43-7.

⁶⁶ Ibid., map on p. 42.

⁶⁷ Ibid. 57-61.

⁶⁸ D. Poore, 'Oxford, Sackler Library', *S. Midl. Archaeol.* 29, 82.

numbers of barrows/ring ditches might indicate that this part of the gravel terrace was defined as a ritual landscape, as has been suggested for other areas of the Upper Thames Valley such as at Stanton Harcourt,⁶⁹ and as such was not utilised for settlement during the Bronze Age, at least. Be that as it may, aerial photographs of The Parks show the ring ditches overlain by later features and at the Rex Richards Building activity dating from the early, middle and late Iron Age onwards was recovered.⁷⁰ While the cropmarks in The Parks are undated the evidence from the Rex Richards Building suggests that they probably include both Iron Age as well as Roman features.

The finds from the Rex Richards site included distinctive pottery of late Iron Age or possibly early Roman date,⁷¹ while pottery of slightly later date was recovered from the site of the Radcliffe Science Library in 1971.⁷² The earliest activity at Mansfield College was probably of later 1st- to mid 2nd-century date, quite similar to that of the earliest phase at the Radcliffe Science Library site, with subsequent settlement likely to have continued well into, if not to the end of, the 4th century. Pottery from the site of the Clarendon Laboratory⁷³ is of mid to late 1st-century date, while a collection of pottery found between the Physiology and Zoology Departments in the Science Area⁷⁴ is a characteristic late 3rd- to 4th-century group and closely comparable to the material from the late Roman phases at Mansfield College. It seems therefore that the gravel terrace in the Parks Road/South Parks Road area saw more or less continuous settlement through the Iron Age and Roman periods, though localised settlement shift is likely to have occurred.

A considerable number of Roman finds are known from the vicinity of the Mansfield College site,⁷⁵ including the two complete pots from the site of Mansfield College itself (see above), discovered during construction work in 1887. Unfortunately there is no significant contextual information for these or for most of the other finds from the area, though the Mansfield College vessels may be supposed to have derived from an adjacent part of the present site. The only archaeologically recorded Roman features in the vicinity are those from the Radcliffe Science Library extension, barely 150 m. NW. of the present site, excavated in 1970-1.⁷⁶ These features consisted mainly of ditches with seven associated inhumation burials, six of which were placed in one of the ditches. The principal alignment of the ditches was roughly NNW-SSE., almost exactly the same as the major axis of the Mansfield College features. A number of the linear features visible from the air in the University Parks are also approximately on this alignment or at right angles to it. This might suggest that these features and those at the Radcliffe Science Library and Mansfield College sites are elements of an integrated system of settlement and field boundaries, but much more evidence would be needed to demonstrate this conclusively. The small pottery assemblage from the Radcliffe Science Library is almost entirely of late 1st/2nd-century date.⁷⁷ The

⁶⁹ G. Lambrick, 'The Development of Prehistoric and Roman Farming on the Thames Gravels', in M. Fulford and E. Nichols (eds.), *Developing Landscapes of Lowland Britain. The Archaeology of the British Gravels: A Review* (Soc. Antiqs. Occ. Papers 14, 1992), 90.

⁷⁰ Parkinson, Barclay and McKeague, op. cit. note 65, p. 64.

⁷¹ P. Booth, 'Iron Age and Roman Pottery', in *ibid.*, 50 and 54, no. 7.

⁷² C.J. Young, 'Pottery', in T.G. Hassall, 'Roman Finds from the Radcliffe Science Library Extension Oxford, 1970-71', *Oxoniensia*, xxxvii (1972), 43.

⁷³ J.T. Munby, 'An Inventory of Sites and Finds from the Science Area, Oxford', in Hassall, op. cit. note 72, p. 50, site 9; Ashmolean accession no. 1956.286.

⁷⁴ *Ibid.* 50, site 8; Ashmolean accession no. 1949.750 – not 730 as published.

⁷⁵ Usefully summarised in *ibid.* 49-50.

⁷⁶ Hassall, op. cit. note 72.

⁷⁷ Cf. Young, op. cit. note 72, p. 43.

principal ditch alignment therefore seems to be of this date. One rim sherd probably of later date⁷⁸ could have been associated with the burials inserted into this ditch alignment, presumably in the 3rd or 4th century.

The known settlement components in this putative layout, i.e. the Radcliffe Science Library and Mansfield College sites, lie fairly close to the line of Parks Road rather than further E. Evidence for an absence of settlement, albeit somewhat limited in scale, comes from a number of sites NE. and E. of Mansfield College. These are the Rex Richards building, where only a very few Roman sherds were found,⁷⁹ the Sir William Dunn School of Pathology, where evaluation and a subsequent watching brief produced no Roman features or finds,⁸⁰ and 100 m. to the S. of the latter at the Wellcome Centre for Epidemiology at 6-8 South Parks Road, where only a single Roman sherd and no features were recovered in an evaluation.⁸¹ It seems reasonably clear, therefore, that settlement did not extend significantly E. of Mansfield College itself, though its limits to the S. and W. are quite unknown.

The character of the Radcliffe Science Library features was described as consistent with 'a rural peasant community'.⁸² Broadly speaking this remains true, though there are a few indications that the occupants of the settlement were not of the lowest status. The Mansfield College evidence suggests the presence of a timber building, and a little tile indicates that at least one structure was roofed with conventional Roman materials. This need not have lain within the excavated area, however. The occurrence of a piece of box flue tile may indeed suggest that a building with a heated room or rooms lay not too far distant. A villa might be implied, but the evidence is insufficient to demonstrate the presence of such a building within the immediately surrounding area. The character of the excavated remains on the present site is consistent with a lower status. Structural remains on such rural settlements in the region remain generally elusive, and the site arguably provides a significant, though hardly impressive, addition to the small corpus of such buildings. The environmental evidence suggests that the primary concern of the inhabitants of the site was probably with arable agriculture and perhaps also with horticulture. The charred plant remains included unequivocal evidence for the cultivation of peas, the first such record from the region, as well as indications that emmer was cultivated as a cereal crop. Emmer is much less common than spelt in the Roman period and has sometimes been thought to be a post-Roman reintroduction. In the present case, however, remains of emmer derive from a secure 4th-century context, and the late Roman date indicated by pottery evidence is confirmed independently by a radiocarbon determination, as far as a single such date can be considered reliable.

Five coins probably of 4th-century date from the site are consistent with other finds from the area⁸³ and are typical of later Roman rural sites in the region. The other principal indications of the trading connections and status of the settlement come from the pottery. As would be expected this was dominated by products of the local Oxford industries, with extra-regional elements in the assemblage mostly coming from well-known sources. The

⁷⁸ Ibid. 42, vessel 2/1.

⁷⁹ Parkinson, Barclay and McKeague, *op. cit.* note 65, p. 52.

⁸⁰ A. Parkinson, 'Sir William Dunn School of Pathology, Oxford, Archaeological Evaluation' (OAU unpubl. client report, 1995); J. Hiller, 'Sir William Dunn School of Pathology, Oxford, Archaeological watching brief report' (OAU unpubl. client report, 1996).

⁸¹ B. Matthews and P. Booth, 'Land to Rear of 6-8 South Parks Road, Oxford, Archaeological evaluation report' (OAU unpubl. client report, 1996).

⁸² Hassall, *op. cit.* note 72, p. 46.

⁸³ Munby, *op. cit.* note 73.

most unusual aspect of the assemblage is the presence of a small number of amphora sherds. Such sherds are rare on rural settlement sites in the region, and are often quite a sensitive indicator of site status.⁸⁴ While rarely completely absent, even on sites of low status, they never comprise more than c. 0.2-0.3% of the sherd total from these sites, and are commonly 0.1% or less of these totals. Moreover, such material usually consists almost entirely of sherds of the olive oil amphora Dressel 20, much the most common amphora on sites of all types in the region. In this context a number of sherds from the South Parks Road settlement area stand out as unusual. The Mansfield College assemblage included the base of a probable South Spanish fish sauce amphora, while the Radcliffe Science Library assemblage, which comprises less than 100 sherds including the components of large parts of two grey ware jars, included two substantial sherds from a Dressel 2-4 wine amphora.⁸⁵ Neither vessel is intrinsically unusual, but their occurrence in the present context is notable and indicates a wider range of trading contacts for the settlement than might otherwise be expected. This might simply reflect the relatively proximity of the settlement to the Roman road which ran approximately on the line of the Banbury Road through North Oxford, but it is also possible that some parts of the settlement amounted to slightly more than simple peasant farms. Whether this amounted to a nucleated site of roadside settlement type remains quite uncertain, however, despite previous claims for the existence of such a settlement in North Oxford.⁸⁶

There is no meaningful evidence for activity on the site between the end of the Roman period and the 17th century. The Civil War defences, the presence of which prompted the fieldwork in the first instance, were duly located. Only part of the ditch lay within the site, however, the associated bank being situated further W., so little can be added to understanding of these defences beyond confirmation of the already-established alignment. An evaluation carried out within the grounds of Mansfield College some 80 m. SE. of the present site (Fig. 1) indicated that the defensive ditch there, at right angles to the alignment examined in the present site, was at least 7 m. wide and over 2 m. deep.⁸⁷

One additional feature on the present site, which perhaps related to the Civil War defences, was an 11 m. long stretch of shallow narrow gully, which was found some 4 m. E. of the line of the Civil War ditch and exactly parallel to it. If contemporary with the ditch, the function of this feature is unknown. Since its dating depends entirely upon the similarity of alignment with the Civil War ditch, however, it is possible that it was rather later and simply set out parallel to the extant but disused earthwork. The alignment of the Civil War ditch was quite similar to that of the majority of the Roman features, a correspondence also noted at the Radcliffe Science Library, where a feature some 6 m. wide noted at the N. end of the site was (if correctly identified) on a very similar alignment to the principal Roman ditches on this site discussed above. The alignment is essentially that of Parks Road as well. Whether or not this was determined by relic landscape features of Roman (or possibly even earlier) origin cannot be established on present evidence.

⁸⁴ Booth, *op. cit.* note 23.

⁸⁵ Young, *op. cit.* note 72, p. 43.

⁸⁶ Cf. Munby, *op. cit.* note 73, p. 49.

⁸⁷ 'Mansfield College evaluation report' (OAU unpubl. client report, 1992).