

A Beaker Pit and Romano-British Settlement at Foxes Field, Ebley Road, Stonehouse: Excavations in 2010

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INTRODUCTION

This report presents the results of excavations carried out by Cotswold Archaeology between September 2010 and March 2011 at Foxes Field, Ebley Road, Stonehouse (OS Nat. Grid SO 8208 0478) (Fig. 1). The development covered c. 3 ha in area within the Frome valley, c. 200 m north of the River Frome, and approximately 1.2 km from the village of Stonehouse. The southern boundary of the site fronts the B4008 Stonehouse to Ebley road whilst its northern boundary follows the Gloucester to Swindon railway; the ground rising gently northwards from 40 m to 50 m AOD. Existing residential developments border its eastern and western edges. Prior to development, the site comprised a single arable field with previous use as a market garden. The underlying solid geology of the area is mapped as Pleistocene third terrace gravels of the River Frome (BGS 1975). However, lias clays were encountered throughout the site, with bands of gravel occurring only within its easternmost extent.

Cropmarks visible on aerial photographs (NMR 216, 1102, 9399, 10196) suggested that medieval furrows and a curvilinear feature lay within the area proposed for housing development. A desk-based assessment, geophysical survey and evaluation (Etheridge 2008, GeoQuest 2009, Young 2009a) were undertaken to investigate the archaeological potential of the area and to inform the Planning Inspectorate when a planning application for housing development was considered at appeal. The evaluation confirmed the presence of furrow cultivation, but did not find a feature corresponding to the curvilinear parchmark. However, it also indicated that some of the magnetic anomalies plotted by geophysical survey related to a previously unknown Romano-British settlement and found additional evidence for prehistoric activity. As a consequence, a condition was attached to the planning permission that required excavation in advance of development.

Excavation commenced with the removal of topsoil by mechanical excavator. The underlying archaeological features were hand-excavated according to a strategy approved by Stroud District Council taking advice from the Gloucestershire County Council Archaeological

Services. The methodology adopted was for the excavation a minimum of 20% of all linear features (unless a smaller sample provided adequate proof of date), at least 50% of all discrete features, and 100% excavation of highly significant features (e.g. funerary, ritual, domestic or industrial).

RESULTS

An area measuring approximately 2.43 ha was subject to excavation. Archaeological features were found throughout this area, with the vast majority concentrated within the south-eastern quarter (Fig. 2). The deep furrows of medieval ridge-and-furrow cultivation, and modern ploughing had significantly truncated the majority of these features, and there was also evidence of root disturbance and animal burrowing, probably attributable to its former use as a market garden.

Stratigraphic analysis, together with the artefactual evidence indicated that four main periods of activity were represented on the site.

Period 1: Late Neolithic/Early Bronze Age (late 3rd millennium BC)

Tree-throw pit 1005, in the north-eastern corner of the site, was an irregular sub-oval shape in plan, with gently sloping sides except along the south-western extent (Fig. 2). It contained two fills, the earliest of which comprised displaced natural clay, evidently dragged up by the roots of the tree when it fell. The latest fill, thought to represent backfilling of the feature, contained 57 sherds of Beaker pottery, originating from at least eight individual vessels, together with a group of 18 worked flints. Two distinctive end-scrapers indicate that the lithics from this feature are probably contemporary with the recovered pottery.

Further prehistoric flints, of which ten were worked, were recovered as residual finds from later features. These included a Mesolithic adze and microlith, and a broken leaf-shaped arrowhead of early Neolithic date. The bulk of the remaining residual lithics comprised debitage which is most likely broadly dated to the later Neolithic or Bronze Age periods.

Period 2: Late Iron Age to Early Roman (1st century BC–later 1st century AD)

The handmade late Iron Age/transitional pottery types that were found within the features of this period have a date range that spans the late Iron Age to Early Roman period. Featured sherds suggest this dating can be refined to the 1st century BC–later 1st century AD. A small number of pits and postholes which only contained this pottery possibly pre-date the Roman

conquest, whilst in some features this transitional pottery was mixed with early forms of Roman pottery.

The Period 2 pits and postholes were found amongst the later Roman activity within the south-eastern quadrant of the site (Fig. 3). Pit 1100 was of particular note amongst a small cluster of four pits around the western terminus of (later) Ditch A. This pit contained a series of fills, including the charcoal-rich deposit 1100 and a fill containing 2.8 kg of fired clay fragments which exhibited clear wattle impressions and curving external surfaces, perhaps representing the remains of a domed oven (Fig. 4). A total of 250 sherds of pottery, including 238 sherds from the same contexts as the fired clay, was recovered from this feature, accounting for 18.5% of the assemblage of late Iron Age/transitional type pottery from the entire site. Two environmental samples taken from pit 1100 contained crop-processing plant remains dominated by spelt wheat. This material may have been redeposited from one of the three pits that exhibited *in situ* scorching, located along the southern edge of Period 3 Ditch A. These are discussed within Period 3 on the basis of two sherds of Roman pottery relating to a secondary use of one of these pits, but it may be that these are further evidence of activity in Period 2.

Three pits located towards the southern periphery of the site contained the severely truncated remains of single vessels of handmade late Iron Age/transitional pottery, which appeared to be set upright within them. Pits 1388 and 1391 were found in close proximity, whilst pit 1369 was located on the western edge of the later Roman hollow J. The pits were circular, with diameters of between 0.35 m and 0.45 m and a maximum depth of 0.25 m, and they were just large enough to hold the vessels within them, indicating that they had been dug specifically for this purpose. Sherds of mid 1st-century AD date within the backfill of 1388 suggest this feature, and by association, pits 1369 and 1391 belong to this period. The pots may have been a form of cold storage, or just possibly contained cremated burials, however micro-excavation of the fills of the three vessels identified no bone, organic remains or residues, and no residual cremated bone was found anywhere on site. The remainder of the features from which only handmade transitional pottery was found comprise three widely distributed pits, and posthole 1211. Of these, pit 1052 lay close to an undated L-shaped gully O, ascribed to Period 3, but which may alternatively belong here.

Period 3: Roman (c. Late 1st to 4th century AD) (Figs 2 and 3)

The majority of the excavated features belong to this period. An area partially enclosed by three ditches in the south-east part of the site contained a concentration of features including a stone-built crop-drying structure, three areas of finds-rich midden material, a ditch, two gullies and a large number (over 300) of discrete features comprising mainly pits and postholes, but including 14 burials (Fig. 3). A trackway ran to the north-east corner of this enclosure, and a smaller number of features were found to the north, south and west of the enclosed area. Dating from this period covers a wide span of the Roman period. Given the broad date ranges of some of the Roman pottery, the high levels of residuality within some features and the damage to upper fills by later agricultural activity, it was difficult to distinguish phases within this period with any certainty. However it is possible to suggest that the enclosure and the trackway were established early in this period, and the burials date to after it had been largely abandoned. The bulk of the pottery spanned the late 1st to 2nd centuries, suggesting most use of the site in this period. The date of a small amount of pottery from midden I extends into the 3rd century, whilst the hollow and a single pit at the southern limit of the excavation suggest a shift in activity to the south in the 3rd to 4th-century. The Late Roman pottery associated with the crop dryer may relate to its demolition rather than its use.

The enclosure

Ditches A and B appeared to define the north and east sides of a rectilinear enclosure, measuring approximately 75 m in length and 50 m in width within which the majority of the archaeological activity was contained. Ditches C and D formed a discontinuous boundary to the south side of the enclosure and may represent internal divisions within a larger enclosure; Ditch D turned south and continued beyond the limit of excavation. There was no evidence of a western boundary to the enclosure and it is assumed that was open on this side or bounded by a less substantial feature, such as a fence, bank or hedge, the evidence for which did not survive. There was no evidence of surviving bank material adjacent to any of the ditches, and the presence of cut features close to the ditches suggests that if banks were originally present they did not survive for long.

The construction of the enclosure may have taken place in the latter part of the 1st century AD with late Iron Age/transitional pottery well-represented in the material recovered from the primary fills of Ditches B and D, mixed with early types of Roman pottery. Slightly later dating, into the 2nd century, may be suggested for Ditches A and C, however this may be a result of later re-cutting, in evidence along Ditch A in particular.

Ditch A comprised a number of intercutting lengths, giving a total length of 65 m. It was aligned east/west and measured up to 1.8 m wide and 0.75 m deep. The earliest ditch fills appeared to be deposited through a combination of silting and backfilling, including discrete dumps of settlement debris. Large quantities of pottery suggested deposition well into the 2nd century along with small quantities of animal bone, ceramic building material, fired clay and slag. The final recut of Ditch A was filled with settlement debris, including quantities of animal bone, slag, fired clay, ceramic building material, daub, burnt stone, worked flint and iron objects, together with 947 sherds of pottery dating predominately to the mid to late 2nd century AD. A large amount of the finds, including 598 sherds of pottery, was recovered from the deep, bulbous re-cut eastern terminus. Most notable was a copper-alloy finger ring, complete with opaque blue glass setting (Fig.10, no. 6).

Forming the eastern boundary to the enclosure, Ditch B was slightly sinuous and survived to a maximum width of 1.6 m and a depth of 0.4 m. The ditch had mainly silted up, but with some evidence of apparent backfilling, from which pottery of mid 1st to mid 3rd centuries was found in small quantities. The southern section of the ditch was recut immediately to the east from which 143 sherds of mid to late 1st to 2nd century AD pottery were recovered. Small quantities of animal bone, fired clay and residual worked flint were also found in the ditch. Ditch B continued south beyond the limit of the site, and ran beyond the enclosure to the north where it was eroded by trackway L.

Ditch C which formed a corner of the enclosure with Ditch B, was up to 1.2 m wide and 0.25 m deep and contained a small amount of finds, including a few sherds of mid 1st to mid 3rd-century pottery. Its relationship with hollow J was obscured by a later furrow. Ditch D was up to 1.75 m wide and 0.6 m deep, and contained up to four separate fills, indicating localised slumping soon after construction, and a period of silting up, before the ditch was backfilled. No evidence of re-cutting was identified. The recovery of nearly 500 sherds of pottery, almost exclusively dated to the mid to late 1st to early 2nd centuries AD, suggests the disposal of domestic refuse in the ditch. Other finds included quantities of animal bone; fired clay; residual worked flint; a naturally perforated stone that may have been used as a loomweight; fragments of copper-alloy strips and a copper-alloy brooch of Polden Hill type.

A further ditch, E, was found in the centre of the enclosure on a parallel alignment to Ditch B. Ditch E was 14 m long, up to 1 m wide and tapered to an end to the south. It contained a single fill which included pottery dated to the mid to late 1st to 3rd centuries. Its function is unclear.

1st to 2nd-century features within the enclosure

The vast majority of features within the enclosure comprised discrete pits and postholes containing very similar, dark silty clay fills, presumably derived from the pre-existing topsoil. Most contained late 1st to 2nd-century pottery.

Although essentially undated, gully O was cut by pit 1660, part of a small band of pits and postholes dating to Period 3 that lay to the north of this gully. This L-shaped gully, which measured approximately 16m in total length, was sharp cornered, and possibly represents a drip gully surrounding a rectangular building constructed in timber or cob, which has left no trace. It was filled with homogeneous silts.

Three pits (1383, 1409 and 1503) adjacent to the southern edge of Ditch A exhibited evidence for *in situ* burning, or having had heated material deposited within them, and may be the bases of ovens used for domestic or small-scale industrial activity within this part of the site. Pit 1383 was sub-oval in shape, 1.2 m long and 0.88 m wide. Although it was relatively shallow, the underlying natural clay was scorched to a depth of 0.2 m indicating a high firing temperature. The fill of the pit comprised hard, baked clay containing no finds. To the west of pit 1383, pit 1409 was of similar shape and size in plan. The natural substrate at the base of this feature had been scorched to a depth of 0.07 m. The pit contained three fills, the earliest of which contained fragments of fired clay, possibly from a collapsed superstructure. This was covered by a fill derived from natural silting, which was in turn sealed by a charcoal-rich deposit suggesting re-use of the partially filled pit. Two sherds of pottery of broadly Roman date were recovered from the second fill of the pit. Sub-square pit 1503 was the smallest of the three pits exhibiting evidence for *in situ* burning. Other than the remnants of a heat-affected clay lining, the pit fill was devoid of finds. Environmental samples from each of the three pits contained no evidence to suggest what processes they were associated with. However, it is possible that the pits area associated with pit 1100 discussed in Period 2 which yielded evidence for crop processing.

Pit 1383 lay on the edge of a possible semi-circular post-built structure approximately 5m in diameter although its proximity to the structure suggests it may not have been contemporary. Posthole 1346 of this structure contained redeposited burnt material, as did pits 1308 and 1427 adjacent to pit 1383. To the east of this, and possibly associated with this activity, a roughly L-shaped trench 1307, measuring approximately 6 m in total length, up to 1.10 m wide and up to 0.15 m deep. This trench could be the foundation for a structure, although the

mixed sandy clay and rubble fill suggests it had been robbed out, and some of the rubble fill was burnt.

The vast majority of the pits and postholes within the enclosure were unremarkable in their size, shape or content. A number of larger pits and a few of the postholes contained post packing, and post-pipes were also visible, but no coherent building plans were evident. Two rows of postholes to the west of crop-drying oven lay too close together to be the walls of a building, but may represent fencelines or a rack. An alignment of postholes was along the northern side of Ditch C may represent the line of another fence.

Two irregularly-shaped deposits of dark, silty clay material, H and I represented the remains of middens, covering areas of 11 m by 5.1 m for midden H, and 10.5 m by 6.95 m for midden I. Both survived within shallow hollows to a depth of 0.12 m but were likely to have originally been significantly larger in size and were subject to considerable truncation by later furrows and subsequent mechanical ploughing. Whilst both contained quantities of plant remains, more artefacts were recovered from midden H than midden I, including 229 sherds of 2nd-century pottery. The eight sherds from midden I also dated to the 2nd century AD. The removal of midden I revealed pits, a posthole and seven stakeholes, some containing pottery types that continued into the 3rd century AD. The fills of these features were similar to the midden, therefore the relationships between them were not generally discernible. The features beneath midden H included large pits, as well as three probable tree-throw pits. Generally, these contained small quantities of pottery of late 1st to 2nd-century AD date, animal bone and ceramic building material. A copper-alloy nail cleaner was recovered from one pit (Fig 10, no. 4).

Later features in the area of the enclosure

A crop-drying oven, located almost centrally within the enclosure, was 'T'-shaped and constructed from rough limestone blocks bonded with clay (Fig. 5). It was 3.3 m long, 1.8 m wide at its widest extent and up to 0.2 m in height, with a maximum of two courses of surviving stonework. The internal flue passage was 0.5 m wide, lined with a thin layer of charcoal-rich silt, thickening towards the southern opening, although no evidence for a stoking pit survived. A sample of this material contained cereal remains dominated by spelt wheat indicating crop processing, as well as large amounts of fired clay fragments, probably from a collapsed superstructure. This layer was in turn sealed by rubble, presumably from the demolition of the remainder of the structure, from which a few sherds of 3rd to 4th-century pottery were recovered.

In the south-eastern corner of the site, a similar deposit to that found in middens H and I filled hollow J, which extended for a distance of 14 m into the site and gradually deepened and widened to the south, to a maximum width of 11 m and depth of 0.35 m at the limit of excavation. This feature may represent the infilled northern end of a hollowed track, similar to trackway L to the north, or a depression created by livestock passing through a gateway. The infilling of the hollow was rich in finds including an abundance of burnt stone, fired clay, slag, worked flint and iron objects, including over 30 nails, as well as small quantities of animal bone and coal; the bulky material was probably chosen to consolidate the ground, an assumption supported by the well-broken pottery assemblage of over 600 sherds dated to the 3rd to 4th centuries AD. Amongst the artefacts of particular note were copper-alloy sheet fragments, possibly from mirrors; a coin dated to AD 353–4; a late 1st to 2nd-century bow brooch and a fragment of vessel glass. Iron objects included a holdfast and T-clamp, riveted strips, part of a knife and a probable padlock key. The ceramic building material included fragments of box-flue tile, *tegula* and brick. The 8.79 kg of slag derived from smelting as well as smithying. Smithying and smelting waste was also found in pit 1534 below the hollow and pit 1725 to the east, but in all locations appears to be redeposited. A narrow gully ran into the northern end of hollow J from which part of a decorated copper-alloy 'Snake's head' bracelet was recovered (Fig. 10, no. 5).

Adjacent to the southern limit of excavation rectangular pit 2120 was 1.55 m long, 0.8 m wide and 0.55 m deep. It had vertically cut sides and a flat base. The four very distinct fills contained some unusual finds that suggest intentional collection and deposition. The earliest fill comprised dark brown organic material from which a quantity of late 3rd to 4th-century pottery was recovered, along with a possible awl made from a red deer antler tine. Overlying this was deposited rubble and clay containing roof and box-flue tile, together with small quantities of other finds. This was sealed by a charcoal-rich layer and finally by a rubble deposit which contained a coin of AD 260–8, a curated silver Iron Age coin dated to c. 30–15 BC, and two fragments of the lower stones from quartz conglomerate querns. Only half of the smaller example was present; the larger stone retained a piece of the iron rynd cemented into the central hole and was almost complete. Other finds comprised an iron shears blade, large quantities of animal bone and pottery.

The burials

A total of 14 human inhumations was excavated from burial cuts, and an additional inhumation was identified from disarticulated remains (Table 5). All the burials except one were dispersed within the Roman enclosure. The outlying burial 2113 lay immediately west of the western terminus of Ditch D. The preservation of the skeletal remains varied, with

some significantly truncated by medieval or later ploughing, although a number survived in relatively good condition. Pottery recovered from the backfills of the graves is likely to be residual, and cannot be used as a reliable indicator of the date of the burial, other than to supply a *terminus post quem*. From the dateable grave goods found in some burials and the evidence for certain burial practices, all the inhumations can probably be assigned to the later Roman period. Limited stratigraphic evidence was available, in that burial 1217, located towards the northern extent of the enclosure and with 2nd to 3rd-century pottery in its backfill, was cut by later burial 1167, and burial 1192, located within the south-eastern corner of the enclosure cut Period 2 posthole 1211. There was no other evidence of intercutting between the burials and other features, except for truncation by furrows or other later cultivation features.

The inhumations included prone, supine, flexed, crouched and extended examples on a variety of orientations. Burial 1192, within the south-eastern corner of the enclosure, contained the skeletons of an older adult male and female, positioned together in a flexed position with the male behind the female (Fig. 6). The majority of the inhumations appeared to have been laid directly in the graves, however there was evidence within a number of the burial cuts for the presence of wooden coffins.

The recovery of iron hobnails or shoe cleats around the feet of five of the inhumations demonstrates that they were buried wearing footwear, a practice which became commonplace in burials associated with rural settlements during the late 2nd and 3rd centuries AD (Philpott 1991, 167), although also found in burials as late as the 6th/7th-centuries AD. In burial 1193, the skeleton was prone, hobnails were recovered from the feet, and a coin dated to AD 324–30 was found adjacent to the mouth area. The custom of placing a coin in the mouth of an inhumation as the fare for the ferryman Charon for safe passage across the River Styx in the afterlife was commonplace by the 4th century (ibid., 214–5).

Other finds associated with the inhumations include a fragment of a lead vessel or sheet from grave 1217, a lead pot repair from grave 1180 and, perhaps most notably, a sizeable iron cleaver (Fig. 10, no.1) interred next to the female inhumation within burial 1171, to the west of midden H. This is an uncommon find from a grave, and most known examples date to the Late Roman period. A flint blade from burial 1158 is probably residual.

In addition to these burials, the partial remains of a neonatal skeleton were recovered from pit 1600, 5 m to the west of midden I. This was the only neonate burial on the site and the only inhumation not formally interred.

Features external to the enclosure

The density of features to the north and west of the enclosure was considerably less. A circular post-built structure K was revealed about 10 m west of the western end of Ditch D. It was c. 6 m in diameter and comprised eight relatively small postholes, all containing charcoal, suggesting that the structure had been burnt *in situ*; one posthole contained 2nd-century pottery.

Approximately 9 m to the north of Ditch A, Ditch 1446 was undated but its alignment indicates that it was part of the Roman activity. Its silt fill suggests drainage. Some 50 m to the north of the enclosure, Ditch F extended on an east/west alignment across the northern part of the site for 65 m. It survived to a width of between 0.7 m and 2.1 m and a depth of between 0.15 m and 0.75 m. It was cut at its most westerly exposed extent by Period 4 track N (Greenstead Lane) and contained a single homogeneous silty clay fill from which a few finds of slag, pottery, residual worked flint and fragments of pennant sandstone roof tile were recovered. It may also have served as a drainage ditch. A series of broadly parallel narrow linear features, some intercutting, were revealed to either side of Ditch F. These measured between 0.15 m and 0.8 m in width and 0.05 m and 0.3 m in depth. Although difficult to interpret, it is likely that they represent Roman cultivation features. They contained a few finds which included a small quantity of Roman pottery. A discontinuous pair of narrow parallel features within the north-western part of the site may represent similar activity.

A broad, shallow, curving linear feature, L, extended from close to the north-eastern corner of the site southwards towards the entrance at the north-eastern corner of the enclosure, cutting through Ditches B and F. This feature appears to represent a hollow way up to 7.5 m wide and 0.6 m deep. The fill of the trackway, which appears to have derived from general silting, included a small number of pottery sherds broadly dated as Roman, as well as a group of nine worked flints recovered from one location towards the northern exposed extent of the feature.

A number of pits and postholes to the south of Ditches C and D indicate that activity continued southwards beyond the limit of excavation.

Period 4: medieval to 19th century (Fig. 2)

A co-axial pattern of furrows associated with ridge and furrow cultivation was observed throughout the site. These were aligned approximately north-east/south-west and north-west/south-east, and the intercutting furrows suggest two periods of activity. No medieval pottery was found, although the method of cultivation is typical of this period. A single sherd post-medieval pottery was recovered from one of the furrows and others contained quantities of residual Roman finds.

A broad ridge of material mainly composed of stone, ceramic building material and ashy deposits (N), crossed the north-eastern part of the site on an approximate north-west/south-east alignment, post-dating all other deposits. This matched the alignment of Greenstead Lane, dividing land belonging to Stonehouse parish to the south and Randwick to the north on the Tithe Survey maps of 1839 (GRO/P316a SD2) and 1842 (GRO/GDR/T1/146). The lane may represent an earlier route between Ebley and Stonehouse, although only 19th-century material was found during excavation. The lane fell into disuse after it was bisected by the railway line to the north of the site in 1845 (Etheridge 2008).

FINDS

Lithics by Ed McSloy

Worked flint amounting to 179 pieces was recovered from 65 deposits. A further quantity of heat-affected, but not worked material, was recovered. The bulk of material was hand recovered, with 16 pieces retrieved from bulk soil samples. The worked flint was scanned by context and fully recorded. Attributes recorded include type, count, colour and conditional aspects including patination/cortication and where 'rolled'.

The large bulk of the assemblage was clearly re-deposited, recovered from Late prehistoric and Roman dated features (Table 1). A small group of 18 worked pieces and one burnt flint relates to tree throw 1005 from which pottery of Beaker type was recorded, and which is the only feature allotted to Period 1 (Late Neolithic/Early Bronze Age).

Condition

The majority of the lithics had some degree of breakage or edge damage, although only a few pieces were excessively edge-damaged or 'rolled'. A significant proportion (75 pieces or 43%) was patinated; this varying from a light mottled discolouration to an overall white. The group from the Period 1 tree-throw was almost entirely heavily patinated; presumably the

result of deposition over time in a calcareous burial environment. The Period 1 group was mainly 'sharp' and contained the small removals often associated with stratified groups.

Raw material comprises primarily mid or darker grey flint, with a few of pale grey, reddish brown and 'honey coloured' examples. The quality appears to be good, with no instances of heavily flawed flint recorded. The surviving cortex is generally thick and unabraded, suggesting the use of chalk or chalk soil sources. Several cores from the assemblage were worked down to a very small size (their average weight is only 34 g), a factor consistent with an area where flint is not naturally present and where good quality material would be worked until unpractical.

Composition and Dating

Pieces with secondary working amount to only 13 items (7.4%); of which three pieces, all scrapers, derived from Period 1. Among the re-deposited material there is evidence for activity across the Mesolithic, Early Neolithic and the Later Neolithic/Early Bronze Age.

Mesolithic activity is evidenced by single examples of an adze (Fig. 7, no. 1) and a microlith (Fig. 7, no. 2) and two backed blades. Single/opposed platform bladelet cores, rejuvenation flakes/keeled flakes and blades/bladelets also probably date to this period, as might a proportion of the scrapers and flake debitage. The adze no. 1 is a rare example of this class from western counties.

Broken leaf arrowhead (Fig. 7, no. 4) is the only piece certainly of early Neolithic date, although a proportion of the blade and flakes might belong to this period. No dating can be ascribed with certainty to the scrapers which account for the remainder of the tools, although the examples from tree throw 1005 are feasibly contemporary with the Beaker pottery.

Flakes/broken flakes and other debitage types make up the bulk of the assemblage. Characteristics of broader, squat proportions; use of hard hammer percussion and the scarce use of platform preparation which is common to the majority of flake removals would be most consistent with flintworking from the later Neolithic and Bronze Age. The flake removals are overwhelmingly tertiary (64 pieces or 71%) comparing with 17 which are secondary and nine primary flakes. This would suggest that primary reduction was undertaken elsewhere, and that most flaking related to tool manufacture or repair.

Discussion

The group associated with tree throw feature 1005 comprises mainly un-retouched flakes, the fresh condition of which is consistent with this being contemporary with the associated Beaker pottery. The size and range of the lithics assemblage is indicative of earlier prehistoric activity more substantial than might be suggested from the single surviving Period 1 feature, and it is clear that the location was a focus for activity beginning as early the Mesolithic. Given the domestic character of the Beaker pottery, it is tempting to ascribe the bulk of the re-deposited lithics to this period. The evidence relating to this period is typically sparse, but could signify seasonal or semi-permanent habitation.

Catalogue of illustrated items (Fig. 7)

- 1 Period 3 ditch 1338 (fill 1339). Mesolithic adze from unpatinated mid/darker grey flint. The cutting edge is damaged, but some suggestion of tranchet sharpening to the ventral. Length 158 mm.
- 2 Period 3 ditch 1338 (fill 1339). Microlith (broken). Obliquely blunted. White-patinated flint. Length: 20 mm.
- 3 Period 4 pit 2021 (fill 2020). Crested blade (broken). Dark grey flint with mottled patina. Length 38 mm.
- 4 Period 3 pit 1676 (fill 1675). Leaf-shaped arrowhead (broken). Ogival form? Unpatinated dark grey flint. Length 26 mm.

The Beaker Pottery by E.R. McSloy

The Beaker pottery (57 sherds; 416 g) relates to a single feature, tree throw 1005. A minimum of eight vessels are represented (catalogue nos. 1–8). The Rim EVEs value is 0.79.

Description: Fabrics

Fuller descriptions of the pottery fabrics are available in the archive.

BKG Medium/coarse grog. Common, moderately-sorted and sub-angular grog 1–3mm.

BKGf Fine grog. Sparse fine, well-sorted grog (0.5–1 mm) in silty matrix.

BKGq Common, well-sorted and sub-angular grog 1–2 mm; sparse, moderately sub-angular quartzite 0.5–1.5 mm.

The condition of the Beaker group is mixed with some surface loss. Fineware vessels (Fig. 8, nos. 1–3) are thinner-walled and exhibit impressed comb decoration; the coarsewares are thicker and undecorated or with fingernail ‘rustication’.

The level of fragmentation makes classification and stylistic comparisons difficult. The concave neck exhibited by vessel no. 1, and the banded comb-impressed decoration seen with vessels nos. 1–3 are characteristics of Style 2 (middle Beaker phase) as defined by Case (1993), as is the occurrence of rusticated (fingernail-decorated) vessels (nos. 4–7). Although absolute dating programmes have cast some doubt on the validity of the early/middle/late divisions (Kinnes *et al.* 1991), a date in the final quarter of the 3rd millennium BC or a little after, is probable.

Little, if any, Beaker pottery has been recorded previously from the Severn Vale (Darvill 1984; 2006) and the material described here represents a significant discovery. Although seemingly ‘non-funerary’, the nature of the activity at Foxes Field is difficult to characterise. The mix of finewares and coarsewares suggests a ‘domestic’ group, and together with the (re-deposited) lithics hints at evidence for settlement. The ephemeral nature of Beaker ‘settlement’ is, however, well-understood (Gibson 1982).

Catalogue (Tree-throw 1005) (Fig. 8)

- 1 Fabric BKf. Rim (simple) and concave neck. Decoration consists of grouped bands of square-toothed comb impressions. (3 sherds; 30 g; 0.08 EVEs).
- 2 Fabric BKG. Out-curved rim and bodysherd. The bodysherd with impressed comb decoration as bands, and zone with crosshatch. (7 sherds; 24 g; 0.05 EVEs).
- 3 Fabric BKG. Weathered. Out-curved rim and bodysherds with indistinct banded decoration. (11 sherds; 28 g; 0.05 EVEs).
- 4 Fabric BKG. Concave neck; thickened/collar-like rim. Decoration as rows of impressed fingernail. (15 sherds; 184 g; 0.05 EVEs).
- 5 Fabric BKG Bodysherds with indistinct banded decoration. (2 sherds; 28 g). *Not illustrated.*
- 6 Fabric BKG. Weathered. Thickened/collar-like rim, undecorated bodysherds and simple base. Thickness 9–9 mm. (15 sherds; 85 g; 0.06 EVEs). *Not illustrated.*
- 7 Fabric BKGq. Thickened/collar-like rim; bodysherd with fingernail impressions in rows. (3 sherds; 26 g; 0.10 EVEs). *Not illustrated.*
- 8 Fabric BKGq. Bodysherd with indistinct comb impressions. (1 sherd; 11 g). *Not illustrated.*

The Roman Pottery by E.R. McSloy

Pottery amounting to 5570 sherds (64.4 kg) was recovered from 267 deposits. Further quantities (800 sherds) from the evaluation were not re-examined as part of this work, a report detailing that material can be found in the archive. The assemblage was quantified by sherd count, weight and a measure of surviving rim percentage: estimated vessel equivalents (EVEs). Coding for Roman types includes nomenclature for the National Roman Fabric Reference Collection (Tomber and Dore 1998). The assemblage was sorted into 30 fabrics (Table 2) defined according to primary inclusion and characteristics of firing. The majority conforms to established ware types, where source (or region) is known and for which the typological development in the repertoire is well-understood.

The larger part of the assemblage was derived from cut features; primarily ditches/gullies (2393 sherds; 43%) and pits (1649 sherds; 30%). Significant quantities also come from midden layers 1332 (midden J) and 1344 (midden H) (928 sherds; 17%). The residue was derived from a mix of cleaning layers, subsoil deposits, grave and furrow fills. The moderately high mean sherd weight (12 g) for the Roman assemblage does not suggest high levels of disturbance. Surface survival tends to be poor, caused mostly by environmental factors, rather than abrasion.

The pottery from the evaluation and excavation is broadly reflective of 'rural' site groups from the Severn Vale to the south of Gloucester. The dominance of jars (59.7% by EVEs) is a feature common to most Romano-British groups, though typically is most pronounced for rural sites. Lids occur sparsely (0.7%), although some further sherds with sooting may also be of this form. Open forms (20.4%) are mainly utilitarian classes in Black-burnished ware or Severn Valley ware, although there are a few platters (1.2%) from among the earliest groups. Drinking vessels are well-represented (17.2%), this being typical of Severn Valley ware-dominated groups, where tankards and cups are usually prominent. By contrast, incidence of specialist forms comprising flagons (0.5%) and mortaria (1.4%) is low.

Transitional and 'Belgic'-derived: MAL REA; MAL REB; SHELL; GROGc; GROGf

Transitional pottery (handmade types with Iron Age origin, persisting into the Roman period) makes up 22% of the total by count. Most or all are from the area of the Malvern Hills and comprise jars, with simple or everted-rim classes (Fig. 9, no. 1) and large hammer-rim forms (Fig. 9, no. 3). Wheelthrown, grog-tempered types, mostly necked bowls in the same tradition of 'Belgic' wares known in South East England as early as the 1st century BC, make up a further 2.5%.

Severn Valley ware: SVW OX2; SVW OXg; SVW OXo; SVW RE

This is the dominant coarseware tradition within the Severn Vale and wider region, current throughout the period. At this site it accounts for 43% of the total by count. Approximately half of identifiable vessels are jars; the majority (70%) necked storage jar classes; the remainder wide-mouthed forms (30%). The presence of early fabric variants (SVWOXg; SVWOXo), carinated cups/bowls (Webster 1976, Class H) and platters (ibid., Class K) support dating centring in the later 1st and 2nd centuries.

Micaceous greywares: MIC GW

Abundant in Gloucester and the Severn Vale. Dating to the later 3rd/4th centuries, its scarcity (just 2.2% overall) reflects reduced levels of activity at this site in this period.

Coarsewares: BS; GWc; GWf; BBIM; OXID; SAV GT; SOW WS; DOR BB1; OXF WH;

The modest quantities from the Savernake kilns (2% by count), include necked jars and neckless/bead-rim storage jars. Most abundant of the sandy reduced (12% of the total by count) are black-firing wares (fabric BS), equivalent to 'local' Cirencester type 5 (Rigby 1982a). Sandy greywares and oxidised wares compare with North Wiltshire wares described from Cirencester (Rigby 1982b: fabrics 17/98). Probable Wiltshire type SOW WS is poorly represented, the sole identifiable form is a collared mortarium (cf. Rigby 1982b fig. 43, no. 47) from hollow J. Dorset Black-burnished wares make up 10% of the assemblage total, within which jars predominate (66% by EVEs). Oxfordshire whitewares are uncommon, present as single examples of forms M3, M14 and M17 classes (Young 1977).

Finewares and white-slipped/other flagon fabrics: OX FF; WS FF; MISC CC; OXF RS

The small numbers of this type may be an underestimate, the result of poor surface survival. A vessel which retains a thin orange slip is campanulate cup (Fig. 9, no. 6), identified as a rare incidence of Caerleon ware and of the first half of the 2nd century. Also unusual is a lead glazed beaker (Fig. 9, no. 7). Colour-coated vessels, including bag-shaped beakers of Antonine type from Ditch A, may be North Wiltshire products. White-slipped flagon fabrics may also be North Wiltshire products or from the area of Gloucester. Oxfordshire red-slipped wares, which are dateable after c. AD 270, are uncommon.

Samian: LGF SA; LEZ SA2; EG SA (Table 3)

The samian represents a small group: 68 sherds or 1.3% of the total. Included are nine sherds of South Gaulish (La Graufesenque) manufacture, suggesting some use before c. AD 110. Of the rest, 46 sherds are Central Gaulish (Lezoux), the remainder (13 sherds) of East Gaulish origin. The majority probably pre-dates c. AD 160, an East Gaulish Drag. 38 from pit fill 1280, being a probable exception.

A find of note from the evaluation phase of work was a British samian dish Drag. 18/31 made at Pulborough, Sussex (identification made by J. Timby and J. Bird). This is a rare occurrence from Gloucestershire, although previously recorded from Sea Mills (Timby 1987).

Amphoras: BAT AM2

Amphora types are restricted to bodysherds in Baetican (southern Spanish) fabric BAT AM2.

Stratigraphy and dating

Period 2

The large bulk of the pottery belongs to the transitional handmade tradition. Jar no. 1 from pit 1100 is typical of the vessels in Malvern Hills limestone-tempered fabrics from the Late Iron Age and continuing as late as the 70s AD. Three large storage jars of the Late Iron Age/transitional wares set upright into pits 1369, 1388 and 1391 were possibly used for cold storage. Fully Romanised pottery found within feature 1388 included a collared flagon of Claudian/Neronian type (Fig. 9, no. 2). This might suggest a post-Conquest date in this instance, although these sherds derive from the backfill.

Period 3 (Table 2)

Establishment of the enclosure by the end of the 1st century AD is indicated by large pottery groups associated with the initial use of Ditches B and D, together with deposit 1344 (midden H). Late Iron Age/transitional wares continue to be well-represented in this period, occurring alongside reduced coarsewares and Severn Valley ware. A few groups contain South Gaulish samian sherds of platter form 18, consistent with Flavian/Trajanic dating. A notable absence from such groups is Dorset Black-burnished ware (BB1), a strong indication for dating before c. AD.120

The composition of pottery groups from filling of the re-cuts of Ditch A is distinct from those of Ditches B and D. Together with groups from pit and gully features internal to the enclosure, this material indicates activity continuing well into the 2nd century. The scarcity of Late Iron Age/transitional types is very apparent from the 2nd-century groups, as is the abundance of Dorset Black-burnished ware and the routine presence of Central Gaulish samian. Dorset Black-burnished ware forms are mainly jars with acute-angled lattice (Seager-Smith 1993; Types 1–2) with fewer dishes with plain or moulded rims (Seager-Smith 1993; Type 20 and 22). Severn Valley wares are abundant from these deposits, mainly as jars and tankards; the latter with straight or slightly flaring walls and lattice decoration typical of the 2nd century AD (Fig. 9, no. 8).

Evidence from the pottery for dating after c. AD 220/250 is scarce and material of this date is absent from the fills of the enclosure ditches. The large group from hollow J contains some late elements including late Dorset Black-burnished ware forms, although this group is well broken-up and disturbance is suspected. Quantities of micaceous greyware MIC GW are small overall (2.2% by count), and compare with 21% (by weight) at Frocester, a site with significant activity into the 4th century (Timby 2000). The rectangular pit 2120 alone contained a moderately large pottery group suggesting a date in the late 3rd or 4th centuries (64 sherds). The group included 27 sherds of micaceous greyware occurring as Dorset Black-burnished-derived dishes and jars. Also present were a late form Black-burnished ware jar and sherds of Oxford red-slipped ware; the sole occurrence from the assemblage.

Summary

Overall the assemblage is unexceptional in its composition and compares to that from the earlier Roman phases at Frocester (Timby 2000). The small size of the samian group (just 1.3% by count) and the utilitarian character of the coarse pottery, are indications that the earlier Roman assemblage relates to a lower status community. The earliest (Period 2) activity may contain some pre-Roman material among the Late Iron Age/transitional wares, though a date of around the Conquest would seem more likely. Pottery relating to major landscape features Ditches B and D probably dates to the later 1st century AD. That from Ditch A is significantly later, probably dating to the middle or later 2nd century AD. The apparent disconnect implies that Ditch A is a later addition, or is the result of re-cutting. Activity within the enclosed area dates across the late 1st and 2nd centuries; the large midden deposits suggest domestic activity nearby. There is little evidence for substantive activity past c. AD 200 from the pottery assemblage, and it seems very likely that the enclosure was abandoned well before its use for burial, probably in the 4th century AD.

Illustrations (Fig. 9)

Period 2

- 1 Pit 1100 (fill 1101). Fabric MAL REB. Jar with upright/internally-bevelled rim.
- 2 Pit 1388 (fill 1389). Fabric OX FF. Collared flagon.

Period 3

- 3 Ditch D (fill 1639). Fabric GROGc. Large storage jar; hammer-rim (cf. Spencer 1983, fig. 3).
- 4 Ditch D (fill 1275). Fabric LOG GWf. Ovoid beaker (cf. Rigby 1982a, fig. 51 no. 52).
- 5 Ditch D (fill 1137). Fabric OXID. Handled bowl.
- 6 Gully 1606 (fill 1607). Fabric MISC CC (Caerleon ware?). Campanulate cup (Drag.27 copy).

- 7 Pit 1564 (fill 1482). Wiltshire glazed ware. Beaker or cup? attributable to Arthur's Wanborough group (Arthur 1978, 319–24, fig. 8.8, no. 8.2).
- 8 Ditch 1199 (fill 1200). Severn Valley ware. Tankard (cf. Webster 1976; Class E39). Probable second (distorted).

Metalwork and worked antler by E.R. McSloy

A total of 575 items of metal and one of worked antler were recovered. Items of intrinsic interest are described here, with full details of the remaining items in the archive. The vast majority (554 items) were of iron. The majority comprise nails or fragmentary items of uncertain use. 'Household' objects include three knives; one of which, from Period 3 pit 1622 was classifiable by its form (Manning's Type 23, 118). Agricultural implements include a fragmentary ploughshare from Period 3 pit 1606 and a shears blade from pit 2120. The latter was of Manning's Type 2 (1985, 34) and of a size of size suitable for sheep shearing or crafts use. Hollow J, which produced smithing-related ironworking waste, also produced large quantities of ironwork (48 items). A number of structural fittings were recorded from this deposit including two 'holdfasts' and a T-clamp, together with 33 nails.

Objects of copper-alloy (16 in total) comprised personal dress/toilet items as well as fragmentary/unidentifiable material. From Period 3 Ditch D is a Colchester derivative brooch of Polden Hill type (not illustrated). It belongs to Mackreth's transitional type 2(a) (2011, 70–1) and probably dates to the later 1st or early 2nd centuries AD.

The single worked antler object recovered from Period 3 pit 2120 consisted of a red deer antler tine, 125mm in length, and perforated for suspension. It was worn smooth from use or handling and may represent a weaving implement or piercing tool.

Grave finds

A total of 54 nails derived from graves, with larger groups from graves 1530 (13 nails) 2110 (6) and 2113 (32), indicating the use of wooden coffins. Clusters of iron hobnails were associated with graves 1158, 1167, 1171, 1193, 1217 and 2113, and represent the remains of nailed footwear worn, rather than placed, within the grave. In addition iron shoe 'cleats', some of unusual form, were recorded (Fig. 10, no. 2).

Other than the nailed footwear, a coin from grave 1193 (coin list Ra. 112) and iron cleaver no. 1 were the only objects deposited as 'grave goods'. Knives and cleavers are uncommon

Romano-British grave finds (Philpott 1991, 176–7). Most known examples date to the Late Roman period.

Illustrated items (Fig. 10)

Iron

- 1 Period 3 grave 1171. Iron cleaver. Socketed. The blade back is level with the socket and continues this line to the tip. The blade edge is strongly convex. No. 1 compares to Roman type 1B cleavers described by Manning (1985, 122). The rounded notch at the junction of the socket and blade is however untypical. A similar socketed cleaver from Cirencester is also a grave find (*Antiquaries Journal* 1927, 321). Length 255 mm; Width (max): 72 mm; Diameter at socket 30 mm.
- 2 Period 3 grave 1144. Iron shoe cleats (x10). Two or possibly three cleats are of the same form as the illustrated example (no. 2), which features a conical projection. The remainder are plain and compare with examples from Kingscote (Scott 1998, 165). Width 16–18 mm.

Copper alloy

- 3 Period 4 furrow 1228. Umbonate plate brooch with hinged pin in place. Variant of Macketh's British Plate series including gilded types 3.b.6 (Mackreth 2011, 162–3) and round, single-zoned brooches. No. 5 is a simple example of the class, without tooled decoration, and all traces of original gilding seemingly lost. Dating for the class concentrates in the mid-2nd to mid-3rd centuries. Diameter 22–24 mm.
- 4 Period 3 pit 1513. Nail cleaner. Blade is straight for most of its length, with a slight expansion towards its tip. The perforated head is semi-circular, with rectangular mouldings below, decorated with single and double transverse grooves. All faces of the blade have fine grooves bordering the longer sides. No. 8 matches Eckardt and Crummy's loosely agglomerated 'straight-sided nail cleaners with varying decoration' (2008, 134–5), and resembles an example illustrated from Woodeaton, Oxon. (Kirk 1949, fig. 6.6). Probably 2nd century. Length 52 mm; width 5 mm.
- 5 Period 3 gully 1606. Penannular bracelet with snake head terminals (Johns Type Bii, Johns 1996). The surviving head is diamond-shaped, separated from the hoop by a raised collar. The spine of the hoop and the centreline of the head feature groove-defined 'rope' decoration. The snake's mouth is shown as a groove and the eyes as punched circles. 'Serpentine' bracelets belong to the 1st to 3rd centuries AD (Johns 1996, 44). No. 5 is near identical to a bracelet from Hertfordshire (Watters 2011: BH-343C86). Width (head) 14 mm; width (hoop) 5 mm.

- 6 Period 3 Ditch A. Finger ring. Oval hoop expanding towards the bezel. Plain oval setting of opaque blue glass. Henig's dating for this class (type 2) is the later 1st to 2nd centuries AD (Henig 1978). Pottery supports dating in second half of the 2nd century. Width across hoop 20mm; width at bezel 7 mm.

Lead alloy

- 7 Period 3 hollow J 1332. Fragment from flat object with square settings. One setting retains a samian *tessera*. The use of samian in mosaic pavements is well-known, and 'curated' material may have been used following cessation of imports by the mid-3rd century. The use of lead as a bedding medium is unusual. Use for repair or as part of a removable panel (pers comm. Jörn Schuster) are possibilities. Length 45mm.

Coins by E.R. McSloy

Iron Age (silver)

- 1 Ag unit. Uninscribed 'Dobunnic D'; van Arsdell 1049-1 (c. 30-15 BC) (van Arsdell 1989); Mack 379 (Mack 1975). Fill of Period 3 pit 2120. A re-deposited find, occurring from the same deposit as radiate no. 2 and quantities of later Roman pottery.

Roman (copper alloy)

- 2 Gallienus radiate, AD 260-68. As RIC V 584, details uncertain. Fill of Period 3 pit 2120.
- 3 Helena AE3, AD 324-30. *Securitas Reipublicae*; Trier (STR). LRBR 35. Fill of Period 3 Grave 1193. Recovered from the head area of inhumation 1195, and seems likely to have been placed in the mouth; the most common location for coins from graves up to the 350s (Philpott 1991, 212). The coin is unworn and retains its silvery wash, an indication that it may have been new when deposited.
- 4 AE4 copy. Fallen horseman type, AD 353-54 (or later). Period 3 Hollow J 1332.

The Worked stone by Fiona Roe

Introduction

The worked stone was examined with a x10 hand lens to determine the lithic materials, which are varied, though none are unusual occurrences on a Gloucestershire site. Nine Roman worked stone objects were identified, together with 16 or more small fragments of

building stone. There are also 150 fragments of burnt stone, most small in size. In addition to these finds, a prehistoric pebble-hammer was recovered during the evaluation (Young 2009a, 17).

Description: stone objects

There are pieces from five rotary querns, all made of Upper Old Red Sandstone from the Wye Valley/Forest of Dean area. This Old Red Sandstone is variable in character, so that these querns were made variously from plain sandstone (no. 3), pebbly sandstone (nos. 2 and 5) and quartz conglomerate (nos. 1 and 4). The quartz conglomerate quern (no. 1), a near complete lower stone, is a rare find, as it has a residual piece of the iron spindle fixed into the hole with lead, with some additional plaster (Fig. 11). With a diameter of around 440 mm, this lower stone would have been above average in size, but the other four querns were on the small side, with estimated diameters of between 360 and 390 mm. The complete lower stone (no. 1), and half of a smaller lower stone (no. 5) were possibly deliberately placed in pit 2120.

The single whetstone (no. 7) consists of a variety of fine-grained calcareous sandstone that has often been attributed to the Cretaceous Kentish Rag. Recent detailed study has now shown that such whetstones were made from a different Cretaceous sandstone that occurs in the Weald Clay formation (Allen and Scott forthcoming). It is a well-worn fragment of the rod variety and can be matched by similar whetstones currently known from at least 14 further Roman sites in Gloucestershire as well as from many other Roman sites generally. A fragment of imported Kimmeridge shale was found in the hollow J. This shale, often in the form of bracelets, is frequently recorded from Gloucestershire Roman sites, as indeed elsewhere. The find from Foxes Field however, is part of a fairly thick, flat object and so may come from the base of a dish or else have belonged to a tray or table top.

Two Roman objects are made from stone with a local provenance. The polisher from the subsoil consists of part of a quartzite pebble with particularly marked polish on the two main surfaces. Such polishers are common on Roman sites, with examples known from at least 17 sites in Gloucestershire alone, so a 2nd-century date for this item is probable. The glossy surfaces may have been caused by wear from smoothing textiles such as linen. A naturally perforated piece of shelly limestone from Ditch D may have been utilised as a loomweight. The broken half of a pebble-hammer with an hour glass hole (701) from the evaluation was originally identified (incorrectly) as a stone macehead (Young 2009a, 17). Approximately half of the object was present, made from red crystalline sandstone, and was broken across the central hour-glass perforation. Pebble-hammers of this type span the Mesolithic to Bronze

Age periods and are often found re-deposited. They are common generally and often made from quartzite pebbles (Roe 1979, 36 and figs 14, 15).

Building stone

No stone-built domestic structures were uncovered at the site, but a few small pieces of building stone suggest that Roman buildings may have existed within the vicinity. The majority of the building stone is of local provenance. Both Lias and calcareous sandstone could have been used for construction, and the same two materials may have been further utilised for paving. Not all structures need have been thatched, since ceramic roofing tile was recorded. Two pieces of roofing tile consist of Pennant sandstone which could have come from the Forest of Dean area if not from the Bristol Coalfield. While this sandstone may have been utilised for a complete roof, it may alternatively have been made into a decorative feature, as dark red bands in contrast with lighter-coloured roofing tiles of local limestone or calcareous sandstone.

Burnt stone

There is some 7k g of burnt stone, nearly half of which came from midden I, while the remainder was dispersed mainly in pits and ditches throughout the site. Burnt stone is common generally on prehistoric sites and it seems likely that most of it relates to previous Iron Age or Late Iron Age/Early Roman activity on the site.

Discussion

The worked stone conforms to finds that have been recorded from other Gloucestershire Roman sites, suggesting an altogether conservative element of lithic usage in this area. The imported stone found at Foxes Field, consisting of Upper Old Red Sandstone, Pennant sandstone, Wealden sandstone and Kimmeridge shale, can all be matched at nearby Frocester Court (Price 2000; 2010 and Gloucester Museum) and at numerous other Gloucestershire Roman sites (Roe 2007). Roman rotary querns made from Old Red Sandstone are particularly common, being widely distributed both within and outside the Cotswold area (Shaffrey 2006). The burnt stone may represent the continued Iron Age and earlier prehistoric practice of cooking with heated stones, and the building stone is characteristic of an area where Jurassic limestone was widely used for construction and roofing. The occurrence at Foxes Field of both Old Red Sandstone and Pennant sandstone may be linked with the evidence for iron working at the site, since iron ore may also have been obtained from the Forest of Dean. In conclusion the worked stone from this site is typical of local Roman sites, while further comparisons can be made over a wider area.

Catalogue

Illustrated (Fig. 11)

1. Period 3 pit 2120. Rotary quern lower stone. Upper Old Red Sandstone, quartz conglomerate. Nearly complete. Large disc style rotary quern with residual fragment of iron spindle fixed into central hole, damage to rim in two places, rim otherwise pecked to shape, convex grinding surface prepared by pecking and with traces of wear around edges, underside roughly trimmed to shape ; thickness at rim 52 mm, diameter 440 mm. Weight 23.6 kg.

Not illustrated

2. Period 3 pit 1394. Rotary quern lower stone. Upper Old Red Sandstone, pebbly sandstone. Part of thick Iron Age-style rotary quern. Rim and underside damaged, convex grinding surface well prepared by pecking and only slightly worn, fully bored hour-glass spindle hole; max thickness 88 mm, diameter < 380 mm. Weight 6000 g.
3. Period 3 pit 1474. Rotary quern upper stone. Upper Old Red Sandstone, sandstone. Segment from Roman disc-style quern. Slightly concave grinding surface prepared by pecking in radial lines and with wear around rim area. Top surface shaped by chisel marks, small hollow around central hole for rhynd, rim shaped by pecking; maximum thickness 51 mm, diameter c. 370 mm. Weight 2117 g.
4. Period 3 pit 1608. Rotary quern upper stone. Upper Old Red Sandstone, quartz conglomerate. Segment from Roman disc-style quern. Slightly concave grinding surface with traces of pecking, also traces of pecking into shape on top surface and rim; maximum thickness 61 mm, diameter c. 390 mm. Weight 2201 g.
5. Period 3 pit 2120. Rotary quern lower stone. Upper Old Red Sandstone, pebbly sandstone. Almost half of the lower stone of Roman disc-style quern. Convex grinding surface with traces of wear into rings. Neatly pecked into shape, round rim, fully bored by a narrow hole, underside uneven with traces of burning; max thickness 69 mm, diameter c. 360 mm. Weight 4748 g.
6. Period 4 (subsoil). Fragment of quartzite pebble with two sides worked to a very high gloss from use as a polisher; 66 x 37 x 35 mm. Weight 125 g.
7. Period 3 pit 1705. Whetstone. Wealden sandstone. Segment of whetstone, unevenly worn, originally rod variety; 64 x 29 x 25 mm. Weight 64 g.
8. Period 3 hollow J. Object fragment. Kimmeridge shale. Slightly burnt, no working traces remain. 67 x 38 x 18 mm. Weight 49 g.

Metallurgical Residues by Sarah Paynter

Introduction

A total of 11.9 kg of metalworking waste is considered below. The assemblage adds to the 5.7 kg of material from evaluation trenches (Young 2009a) and provides evidence for smithing utilising coal as fuel, and smelting. Whilst most of the slag derived from Period 3 contexts, the morphology of some of the smelting slag was atypical for the Roman period. A very small quantity was found in a Period 2 context (Late Iron Age to Early Roman), the remainder, from Period 4, was probably disturbed from Roman features by later agricultural practices.

Approximately 74% of the ironworking assemblage (by weight) from the excavation derived from the Period 3 hollow J. Features in the same area such as pit 1534 (fill 1532) and gully 1606 (fill 1605) accounted for a further 8% (by weight) of the assemblage. The assemblage was examined, divided into technological categories and weighed by context (Table 4). Waste from both iron smelting and iron smithing processes were identified.

Results: smelting

Roughly a quarter of the assemblage, that comprising flowing slags and material described as 'dense' slag, can be attributed with greater or lesser certainty to iron smelting. Evidence for unused ore is sparse; restricted to fragments (24 g) of iron-rich *stone* from pit 1725.

Flowed slags are characteristic of tapping furnaces, where the molten slag was 'tapped' through a hole at the base of the furnace. The slags produced are distinctive, exhibiting flow marks on the upper surface. Furnaces of this type are known from the Late Iron Age, throughout the Roman period, and again from around the mid-medieval period onwards. Approximately half (567 g) of the flowed slag was derived from Period 4 furrows or from the subsoil. The largest context group was that from hollow J (345 g), with small quantities identified from grave 1158 (22 g) and Ditch F (79 g).

A slightly larger proportion of the smelting slags (1456 g; compared to 1099 g of flowed slag) consists of 'dense slag'. This material is considered to be characteristic of the use of non-tapping furnaces, or slag-pit furnaces, where the slag collected during the smelt in the bottom of the furnace or in a pit below the furnace shaft. Slag from non-tapping furnaces solidifies in large cakes, which sometimes contain impressions of straw or large pieces of

wood. These cakes can break into lumps of dense iron slag. In England, non-tapping furnaces were used in the Iron Age and early medieval periods (Paynter 2006 and 2007).

The distribution of the dense slag shows little correspondence with that of the flowed slag; only hollow J, productive of 74% of the metallurgical residues overall, included quantities from each class. The largest quantities relate to pit 1534 (837 g) and a gully to the north of Ditch F (400 g), with the residue from ditch 1338 and pit 1709.

Smithing

Evidence for iron smithing (the working or re-working of iron implements) is present most obviously in the form of smithing hearth bottom slags (SHB). This category of material, formed in the base of smithing hearths during use, tends to a characteristic morphology, with a fairly flat top, a bowl-shaped bottom and a spongy texture. SHB slags weighing 2068 g were identified only from hollow J.

Evidence for iron smithing in the form of microscopic residues (hammerscale) was sought from the numerous processed soil sample residues. Although many contained small quantities of magnetic material, this was mostly fired clay or stone. Sample 116 from the backfill (1159) of grave 1158 was notable in containing several grams of hammerscale. This grave is just north of the large deposit of ironworking waste in hollow J.

Pieces of coal (9g in total) were also found amongst the assemblage (hollow J; ditch F; gully 1572 and pit 1810) and may relate to its use for smithing. Coal fuel has occasionally been noted on other Roman sites near to coal sources (Dearne and Branigan 1995). Coal is not suitable for smelting.

General ironworking waste

The large bulk of the metallurgical waste 6661 g; 56% by weight lacked diagnostic characteristics and could not be assigned to a particular process. By far the largest group (5676 g) comes from hollow J with the remainder occurring in small quantities (up to 205 g) from 30 Period 3 features. In addition to this material, quantities of slag-coated fired clay, referred to as *vitrified lining* were recovered which could derive from either from furnace or hearth structures; a small quantity (26 g) was found in small pit 1224, from which Late Iron Age to Early Roman pottery was recovered.

Discussion

The recovered ironworking slags include material relating to both smelting and smithing, with additional (larger) quantities which are indeterminate of process. Slag classes exclusively indicative for smithing occurred from only from hollow J or from features (grave 1158) located close to this feature. The evidence for iron smelting is more generally distributed, with some material (possibly re-deposited) in Period 4 deposits. The pattern of activity, indicative of limited-scale iron production and smithing, is reflected locally at Frocester, where it dates from the later Iron Age and throughout the Roman period (Standing 2000, 92–4). The apparent use of coal as a fuel for smithing was not noted at Frocester, although its use in the Forest of Dean and southeast Wales is well attested (Young 2009b, 155–9).

Though the volume of ironworking residues from Period 3 deposits indicates that activities have taken place nearby, no surviving metalworking features could be identified. A number of features near the southern edge of ditch A had either *in-situ* scorching, or heated material deposited within them, but there was no evidence in the form of charcoal, slag-rich deposits or reduction-firing, to link them with metalworking. The mass of ironworking waste relating to hollow J probably represents a secondary dump possibly as metalling or hard standing.

Although it is very difficult to date slag by its morphology, selected characteristics of the (dense) smelting slags are inconsistent with the Roman dating suggested by the site phasing. Moreover the smelting slag from the evaluation, although some of it has flowed, is not typical tapping slag: it is more likely to have been produced by a non-tapping furnace of the type common in the Iron Age or Early Medieval periods. Given that there is some possibly Late Iron Age activity at the site, but no early medieval evidence, and that the features where the slag was found are generally Roman, a Late Iron Age or Early Roman date for the smelting is considered likely.

Human remains by Jonny Geber

A total of 15 Roman skeletons (Period 3) was discovered (Table 5). The remains displayed a varying state of preservation and many skeletons were anatomically incomplete. The remains were analysed following standard recommended practices and osteological methodologies (Brickley and McKinley 2004; Buikstra and Ubelaker 1994; Ferembach *et al.* 1980). Living stature was estimated from long bone lengths using the equations by Trotter and Gleser (1952; 1958). For pathological frequencies, only true prevalence rates were calculated. Dentitions were quantified as observable when at least 25% were preserved and available for assessment; the vertebral column when > 50% of the cervical, thoracic or lumbar spine was present. Details of analysis are available in the archive.

Population characteristics

Of the 15 skeletons identified, two were non-adults and the remainder adults, of which seven could be sexed as females and five as males. The youngest individual in this group was an incomplete neonate skeleton (Sk 2135) comprising some skull vault fragments, ribs and right scapula and humerus, buried in a pit (1600), and possibly represents charnel from a burial disturbed in antiquity. The second non-adult skeleton belonged to an older child (Sk 1166), aged approximately 10 years at the time of death. Of the adults in this group, males appear to have lived longer than females, with the majority belonging to the older adult age category (≥ 46 years). Females, on the other hand, were primarily between 35 and 45 years of age at the time of death.

The living stature could be estimated in eight adult skeletons. The females ranged in height from 152 cm (5 ft 0 in) to 162 cm (5 ft 4 in) with a mean height of 158 cm (5 ft 2 in). Males measured between 163cm (5ft 4in) and 189cm (6ft 2in) in height, with a mean stature of 174cm (5 ft 9 in) (Table 5). These statures corroborate well with the estimated mean heights observed in Romano-British skeletal populations elsewhere across Britain (Roberts and Cox 2003).

Dental disease

Amongst these skeletons, only adult dentitions displayed evidence of dental disease. Tooth decay, or caries, was identified in all available dentitions, which were present in eleven individuals. In total, 27% (43/160) of all available teeth and 49% (24/49) of all molar teeth were affected. Mineralised plaque, known as calculus, or tartar, was mostly observed on the anterior teeth in all adult dentitions. It tends to accumulate more in individuals with a diet rich in protein and carbohydrates (Roberts and Manchester 2005).

Nine individuals (9/11) displayed evidence of periodontal disease; in five this was moderate and in four it was severe. Age and sex did not appear to influence the severity in this group. Further pathologies of the jaws were represented by two identified cases of periapical lesions, which comprised a granuloma in the dentition of an older adult male (Sk 1179) and a chronic abscess in an older adult female (Sk 1191). Both conditions originate from an infection that gains entry to the dental pulp via caries, attrition or trauma (Dias *et al.* 2007; Dias and Tayles 1997). While granulomae are generally asymptomatic (Hillson 2005), abscesses may result in serious and painful ailments (Ayoub 2010; Hillson 2005).

Dental caries, and to some degree periodontal disease, are the likely causes of antemortem tooth loss in this population. Teeth had been lost before death in ten adults, which represented 24% (60/250) of all alveoli (teeth sockets) and 44% (39/88) of all molar teeth alveoli. The most severe case was observed in the incomplete dentition of an adult of unknown sex (Sk 1146), where nine of 21 observable alveoli revealed evidence of teeth having been lost in life.

Joint disease

Diseases of the joints are normally the result of continuing wear-and-tear of the articulations, and tend to increase in both distribution and severity with age. It was present, in some form, in eight adult skeletons, primarily affecting the hips, shoulders and hands. Osteoarthritis presented as eburnated (polished) articulations (Rogers *et al.* 1987) in the wrists of two older adult males (Sk 1190 and Sk 1195) and the hands of an older adult female (Sk 1191). Osteoarthritis was also diagnosed in the cervical and upper thoracic vertebrae in skeletons 1191, 1195 and 1529, also of skeletally advanced age.

The spine was affected by joint disease in ten adults (10/11). Seven individuals displayed evidence of vertebral osteophytosis or 'spondylosis deformans', which occurs from compression of the spine due to lost elasticity of the vertebral plates (Rogers *et al.* 1985). Two of these individuals (Sk 1179, Sk 1195) were also affected by a related degenerative condition in the neck vertebrae (osteochondrosis) (Kelley 1982).

Ossification of the ligamentum flavum, which have the primary function of maintaining an upright posture to the spine, was observed in the thoracic spines of seven individuals. Although rarely reported upon, this is a common spinal pathology in archaeological skeletons reflecting instability of the vertebral column (Kudo *et al.* 1983).

Three females and three males were affected by so-called Schmorl's nodes in the lower thoracic and the lumbar vertebrae. It is often a completely asymptomatic condition (Faccia and Williams 2008), and there has been debate on whether this pathology should be considered as a degenerative condition, related to trauma, or simply as a congenital spinal anomaly (Dar *et al.* 2010; Saluja *et al.* 1986).

Metabolic disease

An older adult male (Sk 1173) was the only skeleton with clear evidence of metabolic disease, manifested as porotic lesions on the roof of the eye orbits, which is believed to relate to Vitamin B₁₂ and C deficiency, as well as iron deficiency anaemia (Oxenham and

Cavill 2010; Stuart-Macadam 1991; Walker *et al.* 2009). The same skeleton also displayed healed periostitis on the tibiae, which may also relate to a metabolic disease process. Periostitis is a common pathology found in association with Vitamin C deficiency or scurvy (Brickley and Ives 2008; Geber and Murphy 2012; van der Merwe *et al.* 2010), which however could also be the result of infection.

Infectious disease

One older adult female (Sk 1157) displayed a possible case of bilateral mastoiditis, resulting from an acute middle ear infection (otitis media) (Flohr and Schultz 2009a; 2009b); potentially an extremely painful condition with other symptoms such as fever and head ache.

Two adults, a female (Sk 1173) and a male (Sk 1179) displayed a build-up of reactive bone on the floor of the sinuses, indicating chronic sinusitis. This is commonly attributed to poor air quality and pollution (Boocock *et al.* 1995; Lewis *et al.* 1995; Roberts 2007). Further evidence of respiratory disease suggesting a pulmonary infection was found in two individuals (Sk 1164, Sk 1166). These included older child skeleton 1164, which displayed active proliferation of new bone on the visceral surface of the neck and body of a minimum of four left ribs. One male (Sk 1164) was affected on a minimum of two left and two right ribs. Diseases such as pneumonia, tuberculosis, actinomycosis and hypertrophic osteoarthropathy are known to result in rib lesions of this kind (Kelley and Micozzi 1984; Lambert 2002; Matos and Santons 2006; Mays *et al.* 2002).

Trauma

Five skeletons displayed evidence of trauma. The most apparent injury was a healed so-called 'Colles' fracture of the distal radius in the right wrist of an adult female (Sk 2111). This type of injury is a frequent consequence of a fall onto an outstretched hand, and is a common fracture treated in hospitals today (Nijs and Broos 2004). Two skeletons displayed healed intra-articular fractures, which were identified in the axis vertebra and talus (of the spine) in an adult female Sk (1173), and a proximal phalanx of the left hand of an adult male (Sk 1195).

Two individuals, a male (Sk 1179) and a female (Sk 1216), were affected by osteochondritis dissecans on the distal humeri joints in the right elbows. This condition is most commonly initiated by trauma (Aufderheide and Rodríguez-Martín 1998; Ortner 2003). It is manifested as a defined pit lesion on a convex synovial joint surface.

Conclusion

The burials were mainly of adult individuals, which may suggest that non-adults and juveniles were interred elsewhere. Both males and females were present, and there does not appear to be any association between burial morphology and social categories such as age and gender. These skeletons displayed pathologies commonly observed in Romano-British skeletal populations, which included dental, joint and pulmonary disease, as well as trauma. The frequency of the dental pathologies appears to be relatively high (c.f. Roberts and Cox 2003), although this is likely to be a reflection of the demography of this population, as it comprised predominately aged adult individuals.

Animal bone by Jonny Geber

A total of 2189 fragments of animal bone, weighing 15 kg was analysed from Late Iron Age to Early Roman (Period 2) and Roman (Period 3) deposits (Table 6). The remains were in general poorly preserved, and displayed a considerable degree of fragmentation. The material was subjected to a standard osteological analysis, and identified to species and element (Boessneck *et al.* 1964; Prummel and Frisch 1986; Schmid 1972; Iregren 2002). Estimation of age-at-death was conducted from epiphyseal fusion (Silver 1970) and dental attrition (Grant 1982; Vretemark 1997). Measurements were taken in accordance with von den Driesch (1976), and living shoulder heights were calculated following the formulae by Fock (1966) and Teichert (1975). A full tabulation of the results is available in the archive.

Late Iron Age to Early Roman (Period 2)

Only a small quantity of bones was recovered from this period, and only those from pits 1052 and 1100 were identifiable to species. Pit 1052 contained four unburnt bone fragments identified as cattle and caprovine. The most substantial amount was present in pit 1100, which included fragments of five cattle bones, one horse tooth, one caprovine tibia, one burnt pig scapula fragment, and 12 unidentifiable mammal bones. Bones recovered from a brown rat and a common frog were very well preserved, and most likely represent modern animal burrowing when the field was used for market gardening.

Roman (Period 3)

Bones (by weight) were predominately recovered from ditches (49.71%), layers (24.17%), pits (17.67%) and other features such as postholes, tree throws and rubble deposits (6.67%), as well as a small amount of bones from grave backfills (1.78%). A total of 146 fragments (140.29 g) was burnt.

Species representation

Eight species were identified. Of the main domesticates, caprovine remains were most common by both fragment count (NISP) and minimum number of individuals (MNI), followed by cattle and pig (Table 6). When assessed by bone weight (BW), however, the dominance of cattle remains would suggest that beef was the primary protein source, followed by mutton and pork. Of the caprovine remains, nine bones could be identified as sheep (*Ovis aries*) and none as goat (*Capra hircus*).

Much lesser quantities of other species were present in the material. Fifteen fragments were identified as horse, and eleven bones from birds, of which four could be identified as fowl. Wild species were represented by a left metatarsal and an antler fragment identified as red deer, and a hare bone. A quantity of rodent bones, as above, are likely to have been from recent animal burrowing.

Element representation

There was no predominance of particular elements observed in the bone material deriving from the meat-producing domesticates, and both meat-rich and meat-poor elements from the head, trunk, front, hind limbs and feet were present. It is therefore likely that the remains derive from the same limited number of animals that had been slaughtered on, or in close proximity to the site, as there was no noteworthy over- or under-representation of particular elements.

Age and sex

The age estimations from the main domestic mammals revealed that the animals were primarily of mature age when slaughtered. Two cattle mandibles gave ages of 1–3 years (MWS = 25) and 4–8 years (MWS = 42), while the epiphyseal bone data (N = 29) indicated that most animals were slaughtered after the fourth year. Based on mandibles (N = 16), more than half of all caprovines were slaughtered between 4–6 years, while the epiphyseal bone data from the same species indicated that an initial slaughter period had also occurred between the first and second year. The pig epiphyseal bones indicate that they were primarily slaughtered between the first and third year, and one assessable mandible gave an age estimation of 2–5 years (MWS = 32).

There were only a few elements that could be sexed. Of the cattle remains, one coxae fragment was sexed as female and a metacarpal as male. The caprovine remains included a male astragalus and one coxae bone and two astragali from ewes. Of the pig remains, three canine teeth were sexed as boars, and one as sow.

Size

An estimation of living shoulder height could only be given from one cattle bone: a bull metacarpal (GL = 188.00 mm), which indicated a height of 118 cm. Shoulder heights in caprovine could be estimated from a radius (GL = 142.18 mm) and a calcaneus (GL = 52.61 mm), which gave statures of 57 cm and 60 cm.

Butchery

A few knife-cut marks were identified from the butchery process. Amongst the cattle remains, knife-cut marks were observed on the neck of a mandible, which is likely to relate to the removal of the head. A cervical vertebra indicated that the neck portion had been split axially, and fine knife-cut marks from filleting were observed on a rib and a radius bone. Caprovine remains revealed knife-cut marks on two proximal metapodials and one astragalus, which probably relate to the flaying/skinning process. Knives were also used when disarticulating the femora from the hip joints in two instances, and filleting knife-cut marks were observed on one rib fragment.

One horse bone, which was a shaft portion of a right metacarpal, displayed four transverse and parallel knife-cut marks across the postero-lateral portion of the distal end. These are likely to have been produced during flaying/skinning, and indicate that horsehides were utilized. There is no evidence that horse flesh was consumed.

Pathology

One cattle rib fragment, found in pit 1608, displayed a patch of very fine, active, and proliferated new bone formation on the visceral surface. This pathology indicates an inflammation of the periosteum, and is likely to relate to an active pulmonary infection at the time of slaughter of this animal.

Discussion

The small amount of bone from Period 2 deposits inhibits any comparison with the remains from the Period 3 contexts. Cattle, caprovine, pig and horse were all represented in both periods. From features dating to the Roman period, the animal bones indicate that a small amount of fowl, venison and hare also contributed to the diet. Overall, this species distribution is similar to that which has been noted in contemporaneous animal bone assemblages from rural sites across Gloucestershire, such as Stoke Road, Bishop's Cleave (Maltby 2002); Frocester (Price 2000); Hucclecote (Stickler 2003); Haymes (Noddle 1986) and Thornhill Farm (Levine 2004). All these sites have indicated a livestock economy

primarily based on caprovine and cattle, with little dependence on pigs and fowl. The assemblage suggests subsistence farming; the animals reared and butchered on, or close to the site, and all elements utilised.

The plant macrofossil and charcoal evidence by Sarah Cobain

A total of 89 bulk soil samples was processed and assessed for plant macrofossil and charcoal remains. Sixteen of these samples containing quantities of well-preserved plant macrofossils and charcoal had the potential to provide additional information regarding the function of features sampled, socio-economic activities and to infer the composition of the local woodlands and flora, and these were selected for further analysis. The results are displayed in Tables 7 and 8.

Methodology

Plant macrofossil and charcoal remains were retrieved by standard flotation procedures. The seeds were identified with reference to Cappers *et al.* (2006), Berggren (1981) and Anderberg (1994). Up to 100 charcoal fragments (>2 mm) were identified with reference to Gale and Cutler (2000), Schoch *et al.* (2004) and Wheeler *et al.* (1989). Nomenclature of seeds and charcoal species follows Stace (1997). Full details of the methodologies are available in the archive.

Discussion

Late Iron Age to Early Roman (Period 2)

Two samples from pit 1100 with a wide range of species were analysed (Table 8). Clay fragments recovered from the pit indicated that the contents of the pit may have been from an oven-type feature. The cereal processing waste was dominated by spelt (*Triticum spelta*) with smaller amounts of oat (*Avena* spp), barley (*Hordeum vulgare*) and emmer (*Triticum dicoccum*). The spelt would have been used for producing bread. As no floret bases were identified, it was not possible to ascertain whether oat was cultivated or wild, but since the oat, along with barley, were present in small quantities, they were likely to be weed intrusions.

The presence of emmer wheat within this assemblage is of interest. Trends have shown that spelt dominated across central, southern and north-east England during the Iron Age. However in some assemblages, for example Cambourne, Cambridgeshire (Stephens 2009,

78–80) and Black Horse and Long Range, Devon (Clapham 1999a, 184–7, Clapham 1999b, 153), emmer wheat appears to have been of equal or greater importance as spelt, and it has been proposed that this may be the case in other areas of southern Britain (Campbell and Straker 2003, 18, 24). The small number of emmer grains amongst the processing waste in pit 1100 is suggestive of crop contamination rather than deliberate cultivation, although waste from a single pit may not be representative of the full range of crops grown or utilised at the site in this period.

A small amount of cereal chaff was present within this pit. Using cereal processing waste to interpret crop processing stages is often problematic, as waste from an earlier stage may be burnt as fuel within a later processing stage. As a small amount of cereal chaff was present compared to grains within this assemblage, it is likely that the cereal crop had already been pounded and winnowed to release the cereal grains from their spikelets. The cereal chaff present may be remains of cereal chaff from earlier pounding/winnowing stages being used as fuel. The carbonised cereal remains are most likely to represent accidental burning of grains which were being dried prior to storage or milling. This drying may have been carried out in the oven, of which fragments were found in pit 1100.

Weed seeds consisted of those indicative of an arable environment such as stinking chamomile (*Anthemis cotula*), cleavers/goosegrass (*Galium* spp), vetch/vetchlings (*Vicia/Lathyrus* spp) and chess (*Bromus* spp) and those of disturbed environments such as fat hen/goosefoot (*Chenopodium* spp), mustard/cabbage (*Brassica/Sinapsis* spp), dock (*Rumex* spp) and black-bindweed (*Fallopia convolvulus*). All these weeds grow to heights 0.5–1m+ (Stace 1997) indicating crops were harvested high up on the stems and fewer/no low-growing weeds were accidentally included in the harvest. The presence of stinking chamomile implies a heavy clay soil (Stace 1997, 733). The small assemblage of vetch/vetchlings may simply have been weed intrusions, although with heavier clay soils present, they may have been deliberately cultivated to help fix nitrogen in the soil. Sedge (*Carex* spp) indicates marshland nearby, perhaps a waterlogged area of a field, or bordering the river Frome to the south. Blackthorn/sloe pips (*Prunus spinosa*) and hazelnut shells (*Corylus avellana*) may indicate gathering of wild food resources or may be from fruits/nuts attached to branches burnt as fuel.

Charcoal identified from pit 1100 consisted dominantly of hawthorn/rowan/crab apple (*Crataegus monogyna/Sorbus* spp/*Malus sylvestris*) and cherry (*Prunus* spp) with smaller amounts of elder (*Sambucus nigra*) and alder/hazel (*Alnus glutinosa/Corylus avellana*) (Table 9). Hawthorn/rowan/crab apple and cherry both burn well, but at lower temperatures

than, for example, oak or ash (Gale and Cutler 2000 120, 205). These species may have been selected as fuel for drying grain, which required low temperatures for short periods of time. These species are all indicative of scrub woodland/hedgerow from the local area. However the small assemblage, from a single feature, does not necessarily contain a representative range of species present in local woodlands and used for fuel in this period.

Roman (Period 3)

All plant remains analysed were from features associated with the enclosure. The largest assemblage of cereals was recovered from the crop dryer. The remaining plant remains were represented as a homogeneous background scatter of plant remains from middens H and I and hollow J and pits/ditches close to the midden deposits (Tables 7 and 8).

The cereal remains, which were dominated by spelt wheat with small numbers of oat and barley, are typical of those found in the Roman period (Cool 2006, 69) with the only change from the Period 2 pit assemblage being the absence of emmer wheat. Since oat and barley were recovered in small numbers, they are most likely weed intrusions. This type of assemblage has been identified at Frocester (Alvey *et al.* 2000, 257) and Horcott (Robinson 2004, 81). The spelt wheat would have been used to bake bread (Cool 2006, 70–71). Other deliberately cultivated crops include pea, broad bean and vetches. The vetch/vetchlings seeds may indicate a problem with soil fertility, with these grown on rotation to help improve the soil. Pea, broad bean and vetches were also known to have been used as vegetables or added to pottages and soups.

Cereal chaff recovered in any volume from Roman features is restricted to that from the crop dryer, where the quantities suggest cereal processing is being carried out, but it is difficult to ascertain which stage of cereal processing is represented. This assemblage exhibits a higher ratio of glume bases to cereal grains than within pit 1100 from the earlier period. It is possible that the pounded grain was being dried prior to storage/milling and the pounding/threshing waste was being used as fuel within the stoking pit (van der Veen 1989, 303). Alternatively, the cereal crop was being parched in the crop dryer to make the spikelets more brittle (thereby easier to separate the grains) prior to pounding/winnowing, and some grains and glumes accidentally became carbonised. The chaff present in small amounts in other midden/pit deposits is likely to be either firing debris waste from the crop-dryer or perhaps chaff used as kindling in other fires on site.

The small number of weed seeds suggests the grain spikelets were stored or brought to the site clean. Arable weeds such as cleavers/goosegrass spp, chess, vetch/vetchlings and

stinking chamomile are present, and species indicative of a disturbed environment such as fat hen, mustard/cabbage and dock were identified. As with the Period 2 assemblage, all these species typically reach 0.5–1 m+ in height, again suggesting crops were harvested high on the stems. Fool's-water-cress and sedge identified are indicative of marshland environments nearby. An elder seed, hawthorn pip and hazelnut shell indicate wild foodstuffs available in the local area, either deliberately gathered, or attached to branches burnt as fuel.

Fuel sources represented by firing debris within midden, pits and ditches, consisted dominantly of oak, ash and hawthorn/rowan/crab apple with smaller amounts of alder/hazel and occasional elder, birch (*Betula* spp), hazel, gorse/broom (*Ulex* spp/*Cytisus* spp), cherry spp and elm (*Ulmus glabra*) (Table 9). This assemblage differs from Period 2 pit 1100 in that a wider range of species are represented including oak and ash, although this may be a reflection of the larger number of analysed samples. The presence of oak and ash suggests fuel was being sought for more industrial processes (e.g. metal working), and perhaps larger scale cereal processing where long-lasting fuels are required.

DISCUSSION

by Neil Holbrook

Human activity at Foxes Field can be traced back as far as the Mesolithic period, evidenced by the recovery of two diagnostically Mesolithic flint artefacts, including part of an adze. Early Neolithic activity is identified solely by a leaf-shaped flint arrowhead, although some of the other flint blades and flakes may also date to this period. All of these finds occurred as residual material in later features. The earliest stratified evidence comprised Beaker pottery sherds and worked flints from tree-throw pit 1005. This isolated pit provides another example of how commercial archaeological work ostensibly focussed on sites of later periods is revealing these kinds of features in increasing numbers in western Britain. Darvill (2006, 29–30) discusses recent Gloucestershire finds of Beaker material, including the recovery of small amounts of Beaker pottery in colluvium overlying a late 2nd millennium BC old ground surface at The Buckles, Frocester, 3.5km to the south-west of the site (Price 2000, 204); Mullin (2011, 101–2) provides some further examples from Gloucestershire. Another recent discovery is an isolated pit with pottery and flint at Staverton, North Wiltshire (Barber *et al.* 2013, 18). Beaker occupation sites with structural remains continue to remain elusive, however.

The next period of activity recorded at Foxes Field (Period 2) comprised a small number of small pits which yielded Late Iron Age or Early Roman pottery. These were found scattered across the area subsequently occupied by the Romano-British enclosure. The majority of the pottery recovered from these features is of Malvernian origin, which is often chronologically undiagnostic (unfeathered sherds could date anywhere between the 4th century BC and 1st century AD). If the pits do relate to a single coherent phase of activity this is most likely to date to the mid 1st century AD, to judge by the presence of sherds from a collared flagon of this date from pit 1388 in the southern part of the site. The flagon came from the fill of a pit which also contained the base of a large storage jar set upright on its base; two other examples of this practice were also found (1369 and 1391). In all three cases the pits were just large enough to hold the vessels set upright within them. There was no evidence to suggest that they were cremation urns. Similar deposits were found at Frocester Court where the bases of four large Malvernian jars had been placed upright in small holes: just inside roundhouse 4 (Mid-Late Iron Age); just outside roundhouse 6 (Late Iron Age) and two vessels associated with rectangular building B1 (2nd century AD) (Price 2000, 51, 58, 72, fig. 9.3, 60). These vessels might have been used for some form of cold storage, unless they were ritually-inspired depositions. The latter interpretation appears more plausible for the vessels recovered from the Late Iron Age and Roman farmstead at New Moreton Farm, Standish, 4.5 km to the north-west. Here a stack of Late Iron Age/Early Roman coarseware jars were cut into a silted-up gully that probably surrounded a roundhouse (Wessex Archaeology 2004, 9–10, 13).

Another Period 2 pit (1100) at Foxes Field contained a quantity of spelt wheat and the fired-clay remains of a probable oven, testifying to the processing of crops nearby, and by inference, settlement not too far distant. Given that settlement would have avoided areas susceptible to flooding, its most likely location is just to the south of the excavated area, between the B4008 and the north bank of the Frome.

The next phase of activity is represented by the establishment of the enclosure, and there is no reason to assume any chronological break between Periods 2 and 3. It is conceivable that the plan of the enclosure as revealed in the excavation developed over time rather than being created in a single operation, if the differing dates for the pottery groups recovered from the fills of the enclosure ditches are not just the product of differential degrees of later recutting. Based upon the pottery the earliest ditches to be filled were B and D. Ditch B was aligned north-south and established the eastern side of the enclosure and the alignment of trackway L which presumably served as a driveway leading out onto the hill pasture of

Doverow Hill to the north. The east/west Ditches A, 1446 and F were perhaps primarily dug to catch and channel surface water running down the slope. The enclosure appears to have been open on its western side, unless it was defined by a bank, hedge or fence, which have left no trace. If this formed a continuation of upcast banks on the inner lips of Ditches A and D then it would have cut across gully O (which may mark the site of a building) and would place circular structure K outside of the enclosure. Neither feature is well dated and they could relate to Period 2. There is no compulsion or necessity to envisage an enclosure defined on all four sides. Three-sided enclosures are by no means unknown in the Late Iron Age and Romano-British countryside (as for instance at Groundwell West, Swindon, Enclosure E1 (Walker *et al.* 2001). Ditches C and E most probably defined internal divisions. The features associated with the enclosure do not make for easy interpretation – most are isolated pits and post holes. Nevertheless it is reasonable to assume that there were a number of structures within the excavated area, although only a few could be recognised with any degree of confidence. Structures formed from surface-laid timber beams or cob are both possible. Circular post-built structure K was only 6 m in diameter, small for a domestic roundhouse, although a shepherd's hut or breeding pen are possible interpretations. There are also suggestions of another circular structure, approximately 5 m in diameter, associated with scorched pit 1383. Gully O might define the site of a rectangular building, the gully only being required on the up-slope side to catch run off. L-shaped feature 1307 might also conceivably have formed a rubble foundation for a cob building. Refuse from activity within the enclosure or from the core settlement nearby was deposited in middens H and I, both of which contained plant remains although H yielded considerably more pottery than I. Such middens survive only rarely on plough damaged sites, although local examples include Hucclecote and Weaver's Bridge, Cricklade (Thomas *et al.* 2003; Mudd *et al.* 1999, 148–50).

Overall it would appear that the establishment of the enclosure dates to the late 1st or early 2nd century AD and that the ditches had either largely silted-up or been deliberately backfilled by the end of the 2nd century. This reorganisation might be a reflection of changes in the core of the settlement itself. The recovery of fragments of box flue tile in a 4th-century deposit indicates that by that time there was a high status building in the vicinity equipped with a hypocaust. This building might also have been the source of the fragments of building stone and pennant sandstone roof tile, and the lead setting for a samian tessera, recovered from late Roman contexts. In the context of rural Gloucestershire it is reasonable to infer that a villa house was added to a pre-existing farmstead sometime in the 3rd or 4th century, as at Frocester Court where the villa house dates to *c.* AD 275. Foxes Field may therefore be added to the other known villas in this stretch of the Frome valley. To the west a villa is known at Whitminster (Scott 1993, GS 105; *Glevensis* II (1977), 23); to the north-east one is

suspected from chance finds at Cashe's Green, Stroud (GS 92; Gracie 1968, 204) and to the east near Stroud Vicarage (GS 93; *Glevensis* II (1977), 30). On the south side of the Frome there are further sites at King's Stanley (GS 62/3; Heighway 1989); Frocester Court (GS 50) and Frocester St Peter (Gracie 1963; Price 2000, 223–32). Only Frocester Court is known in any detail.

Later activity within the excavated area was of a somewhat different character to that which had gone before and comprised a T-shaped drying oven, an eroded hollow way (J) and human burial. The oven is only dated by a few sherds of 3rd or 4th-century pottery from its demolition. It is conceivable therefore that it dates to the 2nd century along with the other agricultural activity within the enclosure, although it could be later. Such ovens are a regular occurrence on Romano-British rural settlements in central/southern Britain; where dated the majority are of the 3rd or 4th-century date (Morris 1979, table 1). Hollow J was most likely an eroded hollow way leading southwards towards the main area of settlement. It seemingly possessed a crude surface formed from iron working slag. Close to the hollow way was unusual pit 2120, which may be regarded as an example of structured deposition given the recovery of a complete quern stone, a blade from an iron shears and a Dobunnic silver coin that had been curated for several centuries, amongst other finds.

To judge from the slag recovered, especially from hollow J, iron making contributed to the economy of the settlement. Possible unused iron ore, in the form of iron-rich stone was also recovered from pit 1725 to the east of the hollow J. The slag indicates that both smelting and smithing took place, and some of the smelting was seemingly more in keeping with Late Iron Age metallurgical practices than that more usually attested in the Roman period, although this observation need not necessarily indicate that any of the smelting occurred before the mid 1st century AD. Iron making was a common activity at rural sites on the reclaimed alluvial land along the Cotswold bank of the Severn Estuary, and Foxes Field now provides another example of the contribution that iron making made to the rural economy (Allen and Fulford 1987). Further evidence for metal working has recently been discovered c. 2.2 km to the west on land south of the Bristol Road, Stonehouse. Here, geophysical survey and evaluation trenches revealed a similar pattern of enclosure ditches and a possible trackway aligned towards the River Frome. Provisional interpretation of the archaeological remains suggests activity on the southern periphery of settlement including small-scale industry, focussed in the 1st – 2nd century and extending into the 3rd century AD (OAA 2013). Although there appear to be some similarities between the sites in terms of date, location and character, the Bristol Road site lacks evidence for either higher status buildings in the vicinity, or for use of the site into the 4th century AD, which are both present at Foxes Field.

The fourteen inhumation burials found scattered across the excavation area all apparently date to the later Roman period. In addition disarticulated bones from a neonate were recovered from pit 1600. There is no obvious patterning to grave position, orientation or mode of burial. Grave 1192 contained the bodies of a mature male and female closely flexed together, indicating a close bond between two people who presumably died at the same time (Fig. 6). One mature male in grave 1193 was buried in the prone position with hobnailed footwear and a coin of AD 324–30 found adjacent to the mouth. A mature female (grave 1171) was buried in a flexed position with an iron cleaver next to her upper right arm. This is not a common Romano-British practice; most of the other known examples date to the Late Roman period (Philpott 1991, 176–7). There was only one instance of intercutting burials: the grave of a child of 6–12 years of age and of indeterminate sex (1167) cut into the backfill of that of a female of 26–35 years of age (1217). It is entirely plausible that these two individuals were mother and child.

Scattered burials are now recognised as a typical facet of many Romano-British rural settlements, and their presence at Foxes Field occasions little surprise (Thomas *et al.* 2003, 64-5). Comparison with the burials at Frocester Court is instructive, as there is a very different demographic profile at the two sites. Of the fifteen burials at Foxes Field one was a neonate; one a child of around 10 and the remainder adults, of which seven were sexed as female and five male. At Frocester Court 69 burials were found, of which 66 were inhumations and three cremations (Price 2000; 2010). Forty were perinatal infants and 27 children or adults. The lack of perinatal infants at Foxes Field compared to Frocester Court is evident, and both sites show an absence of 1st or 2nd-century AD cremations, which is widely assumed to be the prevalent burial rite at this time. Perhaps the absence of perinatal infants at Foxes Field is a product of the peripheral location of the excavation area to the main settlement; if that were available for investigation a different pattern might be revealed.

There is little reliable evidence from the excavation upon which to infer how long the settlement continued in use. The latest of the three Roman coins dated to AD 353–54 and shell-tempered ware, which occurs on sites occupied in the second half of the 4th century, is absent. It is far from certain, however, whether such a pattern would hold true if the settlement itself was investigated, and so it is best for now to defer judgement on this issue.

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Cartographic Sources

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