A further glimpse of Cambridge in the mid-1st century AD: Excavations at Shire Hall Lift Shaft

Gareth Rees

With contributions by Alice Lyons, Rachel Fosberry, Chris Howard-Davis, Lena Strid and Rebecca Nicholson. Illustrations by Dave Brown, Séverine Bézie and Gillian Greer.

The construction of a new lift shaft in Shire Hall, Cambridge in 2015 afforded an opportunity to excavate within the precinct of the Roman town of Duroliponte. Although the excavation area was small, the associated finds and environmental assemblages recovered from the well-stratified sequence provide an important insight into the nature of occupation in this area around the time of the Roman Conquest.

Introduction

Located on Fourth Terrace River gravels *c.* 14m above the River Cam and overlying a spur of Lower Chalk, the highly defensible promontory of Castle Hill has been a focus for settlement since at least the Iron Age period. Fortification of the area in the 4th century AD defined it as the location of the Roman town of *Duroliponte*. Numerous but disparate investigations that have taken place in and around Castle Hill, predominantly between the 1950s and 1988, were collated in Alexander and Pullinger's 2000 volume, with much of the Early Roman evidence being reassessed by Evans and Ten Harkel (2010) following further excavations at Castle Street in 2006. This article outlines the results of a small excavation by Oxford Archaeology (OA) East located within the basement of Shire Hall (TL 44545 59290, Fig. 1; Rees 2015), which revealed a well-stratified and tightly dated sequence of activity focused on the years either side of the Roman Conquest (*c.* AD30–69).

This excavation, undertaken in advance of the construction of a new lift shaft on the south-eastern side of Shire Hall, measured *c.* 2.5m wide by 3.1m long. With a floor level at 18.51m OD, the trench was surrounded by the foundation trenches for existing walls, leaving a total undisturbed area of 4m^2 to be investigated (Fig. 2). The latest archaeological (Roman) deposits (6, 8 and 9) were encountered directly below the modern floor surface which had been removed mechanically prior to the excavations. All evidence of the medieval castle bailey and 19th-century prison which previously stood on this site had been truncated during construction of Shire Hall in the 1930s. A more detailed version of this report with methodologies, along with the post-excavation assessment, is available in the project archive (CAMSHL15) and via the OA Digital Library <https://oxfordarchaeology.com/oalibrary>.

Early settlement on the hill

The early development of Castle Hill is described in detail elsewhere (Alexander and Pullinger 2000; Evans and Ten Harkel 2010) and is summarised below, focusing on the later Iron Age and Early Roman evidence, with pertinent sites shown on Fig. 1.

Late Iron Age settlement covering an area of perhaps 3ha extended to the west of Shire Hall, represented by defensive ditches along with pits and ring gullies dating to the late 1st century BC (Fig. 1; Cambridgeshire Historic Environment Record [CHER] 05239A, CHER05247A, CHER08768A). Further elements of this settlement were also uncovered at the former Gloucester Terrace, in the vicinity of Castle Court, including the remains of houses with associated hearths and a well (CHER05251A). The nearby excavations at 68 Castle Street recovered a pottery assemblage with a high proportion of wheel thrown wares possibly indicating that the Late Iron Age community in this area was of higher status than those seen elsewhere in Cambridgeshire (Evans and Ten Harkel 2010, 48; Ten Harkel 2006).

Although occupation of this area seemingly continued from the Late Iron Age into the immediate post-Conquest Claudian period, this transition was not seamless, with new features clearly being superimposed over the existing settlement remains (Evans 2000, 260). Of note are several ditches dating to the mid 1st century AD that were uncovered between Shelley Row and Castle Street to the west of the current site, and beneath Shire Hall and Castle Court to the north (F12; VIb & c; Alexander and Pullinger 2000, 27; Fig. 1). These were aligned with the axis of Roman Akeman Street (Evans and Ten Harkel 2010, 55), with two of the ditches (F12 and F12a) possibly subsequently forming Alexander and Pullinger's 'Street 4' heading south-east from the main road. The most easterly of these early ditches (VIb) – uncovered during the

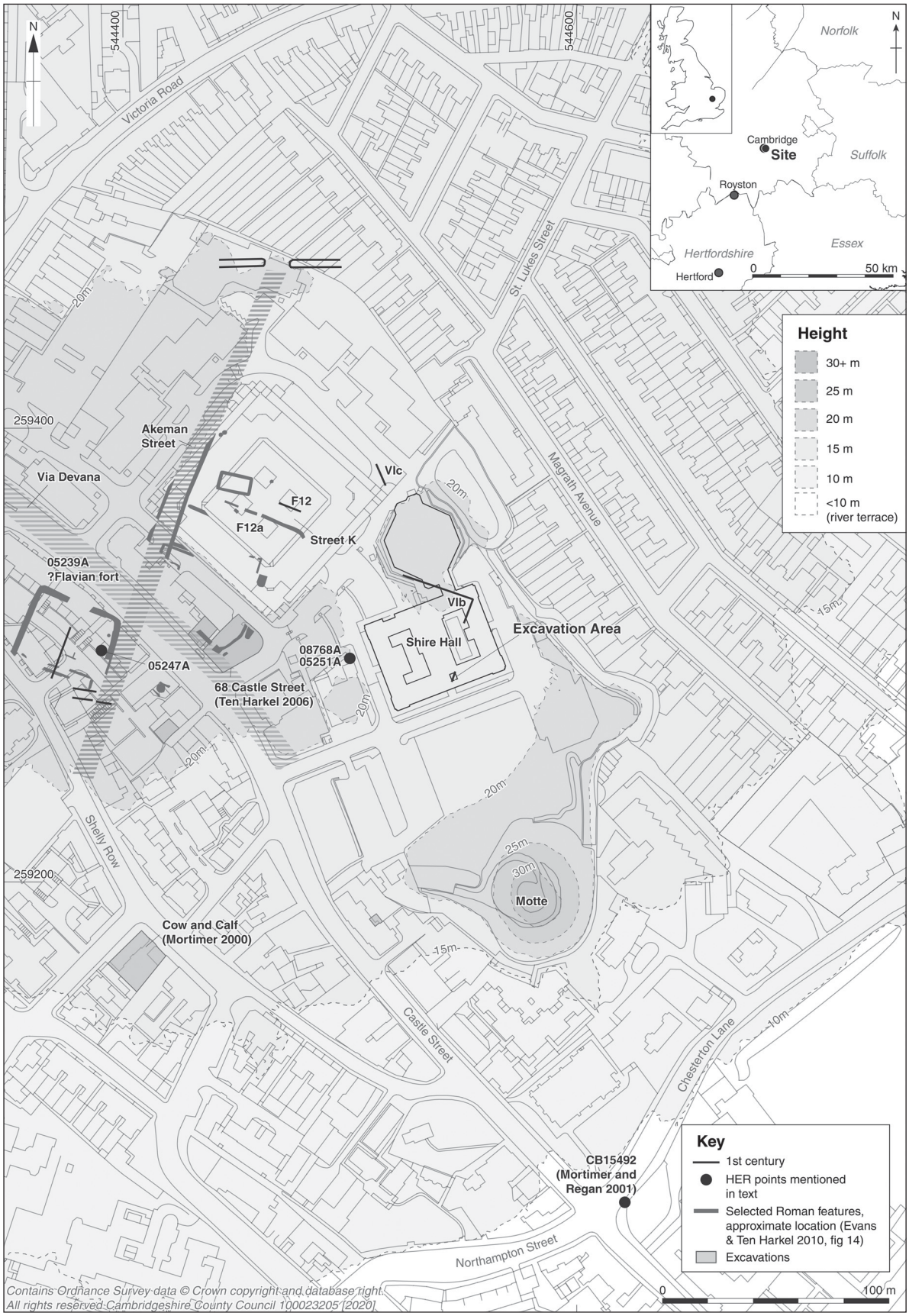

Figure 1. *Location map showing major Early Roman features in the vicinity of Shire Hall (after Alexander and Pullinger 2000, figs 3.1 and 4.1, and Evans and Ten Harkel 2010, fig. 14).*

construction of Shire Hall in 1935 – comprised two segments set at right-angles to each other which are of pertinence to the Lift Shaft excavation, located approximately 25m to the south-east. These have been interpreted as possibly forming the eastern corner of an enclosure on the same alignment as ditch F12a, although the profile may suggest the ditch had a military function (Alexander and Pullinger 2000, 27).

Fragmentary remains of a possible Flavian fort (or enclosure) have been identified to the west of Castle Street, aligned with the presumed courses of the *Via Devana* and Akeman Street Roman roads (CHER05239A; CHER05249A). Although there is little evidence for the presence of these roads in the 1st century, a segment of the early *Via Devana* was probably seen during excavations on the corner of Magdalene Street and Chesterton Lane in 2000 (Mortimer and Regan 2001; CB15492), whilst the course of Akeman Street was uncovered during excavations in 2006 (Evans and Ten Harkel 2010, fig. 14). In addition to the possible enclosures and other features, broadly contemporary domestic activity is hinted at by the presence of a number of cess pits dating to the 1st century, found to the south-west of Shire Hall at the former Cow and Calf pub (Mortimer 2000). This settlement evidently continued to expand and by the 2nd century the Roman town had spread west and north-west of the current Shire Hall site (see Evans and Ten Harkel 2010 for full discussion).

The Shire Hall Excavation

An early boundary and associated deposits

The earliest activity comprised two ditches (24 and 26; Figs 3 and 4) aligned north-east to south-west (on a similar axis to the nearby Roman roads), a course that if projected may have intersected or joined with the mid 1st century AD ditch (VIb) found previously beneath the north-east corner of Shire Hall. Any stratigraphic relationship between these ditches had been removed, however ditch 26 produced a single sandy-greyware sherd (20g) dating to the early to mid 1st century AD, while a charred wheat grain (Triticum sp. (spelt)) from the secondary fill in the same ditch provided a radiocarbon date range between 45cal BC and 80cal AD (95.4%, 1975±30BP, SUERC-67846).

Both ditches were filled in by the time a further deeper ditch (27) was created on the same alignment, reinstating or replacing the earlier boundary. Almost the complete width of this ditch (*c.* 2.90m wide and 1.7m deep) was exposed, revealing a steep south-eastern edge that contrasted with the almost convex profile of the north-western side; perhaps indicating that this boundary was protecting or enclosing activity located on its north-western side which appeared to lie at a slightly lower level (Fig. 4). A single sherd of proto-sandy grey ware was recovered from the primary fill and the main fill produced an assemblage of storage jars, jars and bowls all dating between the late 1st century BC to 1st century AD (10 sherds,

Figure 2. *Excavation in the lift shaft.*

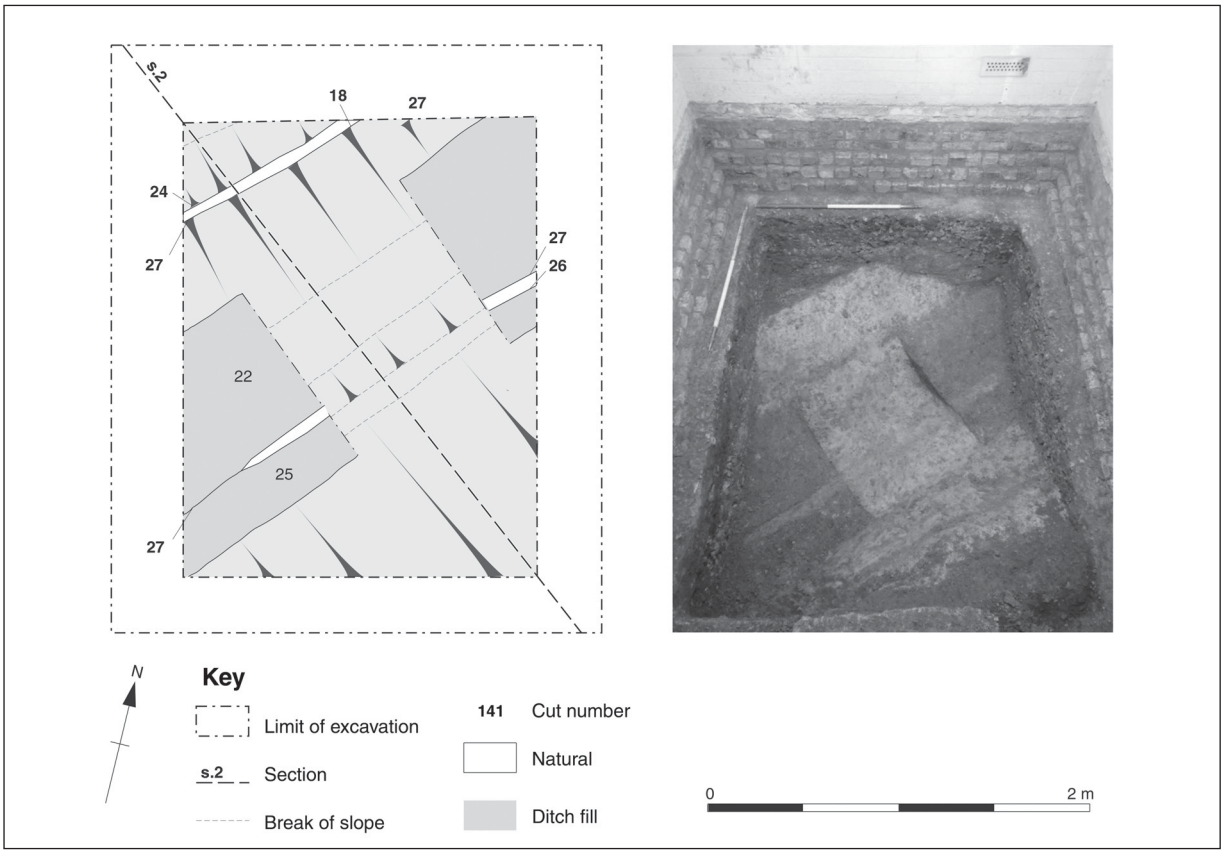

Figure 3. *The earliest ditches uncovered during excavation.*

299g). Other finds include animal bone, a fragment of fired clay from an oven or hearth structure and small amounts of cereal remains indicative of domestic settlement (Poole 2015, 36).

This ditch was largely infilled before it was partially recut (29), effectively levelling off an area on the north-west 'internal' side and perhaps cleaning out what remained visible of the ditch to the south-east. A compacted sand and gravel surface (20) was laid on the levelled area which does not appear to have been in use for long as it, and an initial ditch fill (19), were covered with a sandy gravel infill (17) that produced small amounts of domestic debris including a sherd of 1st century AD sandy grey ware, and a fragment of fired clay alongside occasional charred grain and chaff. The surface appears to have been reinstated with a more substantial (0.10m thick) layer of compacted mortar, clay and stone (16) which contained higher levels of charred debris, including cereal grains, legumes and weed seeds. A possible final phase of recutting of the boundary was evident (18), although this was little more than 0.80m deep with gently sloping sides – no longer the imposing barrier it had been.

Infilling the final ditch was a sequence of deposits containing domestic debris indicating that during the mid-1st century AD settlement had begun to encroach south-eastwards over the area of the former boundary. Of note was an initial charcoal-rich deposit (15) containing charred grains, legumes, seeds and animal bone that appeared to have been thrown into the ditch from the north-western side. A fragment of an oven wall was also found along with sherds of sandy grey ware bowls and a storage jar (10 sherds, 130g). Subsequently, domestic material probably derived from the south-east of the ditch was deposited for the first time, represented by fill 14, which included a relatively large group of pottery (21 sherds, 403g) along with animal bone, bones of freshwater fish and a moderate assemblage of charred grains and seeds. This provided the first indication that there was activity 'external' to the boundary suggesting that the settlement had probably expanded beyond its initial confines.

Forming the upper part of the infill sequence was a series of dumped midden-like deposits (11–13), which together contained over 4.5kg of pottery (339 sherds) including several imported fine wares (see Lyons below and Fig. 6). Eleven fragments of clay oven lining, notable quantities of mammal and freshwater fish bones alongside a large and diverse assemblage of charred grains and seeds, including wetland species, were also recovered from these contexts (see Fosberry below). Deposit 11 also produced part of a simple wire brooch (SF3, L: 45mm; W: 13mm; not illustrated) with a straight profile and right-angled turn at the head (tentatively identified from x-ray), with similar mid 1st century examples found at

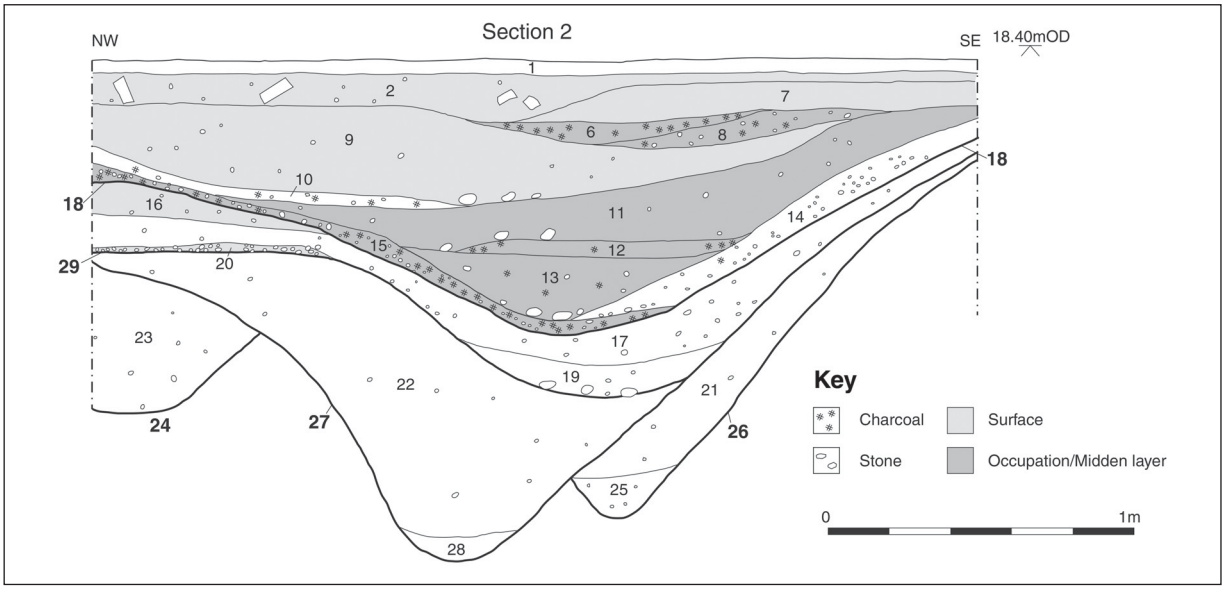

Figure 4. *Section showing ditch sequence and later deposits.*

Dragonby (Olivier 1996, fig 11.3).

A thin occupation horizon (context 10) partially overlay the midden deposits and produced two copper-alloy brooches, one of which was too fragmentary to identify, while the other is in very good condition (Howard-Davis 2015). The best-preserved example (SF2; Fig. 5) is a complete one-piece Colchester brooch (L: 52mm; Ht: 26.5mm: W: 17mm) with only slight damage to the catch-plate, and the extreme tip of the pin missing. It is a plain example, with neither the bow, nor the hook decorated. Although it is not clear, the ends of the wings might have triangular cloisons, which seem to be inlaid with a now crystalline substance. The triangular catch-plate is pierced by three rectangular holes, probably placing it in Olivier's developed form (1996, 242).

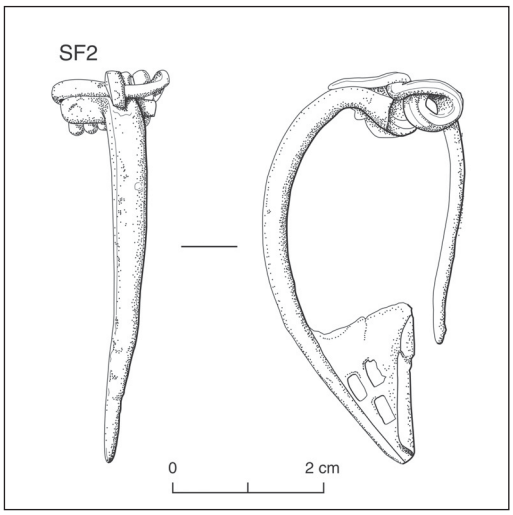

Figure 5. *Colchester brooch SF2.*

Post-boundary occupation

A 0.30m-thick clay and gravel floor or yard surface (9) sealed the midden deposits and brought the space occupied by the former boundary into use. Infilling a slight depression due to slumping at the south-eastern edge of the surface were two charcoal-rich occupation deposits (6 and 8) that produced a rich finds assemblage comprising over 3kg (212 sherds) of mid 1st century pottery, burnt and unburnt fish and mammal bones, marine shells, a complete fired clay discoidal spindle whorl (Howard-Davis 2015; 37) and a large amount of cereal processing debris. The latest deposits to survive were compacted sand and gravel surfaces possibly forming part of a yard or road associated with a building located outside of the excavation area. These produced a further 17 sherds (260g) of early to middle 1st century AD pottery, with no later material being found. Radiocarbon dating of charred cereal (*Hordeum* sp (wild barley)) recovered from layer 6 returned a date range of 47 cal BC – 72 cal AD (95.4%, 1988±30BP, SUERC-67845).

Late Iron Age and Early Roman Pottery
Alice Lyons

This small assemblage of latest Iron Age and very Early Roman pottery comprises a total of 622 sherds weighing 9417g (3.18 Estimated Vessel Equivalent (EVE)) with a minimum of 77 individual vessels represented. Although well-stratified, pottery was predominantly recovered from later boundary ditch recut 18 and subsequent midden deposits, with no clear chronological differences or development discernible in the ceramic sequence. No complete vessels were found and none of the pottery had been deliberately placed. The pottery is extremely fragmented

and abraded, some is also burnt, which is consistent with middened material that had been repeatedly disturbed post-deposition. The pottery pieces have an average sherd weight of *c*. 15g, which is relatively large for fragmentary abraded pottery, due to the presence of substantial storage jar pieces (Table 1; which also lists the seven fabric groups). The assemblage is predominantly made up of locally-produced sand tempered wheelmade vessels largely comprising cordoned jars and bowls, alongside handmade storage jars, supplemented by a significant element of imported Gaulish fine table wares consisting of Terra Rubra and Terra Nigra beaker and platter fragments.

Local coarsewares

A well represented long-lived conservative type of pottery that was in use from the Late Iron Age into the Early Roman period are handmade coil built storage jars (Fig. 6, a & b). These large vessels were produced in the Iron Age tradition but are contemporary with the early/mid-1st century AD wheel-made Early Roman vessels. They are made in a range of coarse sandy fabrics with flint used as a common additional temper (SCW). All of the examples found have been externally combed, usually scored vertically, which would have been both practical (to join the coils during production) but also decorative. Two of the more Romanised forms have a burnished neck and rim (Thompson 1982, 257–267, C6-1). None of these vessels have any soot residues which enforces their interpretation as storage (not cooking) vessels.

More numerous (by sherd count and EVE) are the locally made sand tempered fabrics with common fine flint inclusions, sparse grog and occasional silver mica (SRW (proto)) (Thompson 1982, 319–321, D2-1; Fig. 6, c), which are commonly highly burnished on their exterior surface. Also found in this fabric but of a more utilitarian character are rilled jars, probably used as cooking pots (Thompson 1982, 273–281, C7-1: Fig. 6, d). These wares are consistent with production at the very end of the Iron Age, when new potting technologies and fashions were reaching Britain from the wider Roman Empire, specifically Roman Gaul. Local potters experimented with new fabrics and forms, but manufacture was not industrialised or standardised as became the norm in the later Romano-British period.

Standardised reduced wares were found during this excavation, but in significantly smaller quantities than the SRW(proto) material described above. Wheel-made sandy grey (reduced) wares, were used to produce a small number of cordoned jars (Thompson 1982, 139–142, B3-1; Fig. 6, e). These vessels are chronologically later than the SRW(proto) fabrics, although still probably pre-Flavian in date.

Imported fine wares

A number of distinctive imported Gaulish fine ware vessel fragments were recorded. Most abundant are Terra Rubra fabrics produced in Gaul and imported into Britain between AD1 and 60/65 (Tyers 1996, 165). Three different Terra Rubra fabrics were recorded and at least five individual vessels identified. Two TR1C Butt Beaker fragments (Tyers 1996, 163, fig 200, 113) were found, both with a polished red slip overlying decorative motifs which comprised an empty cordon and opposed incised diagonal (herringbone) lines (Fig. 6, f). Two TR3 Butt Beaker fragments are decorated only with a burnished red slip (Thompson 1982, 511–513, G5-2), while a single TR2 burnished straight-sided platter base fragment (Thompson 1982, 441–445, G1-1) had been burnt after use. Small contemporary fragments from Terra Nigra vessels were also found, most were undiagnostic fragments, how-

Table 1. *The Pottery by fabric, listed in descending order of weight (%).*

Fabric: Abbreviation *Published reference*	**Vessel (Thompson 1982)**	**Sherd Count**	**EVE**	**EVE(%)**	**Weight (g)**	**Weight(%)**
Sandy coarse ware: SCW *Webley with Anderson 2008, 64,Q1*	Storage jar (C6-1)	185	0.44	13.84	4084	43.37
Sandy reduced ware: SRW (proto) *Webley with Anderson 2008, 64, PGW*	Jar (B3-1)(C7-1), bowl (D2-1), storage jar (C6-1)	314	1.45	45.60	3916	41.58
Sandy grey ware: SGW *Webley with Anderson 2008, 64, GW*	Jar (B3-1), bowl (D2-1), dish	93	0.61	19.18	1099	11.67
Shelly ware: STW *Webley with Anderson 2008, 64, SH1*	Jar (C7-1), storage jar	6	0.30	9.43	160	1.70
Gaulish Terra Rubra: GAB TR 1-3 *Tomber and Dore 1998, 17-21; Tyers 1996, 165*	Butt beaker(G5-2), platter (G1-1)	15	0.38	11.95	93	1.00
Sandy oxidised ware: SOW *Webley with Anderson 2008, 64, Q6*	Jar	3	0.00	0.00	40	0.42
Gaulish Terra Nigra: GAB TN 1 *Tomber and Dore 1998, 15; Tyers 1996, 165-166*	Beaker, jar/bowl	6	0.00	0.00	25	0.26
Total		**622**	**3.18**	**100.00**	**9417**	**100.00**

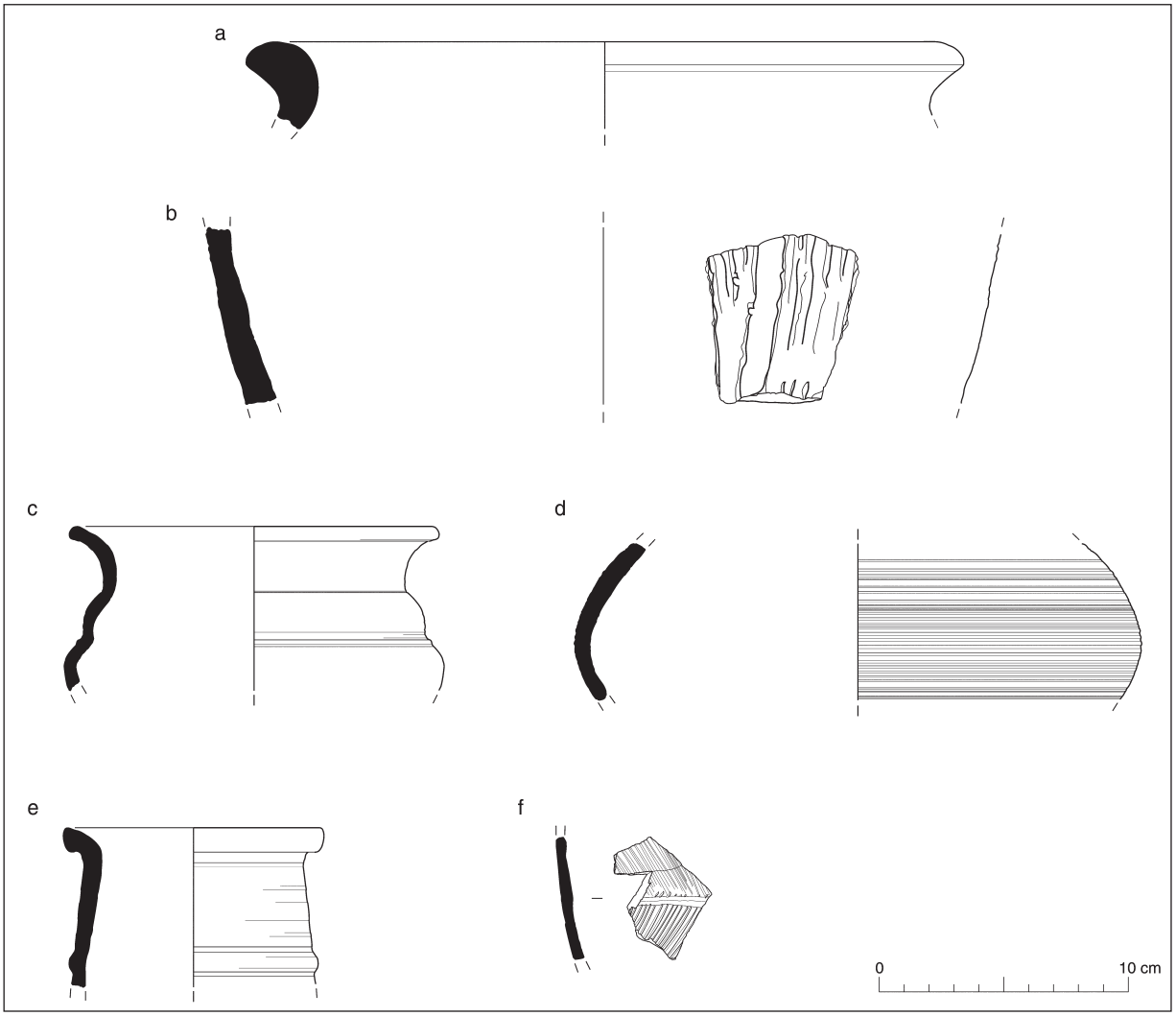

Figure 6. *Pottery*
a) SCW. Storage jar. Sandy reduced ware with oxidised surfaces (Thompson 1986, type D2-1). Context 11, ditch 18.
b) SCW. Storage jar. A handmade sandy grey ware vessel with oxidised scored surfaces (Thompson 1986, type C6-1) (Similar to Pullinger et al 2000, 162, plate LXV, 342). Context 22, ditch 27.
c) SGW(PROTO). A fine sandy reduced ware fabric cordoned bowl (Thompson 1982, D2-1), similar to Anderson with Brudenell 2010, fig 11, no 5. Context 11, ditch 18.
d) SGW(PROTO). Various sandy reduced ware jar/bowl sherds with distinctive rilled decoration (Thompson 1986, type C7-1). Context 11, ditch 18.
e) SGW. Sandy grey ware cordoned jar (Thompson 1986, type B3-1). Context 11, ditch 18.
f) TR1C. A Terra Rubra sandy red ware Butt beaker (Thompson 1982, G5-2). Context 11, ditch 18.

ever, one piece from a burnished Girth Beaker was identified (Tyers 1996, 163, fig 200, CAM 82/84).
Both Terra Rubra and Terra Nigra are fine tableware produced using ceramic techniques outside of the normal range of local potters (Stead and Rigby 1989, 117). Within Cambridgeshire as a whole they are only found in burial contexts (Lyons forthcoming; Webley and Anderson 2008, 74–5), however within the bounds of Early Roman Cambridge they have been previously found nearby (Anderson with Brudenell 2010, 48). It should be noted that no samian was recovered from this assemblage.

Mammal and Fish Remains
Lena Strid and Rebecca Nicholson

A total of 375 animal bone fragments were recovered from both hand collection and from the sieved soil samples of which 156 (41.6%) could be identified to species (Strid 2015). Bone preservation was good leading to identification of gnaw marks (52 bones) by carnivores, probably dogs, whilst traces of burning were also recorded (20 bones) ranging from partial charring to full calcination.

Most of the bones belonged to domesticates: cattle

(*Bos taurus*), sheep/goat (*Ovis aries*/*Capra hircus*), pig (*Sus domesticus*), horse (*Equus caballus*), dog (*Canis familiaris*), and domestic fowl (*Gallus gallus*). Wild animals comprise raven (*Corax corax*) and frog (*Rana* sp.). The assemblage also included one bone from frog/toad. The assemblage is dominated by bones from sheep/goat. However, the total number of bones from livestock is less than 300, the optimal minimum number for a secure inter-species analysis (cf Hambleton 1999, 39–40), and any analysis of species proportion must be interpreted with care.

Judging by epiphyseal fusion, tooth eruption and wear, the sheep/goat assemblage is dominated by young and sub-adult animals (Strid 2015, tables 2 and 3) and slaughter patterns for cattle and pig are also focussed on this group. Butchery marks were found on a total of 13 bones from cattle, sheep/goat, pig, medium and large mammal. Axial splitting of the carcass is indicated by two medium mammal vertebrae and two sheep/goat skulls whilst saw marks near the base of a cattle horn core suggest that the horn sheath was removed for horn working. Very few bones displayed evidence of pathological conditions. One cattle proximal metatarsal had minor exostoses on the lateral side of the bone. Exostoses are often associated with muscle strains but may also be age related.

Thirty-one fish bones were also recovered, almost all from the sorted heavy residues of flotation samples, most of which are in good condition (Nicholson 2015). They were recovered from occupation/refuse layers (6 and 8), a surface (9) and ditch fill/midden deposits (10, 11, 13 and 14). Virtually all of the identified fish bones came from species likely, or certain, to have been caught in freshwater rivers and streams, although the remains of fishponds have been discovered at some villa sites (Zeepvat 1988). Species identified include barbel as well as indeterminate cyprinids, pike and eel. An eel cleithrum came from an adult fish of around 0.39m long (Bark *et al*. 2007). A barbel hyomandibular and four caudal vertebrae from barbel or bream came from a fairly large fish, around or in excess of 0.5m, while the other, cyprinid remains, undiagnostic to species, came from much smaller individuals. Pike was identified by a tooth, and a small, chewed vertebra. A single herring vertebra may have come from a salted or pickled fish, since as an oily fish, herring spoil quickly.

Charred Plant Remains

Rachel Fosberry

Bulk environmental samples were taken from 18 of the 20 deposits in this excavation representing ditch fills, surfaces and levelling layers, and occupation / midden deposits. Preservation of plant remains is by carbonisation and is generally good with exceptionally large assemblages of charred cereal grains, chaff and weed seeds recorded in some deposits. The fills of the ditches contained only occasional charred remains, while the layers overlying them (14 and 15) contained moderate assemblages of charred grain, occasional chaff items, charred weed seeds and occasional small legumes.

The flots of the samples were fractionated and plant macrofossils were extracted, identified and counted. Identification of plant remains is with reference to the Digital Seed Atlas of the Netherlands (Cappers *et al*. 2006) and the author's own reference collection. Nomenclature is according to Zohary and Hopf (2000) for cereals and Stace (2010) for other plants. The identification of cereals has been based on the characteristic morphology of the grains and chaff as described by Jacomet (2006).

Based on the assessment of 50 percent of each sample, four samples were selected for further analysis based on their composition and stratigraphic position: midden deposits 11, 12 and 13 and occupation layer 8 (Fosberry 2015). The selected samples produced large flot volumes (50–80ml) that are entirely composed of charred cereal grains, hulled wheat chaff, weed seeds and charcoal, however preservation of the cereal grains is poor to moderate as would be expected from midden deposits. Similarly, the majority of the glume bases are degraded and have lost their identifiable characteristics precluding identification to species. Weed seeds, conversely, have been better preserved.

Cereals

Cereal grains are most abundant in the earliest sample in the sequence (Layer 13) which contains approximately 30 grains per litre of soil. The cereals, including a small proportion of sprouted grains, are identifiable as being predominantly spelt wheat, emmer (*T. dicoccum*), free-threshing bread wheat (*T. aestivum sensu-lato)* with some barley (*Hordeum vulgare*) are also present. Other possible crop remains are pulses (Fabaceae) present as fragments of a possible peas (*Pisum* sp.) and/or bean (*Vicia* cf. *faba*). The midden assemblages are most remarkable for the density and diversity of charred weed seeds whilst occupation layer (8) contains abundant chaff, at a ratio of 2:1 ratio of chaff:grain, in the form of spelt and emmer glume bases, rachis fragments and spikelet forks. This ratio can only be considered tentative due to the poor preservation of the relative components and the small sample size, but ratios of categories of plant remains within an assemblage can be used in the interpretation of the processing stages of the cereal crops particularly when considering the types and sizes of weed seeds (after Hillman 1981; Stevens 2003).

Weed Seeds

The weed taxa include probable crop weeds which would have been growing amongst the individual cereal, and possibly legume, crops although the small number of the latter does not suggest that they are significant within these assemblages. The weeds that produce larger seeds, which could be retained with the grain after sieving are listed with smaller seeds, which may have been harvested along with the crops

Table 2. Selection of weed and cereal seeds recovered from Shire Hall samples.

	Sample No.	2	5	6	7
	Context No.	8	11	12	13
	Feature Type	Layer	Layer	Layer	Ditch
	Phase	3.1	2.2	2.2	2.2
	Volume processed (L)	33	24	16	28
	Flot Volume (ml)	80	50	80	60
	% sorted	25.00%	100.00%	50.00%	25.00%
Charred cereal grain					
Hordeum vulgare L. caryopsis	Domesticated barley grain		9		24
Triticum cf. *dcoccum* Schübl caryopsis	Emmer wheat grain	7	37		80
Triticum cf. *spelta* L. caryopsis	Spelt wheat grain	1		4	1
Triticum dicoccum Schübl/*spelta* L caryopsis	Emmer or spelt wheat grain	22	66	55	59
Triticum dicoccum Schübl/*spelta* L caryopsis	Sprouted wheat grain	1	3	9	1
cereal indet. caryopsis		29	66	28	58
Total grain		**60**	**181**	**96**	**223**
Grain per litre soil		**7**	**7.5**	**12**	**31.9**
Charred cereal chaff					
Triticum dicoccum Schübl glume base	Emmer wheat chaff	42	2	1	6
Triticum dicoccum Schübl /*spelta* L. glume base	Emmer/spelt glume base	123	9	8	13
Trititcum spelta L. glume base	Spelt Wheat chaff	3		10	1
Triticum dicoccum Schübl /*spelta* L. detached coleoptile	Emmer/spelt sprout	7			4
Cereal culm node	cereal straw	1			
Cereal awns			4	6	1
Total chaff		**176**	**15**	**25**	**25**
Chaff per litre soil		**21**	**0.6**	**3**	**3.6**
Charred edible or other economic plants					
Legume <2mm	vetch/tare/small pea		8	4	
Legume 2-4mm	Pea/small bean		6	3	2
Legume >4mm	Bean		0.5	2	
Charred wild seeds and fruits					
Anthemis cotula L. achene	Stinking Chamomile		2		1
Avena/*Bromus* sp caryopsis	oat/brome seed	6	5	3	4
Bromus spp. caryopsis	Bromes	8	33 + 34f	7 + 30f	38 + 6f
Small Caryophyllaceae indet. (<1mm) seed	medium-seeded Pink Family	2	2	10	
Small *Chenopodium* sp. Seed (<1mm)	Small seeded goosefoots	4	6	7	13
Large *Chenopodium* sp. Seed (>1mm)	Goosefoots		4	16	
Chenopodium album L seed	Fat hen	4	4	9	38
Fallopia convolvulus (L.) Á. Löve achene	Black-bindweed		5	7	2
Festuca sp. caryopsis	Fescues		1		
Galium aparine L. seed	Cleavers		2		1
Galium sp. Seed	Cleaver-family	1			
Hyoscyamus niger L. seed	Henbane			10	
Lithospermum arvense L. nutlet	Field Gromwell	4		5	
Lolium cf. *temulentum* L. caryopsis	Darnel		1		
Malva sp. seed	Mallows			2	
Papaver sp. seed	Poppy	2	1	11	
Phleum sp. caryopsis	Cat's tails		4		
Plantago lanceolata L. seed	Ribwort Plantain	1			1
small Poaceae indet. (< 2mm) caryopsis	small-seeded Grass Family	5	4	19	5
medium Poaceae indet. (2-3mm) caryopsis	medium-seeded Grass Family	5	7	10	3
Polygonum aviculare L. achene	Knotgrass			4	
Polygonum sp. kernel achene	Knotgrasses kernel	5	2	16	4
Ranunculus cf. *acris* L./*repens* L./*bulbosu*s L. achene	cf. Meadow/Creeping/Bulbous Buttercup			2	1
Ficaria verna L. tuber	Lesser celandine		2cf		1
Rhinanthus minor L. seed	Yellow rattle			2cf	

Continued on p. 10

Table 2. Selection of weed and cereal seeds recovered from Shire Hall samples, continued from p. 9.

	Sample No.	2	5	6	7
	Context No.	8	11	12	13
	Feature Type	Layer	Layer	Layer	Ditch
	Phase	3.1	2.2	2.2	2.2
	Volume processed (L)	33	24	16	28
	Flot Volume (ml)	80	50	80	60
	% sorted	25.00%	100.00%	50.00%	25.00%
Charred wild seeds and fruits *continued*					
Rumex sp. achene	small-seeded Docks	19	33	11	
Rumex acetosella L. achene	Sheep's Sorrel		5	120	11
Rumex crispus/obtusifolius L. achene	Curled/Broad-leaved Dock	3	6	15	8
Sanguisorba officinalis L. seed	Salad burnet		2		
Scleranthus annuus L. seed	Annual knawel				1
Stellaria graminea L. seed	Lesser stitchwort			14	1
Stellaria media (L.) Vill. seed	Common Chickweed	1		17	1
Thalictrum flavum L. seed	Common meadow-rue			1	
small *Trifolium* spp. (<1mm) seed	small-seeded Clovers	2		16	4
large*Trifolium/Medicago* spp. (2-3mm) seed	large-seeded Clovers/Medicks	2		13	5
Tripleurospermum inodorum (L.) Sch. Bip. achene	Scentless Mayweed		2	13	3
Urtica dioica L. seed	Common Nettle		1	2	2
Urtica urens L. seed	Small Nettle				1
Valerianella dentata (L.) Pollich seed	Narrow-fruited cornsalad			1	
Wetland plants					
Small trigonous *Carex* sp. achene	Sedges	4			1
Large trigonous *Carex* sp. achene	Sedges	1		5	
Lenticular *Carex* spp. achene	Sedges	1		8	2
Cladium mariscus (L.) Pohl achene	Great Fen-sedge		1		
Eleocharis sp..achene	Common / Slender Spike-rush	2	6	10	
Juncus sp. seed	Rushes	2	21	43	2
Luzula sp. seed	Rushes		3		
Schoenus nigricans L. nut	Black bog rush	4			
Total seeds		**88**	**138**	**422**	**116**
Total seeds per litre		**11**	**9**	**57**	**3**
Other charred macrofossils					
Charred bud		**1**			
Charred stems		**4**			**6**
Charcoal					
Charcoal <2mm		**++**	**+++**	**+++**	**+++**
Charcoal > 2mm		**++**	**++**	**++**	**++**
Culm nodes <1mm diameter)	**grass stems**		**5**	**15**	

as seed heads, in Table 2.

The types of soils represented by the weed taxa are varied; stinking mayweed is a plant that indicates the cultivation of heavy clay soils (Stace 2010, 755) whereas sheep's sorrel (*Rumex acetosella*) prefers acid, sandy soils (*ibid*, 446). Seeds of weeds that are characteristic of damp soils include sedges (*Carex* spp.) and rushes (*Juncus* sp, *Luzula* sp.) and wet soils such as those of fenland such as Great Fen sedge (*Cladium mariscus*) and black bog-rush (*Schoenus nigricans*). Whilest rushes and sedges could feasibly be growing on the damp margins of cultivated soils, the Great Fen sedge and black bog-rush are more likely to represent the use of these fenland resources for thatching/flooring and then subsequently burnt as fuel. Several of the plant species recovered have more than one habitat type. There is a large proportion of grasses and plants such as ribwort plantain (*Plantago lanceolata*), salad burnet (*Sanguisorba officinalis*), cat's tails (*Phleum* sp.), Meadow/Creeping/Bulbous Buttercup (*Ranunculus acris/repens/bulbosus*), common meadow-rue (*Thalictrum flavum*), along with the tentative identification of yellow-rattle (*Rhinanthus minor*) that could indicate pasture and/or damp grassland/meadows which could indicate the harvesting of this resource as hay. Grass stems were recovered in two of the samples.

Discussion

Gareth Rees, Alice Lyons and Rachel Fosberry

Chronology

Establishing a chronology for this tightly-stratified sequence has largely been based on a combination of pottery and other finds analysis, alongside select radiocarbon assays. Dating the pottery assemblage was a challenging process given its relatively small size and limited range of fabrics and forms. However, comparison with the published literature demonstrates that this assemblage is very similar to other pottery excavated in the area and is consistent with ceramic goods manufactured and used within Early Roman Cambridge between AD30 and 60 (Farrar, Hull & Pullinger 2000; Anderson, with Brudenell 2010, 46). A clear distinction from other comparative assemblages is the notable absence of amphora (Tyers 1996, 85–105) or samian (Tyers 1996, 105–116), which would be expected in a high status Claudian assemblage (G. Monteil pers. comm.). Early Roman amphora (Pullinger 2000) and samian (Dickinson 2000) have been previously recorded within Cambridge and at a nearby extra-mural settlement (Graham with Lyons 2018, 37) so their presence would not be unexpected. This absence may reflect the limited nature of the assemblage, however if the absence of samian is 'real', it could indicate a date before the early AD 40s when small amounts of Gaulish samian started to be introduced into the high status British ceramic repertoire (Webster 1996, 2). The absence of samian, therefore, potentially dates the assemblage to *c.* AD 30–40.

This is broadly consistent with the two datable and stratified brooches which have date ranges spanning either side of the Roman Conquest (dated to *c.* AD30–50). Mackreth (2010) places brooches with rectangular piercings on the catch-plate (as SF2) as relatively early in the sequence, a likelihood supported by the short hook, which does not reach the top of the bow. Olivier (1996) regards manufacture of the developed form as slightly pre-dating the Conquest, but suggests that they may have remained in use into the latter half of the 1st century AD. Similar Colchester type bow brooches have been recovered from the nearby excavations at 68 Castle Street (Challands with Allen 2010, 50) and Westminster College (Graham with Lyons 2018, 33) whilst large numbers of Colchester brooches were present in the King Harry Lane cemetery, St Albans, in use *c.* AD1–AD60 (Stead and Rigby 1989, 98). The iron brooch has a broadly similar date-range, focused on the first half of the 1st century AD, although they are also found in immediately post-Conquest contexts (Olivier 1996, fig 11.3).

This chronology would suggest that the Lift Shaft ceramic assemblage could be associated with the known Late Iron Age activity on Castle Hill identified by previous excavations in this area (Evans 2000, 255). Furthermore, the earliest ditches could be related to Iron Age activity especially as the earliest associated radiocarbon date range extends back to 45cal BC. If, however, it is accepted that the absence of samian is due to the small size of the assemblage or that the Terra Rubra and Terra Nigra fabrics fulfilled the tableware needs of the community, then the date range becomes broader (AD30–60), extending to the post-Conquest period; although all the material is certainly pre-Flavian (AD69) in date.

Settlement development

Within the relatively tight time frame identified above, a fairly extensive sequence of activity was evident, providing a further snapshot of settlement development on Castle Hill during the 1st century AD. This incorporated the excavation, filling, recutting of (three) ditches, followed by the rapid development of domestic activity first on the north-west and then on the south-east side of the boundary, and perhaps culminating in the laying of a thick clay floor. The latter may have been somewhat later but illustrates the final efforts to reclaim this area, perhaps as Roman settlement began to establish itself. Of note within this sequence was the increasing amounts of pottery, animal bones and other remains being deposited as time progressed, particularly in terms of the increasing quantity and variety of charred grains and seeds in addition to the gradual introduction of fish bones and then marine shell, representing a change in dietary preferences.

This evidence fits well with the model of development suggested by previous investigations outlined above, with ditches following the broad north-east to south-west axis of Akeman Street, which was clearly the primary influence on alignment from the Late Iron Age period (Evans and Ten Harkel 2010, 55; Fig. 1). If one of the Lift Shaft ditches is a continuation of that uncovered during the construction of Shire Hall (VIb) to the north-east (which contained mid 1st century AD pottery (Alexander and Pullinger 2000, 27)) and they formed a single enclosure, it would have measured in excess of 30m^2. The shared alignment of the ditches is indicative of recutting of the same boundary in close succession, as has been found elsewhere on Shire Hill, which suggests a high level of continuity between the Late Iron Age and Early Roman phases of occupation (Evans and Ten Harkel 2010, 40).

Evidence of Romanisation?

Overall, the Lift Shaft pottery assemblage is indicative of a high-status native Romanised population with handmade and wheelmade local coarsewares found alongside a small amount of imported Terra Nigra and Terra Rubra fine wares. The combination of utilitarian storage and cooking vessels with a significant group of imported fine table wares (albeit lacking samian and amphora; see above) makes this assemblage distinct from contemporary rural assemblages found in the region (Anderson with Brudenell 2010, 48–49).

A further indication of status might be provided

by evidence for the importation of partially processed cereals from a variety of landscapes, suggesting connections and perhaps trade with other nearby settlements. The site at 68 Castle Street produced similar assemblages of hulled wheat, barley grains and chaff with a large component of small weed seeds from samples taken from Conquest-period ditch fills. Interpreted as crop processing waste, the weed taxa indicated cultivation of both the lighter soils found in the immediate vicinity and heavier clay soils located further afield, suggesting that crops were imported onto the site (de Vareilles 2006, 79–88). However, emmer wheat appears to be more prevalent at the Lift Shaft site than at the other local sites, the cultivation of which saw a dramatic decrease during the Late Iron Age/Early Roman period (Lodwick 2017a, 27), although it remains a frequent minor component of archaeobotanical assemblages.

Continuation of some Iron Age practices may be indicated by the presence of emmer wheat alongside the prevalence of young and sub-adult sheep remains (Hambleton 1999, 70–74), while the relatively small cattle and pig assemblages are contrary to what one would expect to find on an urban or military Roman site. Some husbandry practices may have been undertaken in the vicinity of the site, perhaps indicated by the tentative identification of yellow-rattle that can be indicative of hay making (Murphy 1992). Hay meadow management is first seen in Britain in the mid-1st century AD (Lodwick 2017b, 14) and cultivation of grass as fodder may be considered a Romanised industry; it is evidenced locally by the recovery of a hay-fork from Stonea Grange (Fowler 2002, 223).

Although Romanised dining practices, evidenced by fish and oyster remains, became more common later in the life of the site (Dobney and Ervynck 2007), there is a notable absence of marine fish. The latter might have been expected if this sequence predominantly represented post-Conquest activity where the occupants would have had regular access to regional trade networks facilitated by a developed Roman infrastructure, and suggests that a more typical native Iron Age diet persisted here (Alcock 2001, 49 cited in Locker 2007).

Conclusion

Together, the faunal, environmental and artefactual assemblages suggest a domestic rather than a military settlement, where activities such as cooking, baking/corn drying (evidenced by broken up oven superstructures), animal husbandry and textile working (suggested by a single spindle whorl) were carried out. The occupants were well-connected and relatively affluent, living in a settlement that is likely to have been established here well before the Roman Conquest and perhaps continued longer than previously thought – into the mid-1st century AD.

Despite its limited size, the archaeological sequence and associated finds revealed by the Lift Shaft excavation makes an important addition to the current model of development of *Duroliponte*. It provides a snapshot of the speed of development of the pre-Roman settlement on Castle Hill and is perhaps testament to the reaction and subsequent stabilisation of the region after the Roman invasion.

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