Proceedings of the Cambridge Antiquarian Society

(incorporating the Cambs and Hunts Archaeological Society)

Volume XCI
for 2002

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Editorial

After two themed volumes these *Proceedings* return to the usual PCAS format of mixed papers, covering excavations, local history, landscape archaeology, architecture and historical geography. Indeed, in the finest antiquarian tradition many of the papers involve more than one of these disciplines. There should therefore be something to interest all members in this miscellany.

Two departures from recent practice are the inclusion of Conference synopses and an abbreviated *Conduit*. The synopses are by popular request, rising from a realisation that many members would be grateful to have a lasting reminder of these important papers. We are grateful to the authors who supplied copy so conscientiously after the event (naturally we had not thought of this in advance), and to Derek Booth who collected them all together. *Conduit* had to be an even more last-minute construct, when it became clear that the County Council could no longer keep up with the necessary production time-scale. This year's approach is a bit of an experiment, and it will be useful to know what reaction we have both from members and from affiliated societies.

Alison Taylor

President's Address

Two years as President is too short a time to see through any substantial programme of reform for CAS. When I was elected there were a number of initiatives I wanted to start in the hope they would mature in another President's time. To this end Derek Booth as Secretary and I put out a questionnaire in the year 2000 to profile our membership and to canvas opinion on possible changes.

It has been a central part of my Presidency to re-imbue the Society and its membership with confidence in its right to express opinion on heritage issues. It is essential that there remains a well-informed independent Society to safeguard archaeological and related services at a time when other pressures and agenda take precedence within local and central governmental organisations which we perhaps naively assume will be acting in our best interests in protecting the past. It is particularly regrettable that CAS has been excluded from representation within long-established fora to discuss and scrutinise public heritage services within Cambridgeshire at this time.

Another issue I hoped we could address was to reverse the decline of amateur archaeology, perhaps by re-establishing the Society's post of Director of Fieldwork, and to encourage research-led investigation in the County once more. This latter still awaits the right person and opportunity, but I am pleased there are encouraging signs in the way local groups have attracted grants which will give them solid research foci and draw in new members. Notable amongst these are Thriplow Society, Fulbourn Village History Society, Haverhill and District Archaeological Group and Cambridge Archaeology Field Group.

We asked members if it would be beneficial for CAS to develop other venues for meetings, and would there be interest in workshops on current research topics. We have developed the workshop idea with this year's conference dedicated to the archaeology, architecture and history of Ely, a town that has had considerable investigation in the past ten years, with some startling new discoveries but little co-ordination or academic discussion. Synopses of the talks are published within this volume. From October we shall be holding our monthly meetings in more comfortable and more accessible surroundings, in the newly built Divinity Faculty at the Sidgewick Site.

Other positive steps are that, after two years I can report that the Web page is now complete and will shortly appear at www.Cambridge-Antiquarian-Society.org.uk, and that the Society has taken back full ownership of *Conduit* which, over the past ten years, had been produced jointly with Cambridgeshire County Council.

In summary there has been good progress over the past two years and the Society will continue to build upon its strengths as the paramount amenity society guarding Cambridgeshire's heritage. Government policies at central and local level are capricious and we cannot afford to put faith in them without constant scrutiny and challenge. With the advent of regional government and root and branch reform of the planning system, a Cambridgeshire focus for our heritage provided by CAS will be ever more imperative. The Society is therefore essential and I thank you all for continuing to support and contribute to it. I am pleased to leave it in the capable hands of your secretary Liz Allan, and new President, Tony Kirby.

Tim Malim

The Ring-Ditch and the Hollow: excavation of a Bronze Age 'shrine' and associated features at Pampisford, Cambridgeshire

Joshua Pollard[1]
with a contribution by E Yannouli

The paper describes the excavation of a highly unusual Bronze Age ring-ditch in southern Cambridgeshire. Dating to the mid-2nd millennium BC, the monument was defined by a broad, shallow ditch, set into the base of which were numerous post and stake holes. Quantities of worked flint, animal bone and later Bronze Age pottery had been deliberately deposited within the ditch whilst it silted. An incomplete ring of pits and one substantial post hole encircled the ditch. A cremation filled a localised re-cut within a large central post hole; and a second cremation was excavated to the south of the ring-ditch. A lithic scatter, pits and other cut features are indicative of further Bronze Age activity, including settlement, in the environs of the monument.

The monument lacks immediately analogy, though can be accommodated within a broader tradition that includes barrows, ring-ditches and timber circles. It is argued that the morphology of the monument may in part have been informed by that of a nearby natural hollow, which acted as a focus for flint working and a range of other activities during the Neolithic and later Bronze Age.

Introduction

Excavations at Bourn Bridge, Pampisford, Cambridgeshire (TL 516495), were undertaken during 1993 and 1994 by the Cambridge Archaeological Unit (CAU) of the University of Cambridge, as part of a planning application for a borrow pit for the new A11 (figs 1 and 2). The site lies within chalk uplands known to be rich in prehistoric, Roman and Saxon archaeology. Neolithic and Bronze Age occupation is represented by numerous lithic scatters (Evans 1990, Pollard 1998) and isolated and grouped ring-ditches along the Icknield belt (Taylor 1981, fig. 44); a group of ploughed-out round barrows lies 1km to the north-east of the site (Barclay and Williams 1994).

Following evaluation in 1993 (Evans 1994), excavations across the 6ha river-side site were largely focussed on a Roman field-system and small Saxon settlement. However, prehistoric features also came to light, including an atypical Bronze Age ring-ditch (figs 3 and 4), the subject of this paper. The excavation was directed by Christopher Evans and the author (whilst employed by CAU).

Topography and Geology

Situated within the Middle Chalk downlands of southern Cambridgeshire, the site falls upon a first-second gravel terrace of the River Granta (fig. 2). The drift geology consists of sandy gravel, throughout which are pockets of chalky gravel and marl. Over the eastern half of the site were numerous periglacial hollows, acting as traps for lenses of buried soil. Adjacent to the riverside, the site was bisected by Pleistocene palaeochannels. Localised alluvium (up to 1.0m thick adjacent to the river) overlay the gravel between 30 and 50m from the river. Limited alluviation appears to have taken place prior to the Roman period, but the bulk is perhaps post-medieval, and may relate to damming of the Granta at the Bourn Bridge during establishment of a water meadow.

The Bronze Age Ring-Ditch

Following the stripping of ploughsoil and a thin covering of alluvium, the monument was visible as a disc of brown sandy loam, around the circumference of which were several smaller features. The ditch fill of the south quadrant was excavated in metre squares to explore localised variation in artefact distribution.

The ring-ditch (F.137) formed a slightly flattened circle with uneven edges 9.5m in diameter, the ditch width ranging from 2.7–3.4m (fig. 5). The ditch was shallow, with a flat to undulating base (fig. 6), 0.18m deep on the north and east, and 0.41m on the south-west where it formed a clearly defined deeper zone around post holes F.165–F.213. A central platform of unquarried gravel, 3.0 x 3.4m across, formed the inner edge of the ditch. The top of this was 0.05m below the machined surface, indicating that it was originally set below the level of the surrounding ground surface.

The primary ditch fill [414] comprised a gravelly sandy clay loam, sealing a thin lens of pure sand and gravel on the south. Large quantities of worked flint

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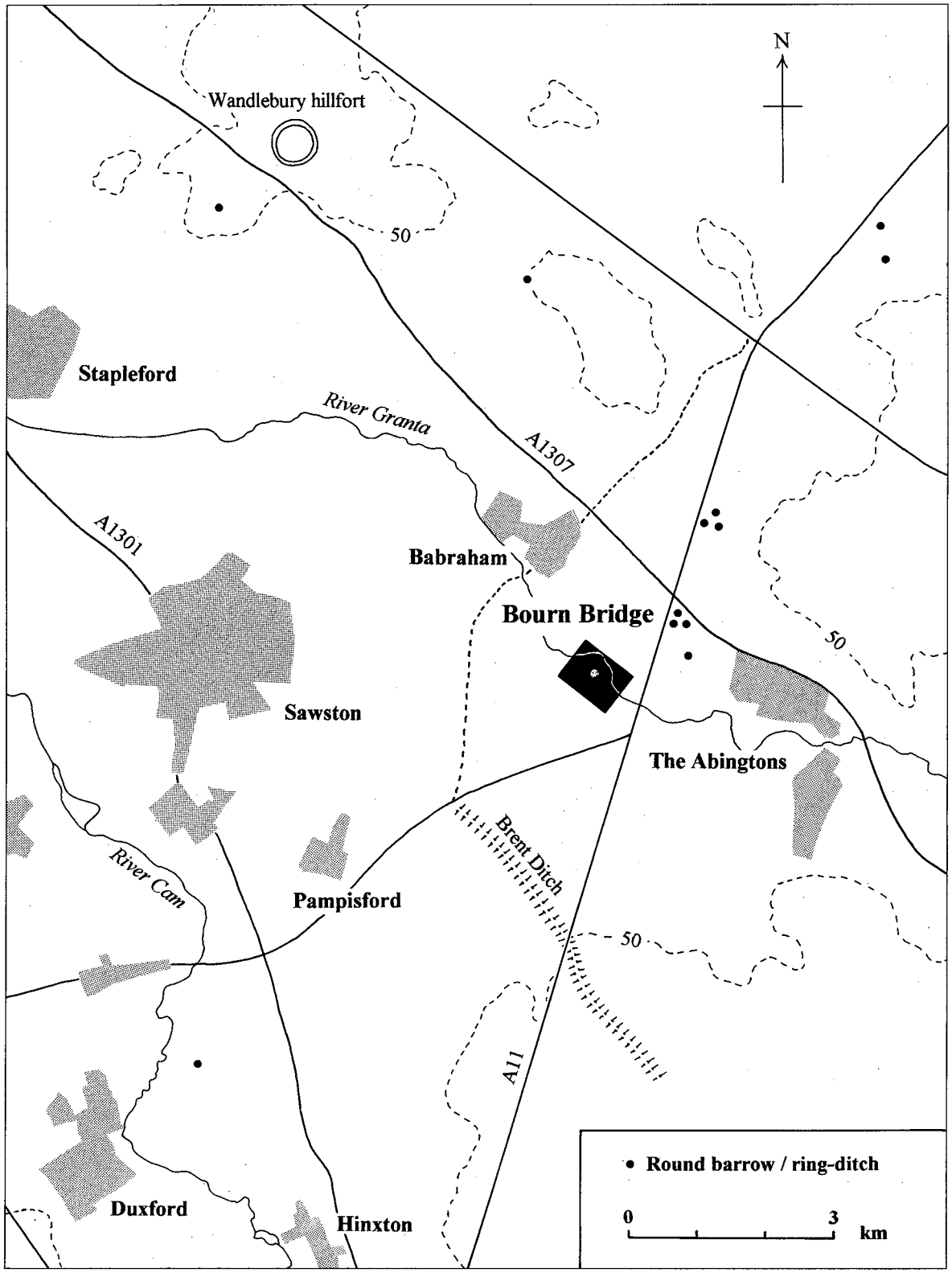


Figure 1. Bourn Bridge, location map

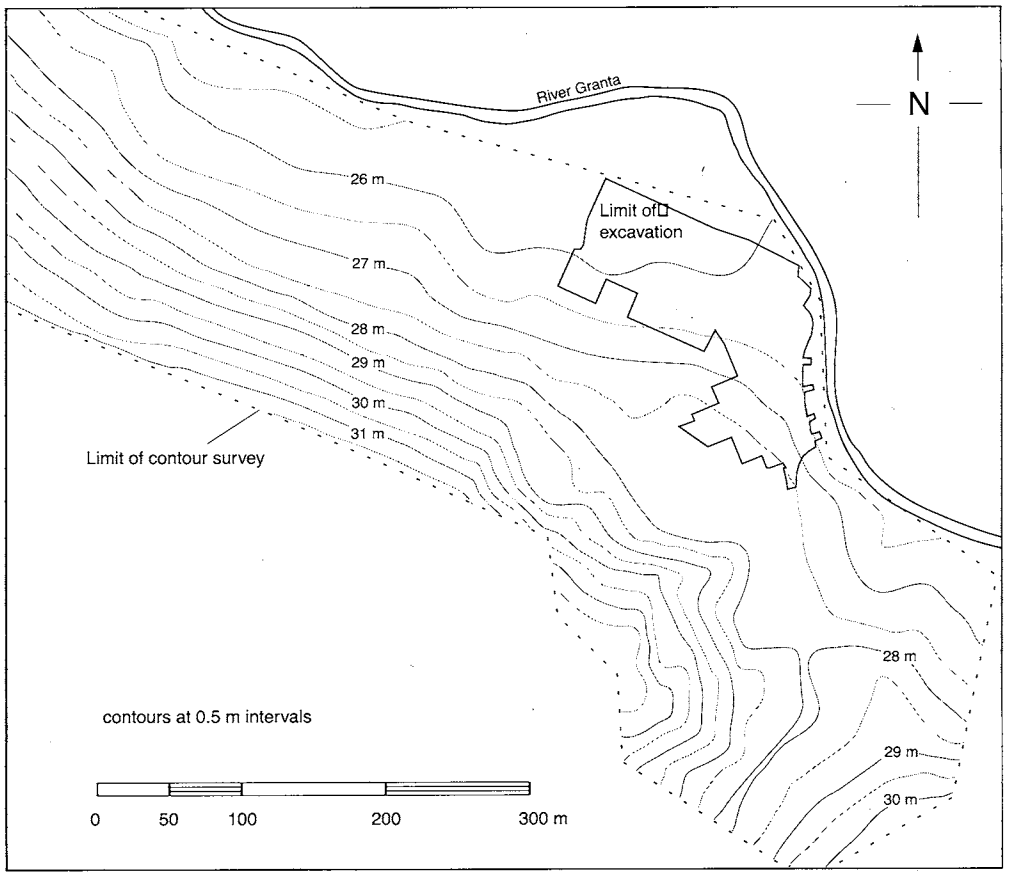


Figure 2. Location of trenches and the main area of excavation

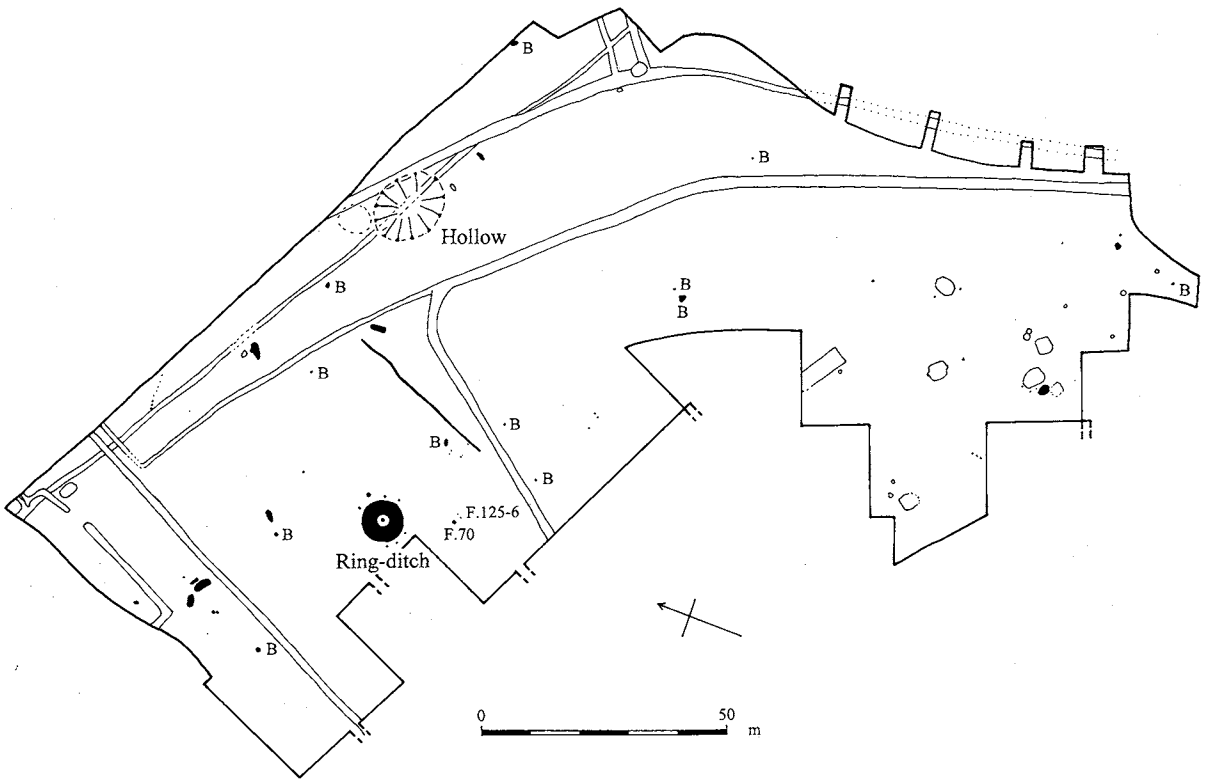


Figure 3. Prehistoric features (bold) within the main area of excavation. B=burnt flint pit. Later features shown in outline

Figure 4. *The site under excavation, from the west. The ring-ditch (half-excavated) can be seen just to the right of centre*

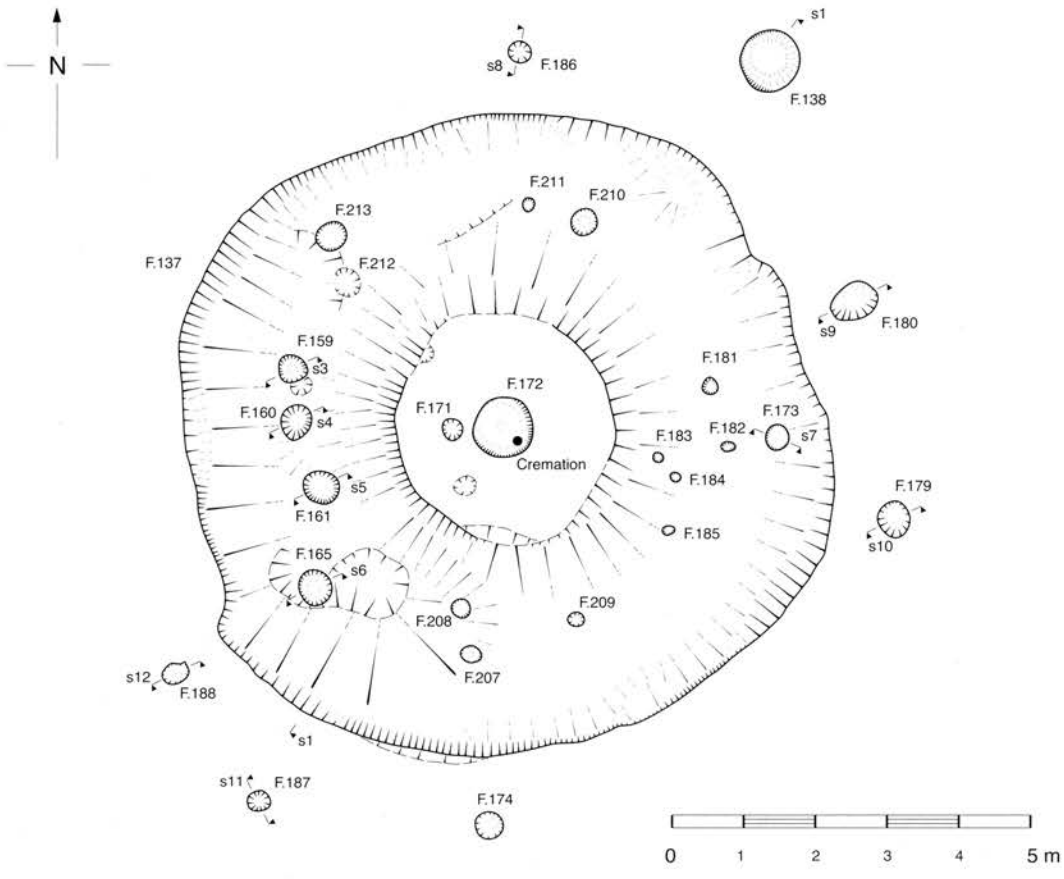


Figure 5. *Plan of the ring-ditch as excavated*

and pieces of heavily decayed bone were recovered from the base of the ditch and lower fill, particularly on the southern side (fig. 8). A date of 3345±50 BP (OxA-8067) – calibrating to 1750–1520BC at 2 sigma – was obtained from animal bone found close to the base of the ditch. Worked flint concentrated around a post hole setting in the base of the ditch (F.159–F.161, F.165, F.213), generally as a high density spread, though one distinct concentration of knapping debris and a flint hammerstone occurred to the north-east of F.213. On the western side a clearly defined layer of humic silty loam containing occasional charcoal flecks [446] overlay the primary fills; in turn being sealed by a lens of gravel backfill or bank collapse. Forming a slightly domed mass up to 70mm thick, and covering an area of 1.2 x 2.5m, [446] appears to have formed through an episode of dumping of topsoil or turves into the ditch (C. French pers comm). Bone and flint (a number of pieces re-fitting) were present within this.

The upper ditch fill comprised largely gravel-free loam [413]. Given the broad and shallow profile to the ditch and the general absence of gravel from this fill, the process of silting must have been protracted. Worked flint and bone was again present in reasonable quantities, along with over 400g of later Bronze Age pottery (fig. 8). Bone was extremely degraded, often only surviving as dark, rusty-brown patches, impossible to lift or identify. Pottery was concentrated in the southern and western sections of the ditch, in two instances occurring in localised groups. One group, deposited against the western edge of the internal platform included sherds from a single large urn/jar; the other fragments from a minimum of two vessels.

Integral to the monument were: a central pit, F.172; a series of post holes, possible stake holes and shallow pits cut into the ditch base; and a ring of six external pits and a substantial post hole concentric to the ditch edge (fig. 5). The central pit was regular, cut near level with the deepest part of the ditch, up to 0.86m across and 0.37m deep. Its fill began with a lens of gravelly sandy clay [608], above which was a central post-pipe of dark loam [501], 0.32m across, surrounded by gravelly sandy loam post-packing (fig. 6). A compact deposit of 630g of cremated bone from a single adult individual (identified by C Eden) was incorporated in a localised re-cut on the east side of the pit. A distinct weathering cone had formed after the central post rotted. Worked flint and animal bone were present in the fill. To the west of F.172 were three shallow pits/scoops.

Seventeen minor pits, stake holes and post holes were cut into the ditch base. A line of five in the west quadrant (F.159–F.161, F.165 and F.213) showed clear evidence, by the presence of post-pipes, of having held timbers (fig. 7). Of the remainder, F.183–F.185 are interpreted as stake holes, and F.181, F.182, F.207, F.208, F.210, F.211 and F.213 as shallow pits of uncertain function. F.209 and F.212 were ephemeral and may represent little more than depressions in the ditch base. All were clearly cut into the ditch either before silting had occurred (eg F.159–F.161), or at least prior to the formation of the secondary fills (eg F212

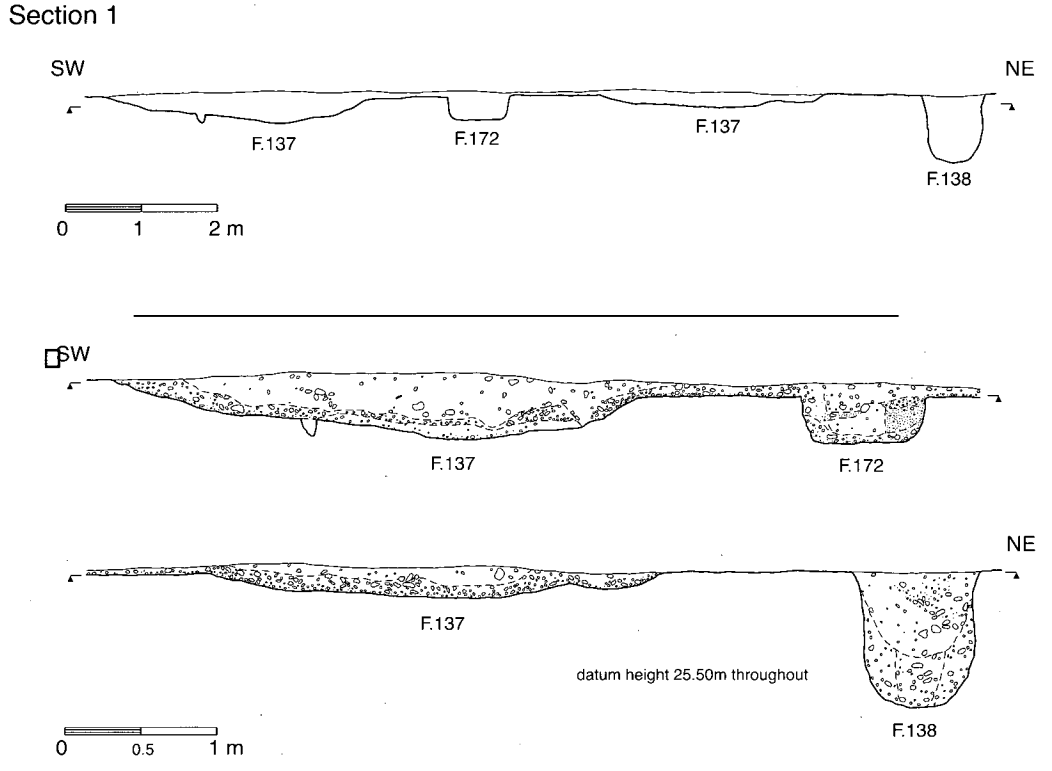
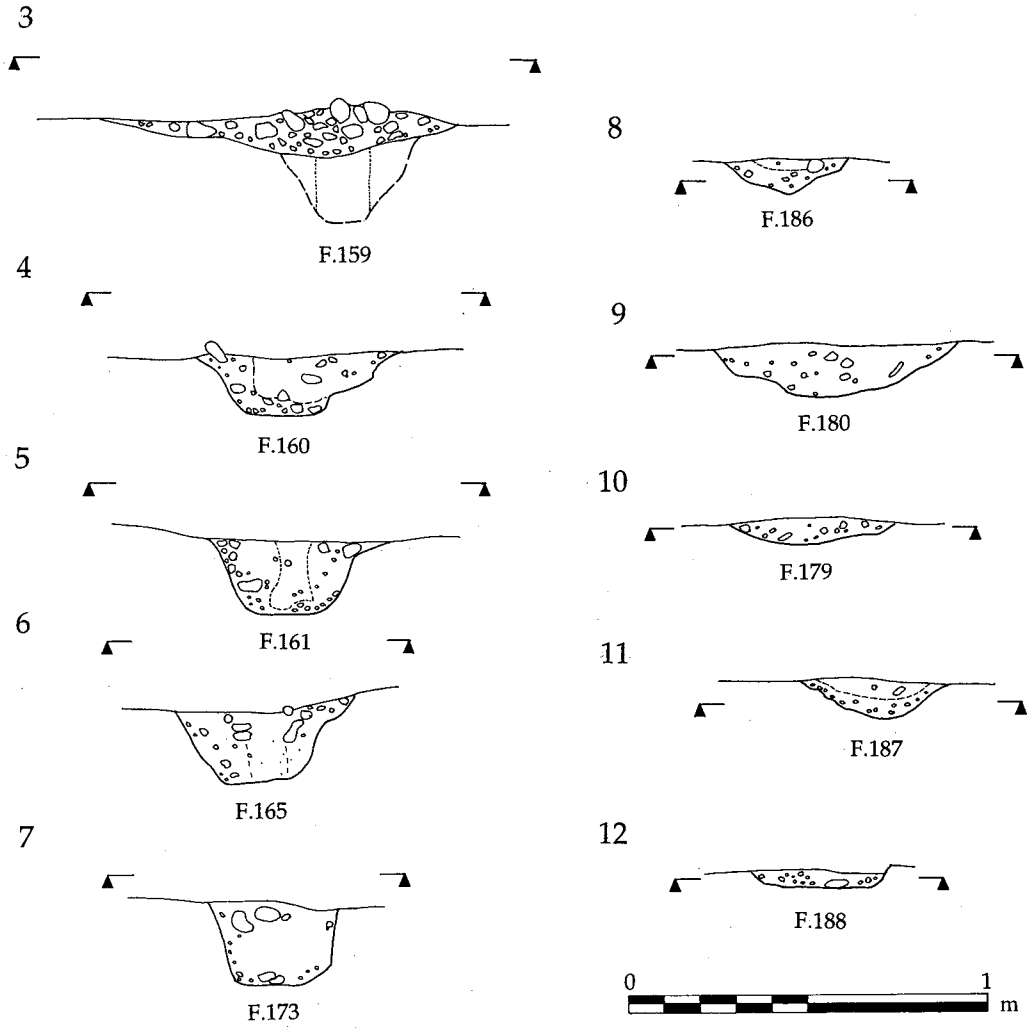


Figure 6. Ring-ditch: NE-SW section



Datum height 25.50m throughout

Figure 7. *Ring-ditch: sections of minor features*

and F.213). The somewhat chaotic distribution of these features might, however, bely a short sequence of re-working. One architecturally coherent element is provided by the line of five post holes on the west side (F.159–F.161, F.165 and F.213), apparently forming a small façade. A small 'cairn' of unworked flint pebbles, 0.60m in diameter, had been placed between F.159 and F.160 whilst the posts were still standing.

Around the external circumference of the ditch were six shallow pits, F.174, F.179, F.180, and F.186–F.188, and a large post hole, F.138. Given their seemingly truncated profiles, other pits may originally have existed, perhaps forming a complete ring spaced at intervals from 2.1–3.7m. It may of course be premature to assume that the arrangement of these features was intended to be symmetrical and that the pit ring is incomplete. With exception of F.138, all were shallow, showed no indication of having held posts and had silted naturally (fig. 7). The only find was a small crumb of prehistoric pottery from F.180.

Post hole F.138 was substantial, 0.90m in diameter, 0.84m deep, and slightly bell-shaped in profile. The fill [415] comprised a pale gravelly packing around a 0.30m diameter silty clay post-pipe (fig. 6). A deep weathering cone of silty loam cut into the top of the post-pipe. Assuming an original depth of *c.*1.1m for the post-pit, and a below-to-above ground ratio of around 1:3 for the post, the feature originally held a tree-trunk size timber standing 3.0–3.5m high. Finds included worked flint, mostly from the packing and post-pipe, and sherds of Rusticated Beaker from the upper fill. The ceramic evidence might indicate that the post hole pre-dates the ring-ditch.

A small oval pit (F.70) containing 675g of cremated bone occurred 10.6m south-east of the ring-ditch. Heavily calcined bone occurred in a basal lens [145] of charcoal-rich soil containing large quantities (426g) of burnt flint, sealed by fire-reddened orange-brown silty clay. No datable artefacts were present, though its proximity to the ring-ditch argues for a relationship

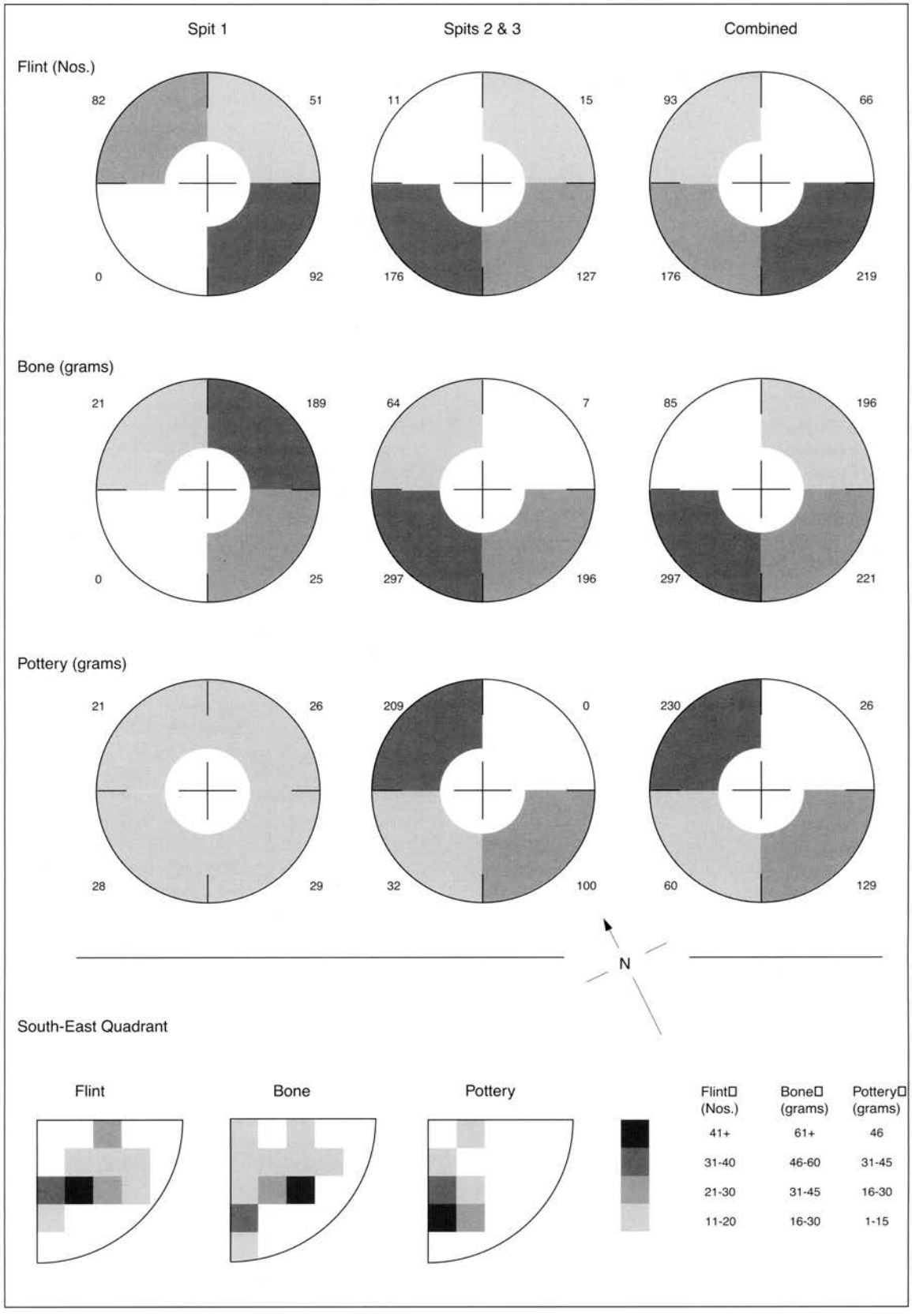


Figure 8. *The distribution of worked flint, pottery and animal bone from the ring-ditch*

with the monument. As with the central cremation, the bones represented incomplete remains of a single adult (identified by C Eden). Two stakeholes (F.125 and 126) immediately north-east of F.70 could have formed a setting associated with the cremation.

Pottery

502g of prehistoric pottery, *c.*150 sherds and crumbs, were recovered from the monument, most from the secondary silts of the ditch (Table 1). The material, from a minimum of 10 vessels in eight fabrics, is fragmentary, and it has not been possible to reconstruct profiles. Nonetheless, enough feature sherds survive to enable assignation to specific ceramic styles. Fabrics 1–3 are of earlier Bronze Age type, and belong to vessels of the Rusticated Beaker tradition (fabric 1) and possibly Collared Urn (fabric 3). The remaining fabrics are from middle-late Bronze Age vessels, and account for 76% of the assemblage.

Fabric Descriptions

1. Rusticated Beaker or Food Vessel. Hard fabric with common FLINT of varying size (up to 7mm), patchily distributed, and sparse fine SAND. Reddish-brown exterior and very dark grey core and interior.
2. EBA? Moderate to hard laminated fabric with common small to medium FLINT and common SAND. Dark grey-brown exterior and black core and interior.
3. EBA? Moderate to soft fabric with common small to medium GROG and moderate SAND. Pale orange-buff exterior, very dark grey core and dark reddish grey-brown interior.
4. Deverel-Rimbury. Hard fabric with common small to medium FLINT, patchily distributed, common medium GROG and common SAND. Reddish-brown exterior and buff interior.
5. Later Bronze Age. Hard fabric with common fine SAND and common to very common small FLINT. Often externally smoothed. Dark reddish-brown exterior and dark grey to black interior.
6. Later Bronze Age. Hard fabric with very common small to medium FLINT and common to very common SAND. Dark reddish-brown exterior and very dark reddish grey-brown interior.
7. Later Bronze Age. Hard, slightly laminated, fabric with abundant small FLINT and abundant SAND. Dark grey-brown exterior and very dark reddish grey-brown core and interior.
8. Later Bronze Age. Hard fabric with common to abundant SAND, moderate small to medium GROG and sparse small FLINT (probably introduced with grog). Orange-brown exterior and very dark grey-brown core and interior.

Sherds in fabrics 1 and 2 form a distinct group within the assemblage, and were restricted to F.138. Parts of three vessels are present; one represented by a single sherd from the post packing (fabric 2), and the remainder (fabric 1) from two thick-walled, large diameter pots with rusticated decoration from the upper fill. The latter include a body sherd with irregular finger pinching (fig. 9, 3), and others from a vessel with bands of multiple horizontal lines of thick cord impressions/grooving, bounded by bands of vertical finger pinching (fig. 9, 1). There are three thick rim sherds from this last vessel with multiple lines of impressed cord on the wall and inner and outer top edges (fig. 9, 2). In profile, the rim top was slightly concave. The sherds find close parallel with Rusticated Beaker from Fen-edge sites such as Hockwold 93, Norfolk (Bamford 1982, figs 5–11). It is notable that the only other Early Bronze Age sherds from the site were recovered from the northern section of the ditch closest to F.138, implying some relationship with depositional events around the area of the post hole. These include fragments from a base or collar in fabric 3, and are tentatively considered to belong to Collared Urn.

Excluding the few earlier Bronze Age sherds, the assemblage from the secondary silts comprises fragments from a minimum of six vessels in hard flinty and sandy fabrics (4–8) of later 2nd to earliest 1st millennium BC date (fig. 9, 4–6, 8 and 9). The majority come from thick-walled, large diameter, urns or jars, the exception being a thin-walled vessel of medium diameter (*c.*15–20cm) in fabric 6. Vessel profiles are difficult to reconstruct, but a number of body sherds show a gently curved profile, and one at least is of bipartite form. Of six rims, there are four of externally expanded to T-shaped profile belonging to the thin-walled vessel in fabric 6, one simple and flattened, and one rounded and everted (fig. 9, 4–6). Decorative traits are restricted to oblique fingernail impressions on cordons and/or shoulders (fig. 9, 8 and 9), two sherds with diagonal fingernail impressions on the body, and a rim with grooved and smoothed 'cabling' (fig. 9, 6). Several sherds in fabric 5 appear to have been finished by application of slip to the external surface.

Two body sherds in fabric 4 with diagonal, widely spaced, fingernail impressions belong to the Deverel-Rimbury tradition, and find regional analogy in Bucket Urns from Grimes Graves, Norfolk

Table 1. *Pottery from ring-ditch by fabric and context*

	Fabric 1	Fabric 2	Fabric 3	Fabric 4	Fabric 5	Fabric 6	Fabric 7	Fabric 8	Uncertain	Total
F.137	-	-	20g	28g	157g	20g	9g	175g	1g	410g
F.180	-	-	-	-	-	-	-	-	1g	1g
F.138	85g	6g	-	-	-	-	-	-	-	91g
Total	**85g**	**6g**	**20g**	**28g**	**157g**	**20g**	**9g**	**175g**	**2g**	**502g**

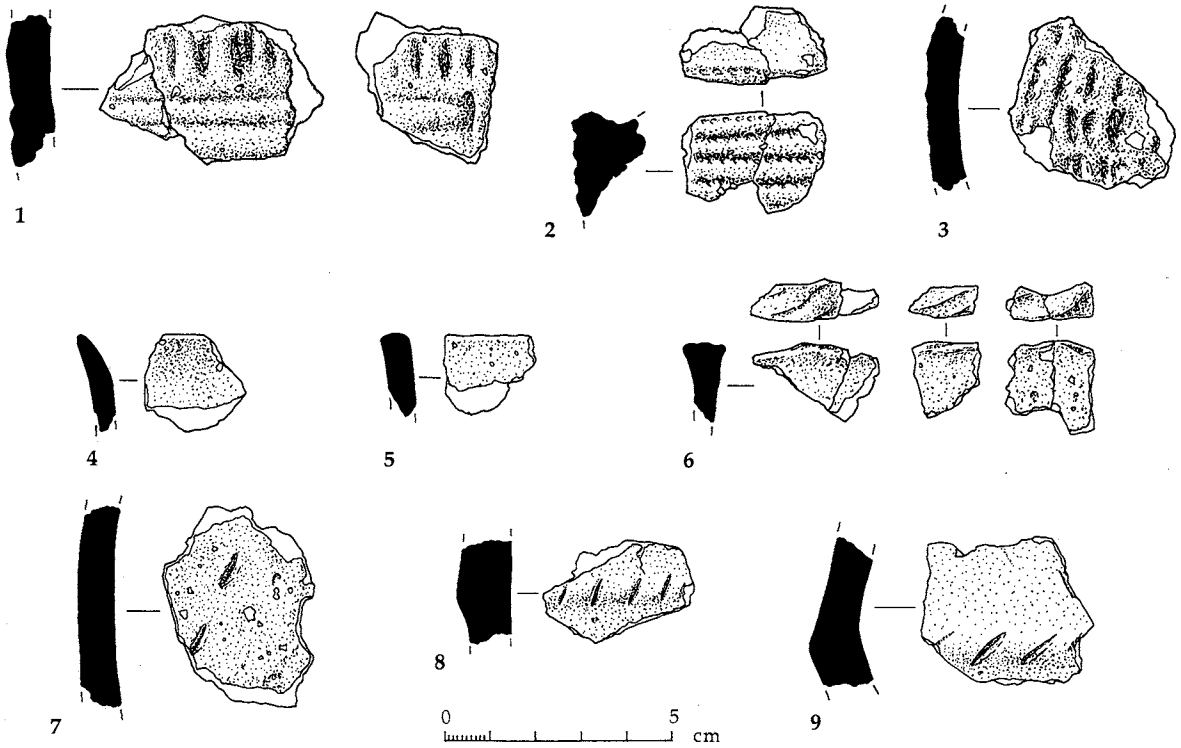


Figure 9. Prehistoric pottery from the ring-ditch

(Longworth *et al* 1988) and Grantham, Lincs. (Allen *et al* 1987, fig. 17). Superficially, the remaining material shares features common to both Deverel-Rimbury and post-Deverel-Rimbury (PDR) 'plain' and 'decorated' wares (Barrett 1980). Finger and fingernail impressed shoulders are common to both, and the use of diagonal grooves/cabling on rims occurs on Bucket Urns (eg Grimes Graves: Longworth 1981; Longworth *et al* 1988) and on jars in ultimate Bronze Age/earliest Iron Age assemblages (eg Orsett: Barrett 1978, fig. 42, 114). However, the fine hard fabric, presence of curved and bipartite vessel forms and everted rims, along with the attention given to surface finish on sherds of fabric 5, is in accord with a post-Deverel-Rimbury attribution (Barrett 1980: J Barrett pers comm).

Worked Flint

Large quantities of worked flint were recovered from primary and secondary fills of the ring-ditch (210 and 258 pieces respectively), and additional material came from the external post hole F.138 (15 pieces), central pit F.172 (5 pieces), and pit F.173 (1 piece) (Table 2).

The material from the ring-ditch and internal features forms an homogenous assemblage of mid-late 2nd millennium BC character. A few pieces from F.138 show earlier characteristics, more compatible with a (early?) Neolithic date. Amongst these are four blades/narrow flakes and a microdenticulate on a keeled flake.

The Bronze Age industry utilised locally occurring gravel pebbles, possibly material brought from a nearby periglacial hollow (see below). Differential patination demonstrates that earlier cores were occasionally re-worked. The assemblage from both the primary and secondary fills of the ditch was dominated by debitage (flakes, cores, flaked pieces and shatter fragments). The scarcity of implements and retouched or utilised flakes is notable, accounting for only six of the 468 pieces (1.3%), and of these two are hammerstones. Neither preparation flakes, nor cores/flaked pieces are particularly over-represented (15.2% and 6.2% of the assemblage total respectively), suggesting the debitage is not restricted to any particular stage in the core reduction sequence.

Table 2. *Worked flint from ring-ditch by type and context*

	Flakes	Chips (<15mm)	Cores	Flaked Pieces	Shatter frags.	Retouched
F.137 Primary	168	18	11	3	9	1
F.137 Secondary	217	1	4	11	20	5
F.172	2	3	-	-	-	-
F.173	1	-	-	-	-	-
F.138	11	3	-	-	-	1
Total	**399**	**25**	**15**	**14**	**29**	**7**

In accord with a mid-late Bronze Age date, the worked flint shows little technological sophistication (Harding 1992, 127). Little or no attempt was made to produce flakes of a standardised size and shape. Hard hammer flaking was employed throughout. Few cores show evidence for systematic or exhaustive working, platform edge preparation, or formal rejuvenation, beyond occasional trimming of step-fractured areas. Core reduction techniques can be described as opportunistic and wasteful rather than strategic, and seem not to have been directed by a desire to produce blanks of a predetermined form for transformation into implements.

In addition to two fragmentary flint hammerstones, the tool/retouched component comprises a flake with inverse notching, a notched shatter fragment, and two straight-edged semi-denticulate scrapers with bold, steep, retouch. Both scrapers came from the secondary silts in the north-western part of the ditch.

Twenty pieces refit, though in no instance has a sequence of more than three pieces been conjoined. These include two instances were it has been possible to join single flakes to cores. Although refitting flakes are present, a number of factors suggest the material is unlikely to represent *in situ* knapping. Chips are poorly represented, even from sieved samples (accounting for 4.1% of the ditch assemblage). Furthermore, although refitting was possible, large sequences of refits were not present, and the debitage from any one context gave the appearance of deriving from a number of cores/nodules. The material is likely to have been brought from elsewhere, and the density of material and its distribution within the ditch imply it was dumped/placed, rather than having weathered in.

Faunal Remains

E Yannouli

The ditch contained a total of 50 diagnostic animal bones (NISP = 69; NONID = 462 + 37 grams: Table 3). Comparison between the upper and lower deposits reveals a similar ratio of cranial to post-cranial elements, but species representations are different. Pig appears in the primary fill only, while horse and sheep are found in the upper layer. Cattle seem to be better represented in the secondary fill although this difference is probably deceptive; most of the fragmented non-diagnostic long bones from large mammals probably belonged to cattle and, on this basis, the proportion of cattle remains is similar in both contexts. The upper layer contained a significantly larger amount of non-identifiable bone, probably due to post-depositional effects on bone close to the surface.

Table 3. *Distribution of animal bone in the primary and secondary fills of the ring-ditch*

	Primary fill	Secondary fill	Total
Cattle	4	13	17
Horse	-	1	1
Sheep/goat	-	1	1
Pig	1	-	1
Mammal *large*	15	11	26
Mammal *medium*	2	2	4
Total NISP	22	28	50
NONID	79	365	444

Although the sample is small and probably non-representative there is no evidence for very young animals. The sheep/goat specimen is a 1st mandibular molar, probably from a sub-adult or adult individual. The horse specimen is also a tooth, a 1st maxillary molar, around 6–8 years of age on the basis of crown height measurements (3–11 years based on wear assessment) (Levine 1982). Cattle bones from the primary fill seem to have been the remains of one individual. These consist of loose teeth from the right mandible, and one, the M2, showed pathology. There is no definite indication of age but both the M2 and M3 were worn to the whole occlusal surface indicating that the animal concerned was a mature beast. The distal humerus of a *Bos* was also among the identified remains from this fill. As far as the secondary fill is concerned, the presence of two left half-mandibles, represented by incomplete tooth rows and fragments of jaw bone, suggests a minimum of two individuals, one of which was around 2½–3 years of age (the P4 could be seen erupting under the D4). Other anatomical elements included fragments from vertebrae, metacarpal and foot bones as well as a distal humerus.

Animal bone was also found in the central pit, F.172. A total of 19 burnt bones, the remains of cattle and sheep, and 27 grams of residue were embedded in its fill. Cattle occur with six specimens (four carpal/tarsals, one skull and one ulna fragment) and sheep (probably a ewe) with seven, all from a smashed skull. The remaining specimens were fragments of the long bones of medium- and large-size animals.

The lithic scatter and other prehistoric features

In addition to the ring-ditch, episodic prehistoric activity at Bourn Bridge was indicated by a low-level scatter of Mesolithic, Neolithic and Bronze Age lithics, along with a number of subsoil features. The character of the lithic scatter is detailed elsewhere (Pollard 1998). Localised concentrations of burnt flint were recorded on the floodplain close to the river, and a spread of 2nd millennium BC worked flint on the higher ground in the south-eastern part of the excavation area. The latter, associated with a few sherds of late Bronze Age pottery, probably indicates an area of short-lived occupation.

Prehistoric subsoil features comprised 26 pits, perhaps a number of isolated post holes, a shallow gully or truncated ditch to the east of the ring-ditch, and two hollows (details are given in the archive report: Pollard 1995). The distribution of the pits was uneven, though with minor clusterings in the north-western and south-eastern parts of the excavated area (fig. 3). Chronologically diagnostic material was

rarely present from their fills, most features being allocated a prehistoric attribution because of the presence of burnt and occasional pieces of worked flint. Burnt flint pits formed the most coherent feature category. Fourteen pits of this type were recognised, a number close to the ring-ditch. They contained a matrix of burnt soil and burnt flint; a single notched flake of later Bronze Age character being the sole diagnostic artefact.

The hollow

The larger of the two hollows, situated on low ground 50m to the east of the ring-ditch, merits fuller description. Though essentially a natural feature, it is argued below that its morphology was possibly referenced in the format of the ring-ditch, and likewise that the activities associated with it find some reflection in the depositional practices taking place within the adjacent monument.

The two hollows had formed in the top of a Pleistocene channel and were probably periglacial. The larger, southerly, of the two (15 x 12m and up to 0.70m deep) was encountered during the evaluation, and quantities of burnt flint and two fine Mesolithic/earlier Neolithic blades were recovered from layers of grey-brown and blackened silty clay (collectively [048]) near the base of the hollow. During the main phase of excavation, these deposits were sampled across two metre-wide transects, running from the base of the feature to its top edge, and at right-angles to this from the apparent centre of the burnt flint spread to its northern edge (figs 10 and 11).

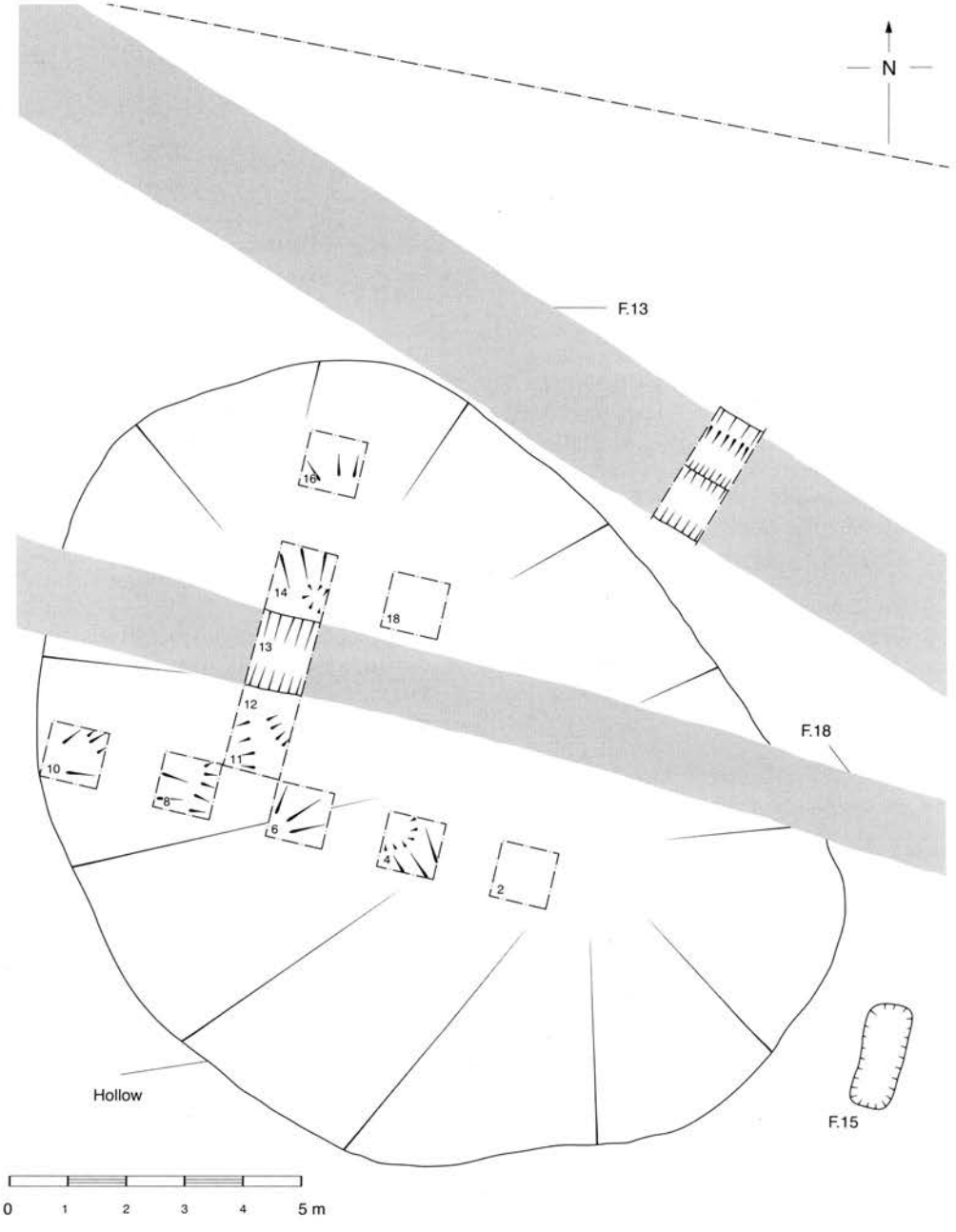


Figure 10. *The hollow. F.13, 15 and 18 are of Roman and later date*

Figure 11. *The hollow under excavation, from the south-east*

The highly irregular base of the hollow was sealed by a thin (0.05m thick) layer of greyish-orange sandy clay, above which were layers of locally blackened brown gravelly loam, containing high densities of lightly burnt flint, worked flint and fragmented animal bone. The blackened layers were interleaved with deposits of light brown gravelly loam and patches of greyish-orange sand and gravel. All were covered by a brown silty clay alluvium. At least two phases of activity, associated with the working and deposition of flint, are represented; the first belonging to the earlier Neolithic and the second to the mid-late Bronze Age. The artefactual and faunal material was distributed unevenly in the hollow in localized concentrations (fig. 12).

Three hundred and forty-two pieces of worked flint came from the 11 squares excavated within the hollow, and two blades from the assessment phase fieldwork (Table 4). Densities per metre square varied markedly from zero (at the very base and top – squares 2, 8 and 10) to 193 pieces (square 14); apparently reflecting the presence of knapping clusters or dumps, principally on the up-slope of the hollow.

The lithic assemblage includes earlier Neolithic and mid-late Bronze Age pieces. Amongst the former, largely recovered from spits 2 and below, are a number of fine blades/bladelets produced through soft hammer flaking. Core rejuvenation is evident in several trimming flakes and a core tablet. Amongst the implement component of this early material (accounting for only 2.2%) are two denticulates, a notched flake and a utilised flake. The later material largely derived from spit 1, and was associated with a few sherds of PDR pottery. The material shares similar technological characteristics to the flint from the ring-ditch. Implements formed only 3.7% of the assemblage, and included retouched and notched pieces, a utilised flake and a fabricator or rod (Saville 1981, 10). The large quantity of fine debitage – pieces under 15mm accounting for 36.5% of the total – indicates *in situ* working. Both periods of working utilised local flint, probably eroded or quarried from the hollow itself.

Ninety-nine fragments of animal bone were recovered from the fill and identified by Eftychia Yannouli. Almost all the fragments were burnt, and only 14 identifiable. From the lower fill (spits 2 and 3) came the shaft of a tibia and the distal metatarsal of

Table 4. *Worked flint from the hollow*

	Flakes	Chips (<15mm)	Cores	Flaked Pieces	Shatter frags.	Retouched
[048] Spit 1	90	43	3	4	18	6
[048] Spits 2and 3	89	82	-	1	2	4
Total	**179**	**125**	**3**	**5**	**20**	**10**

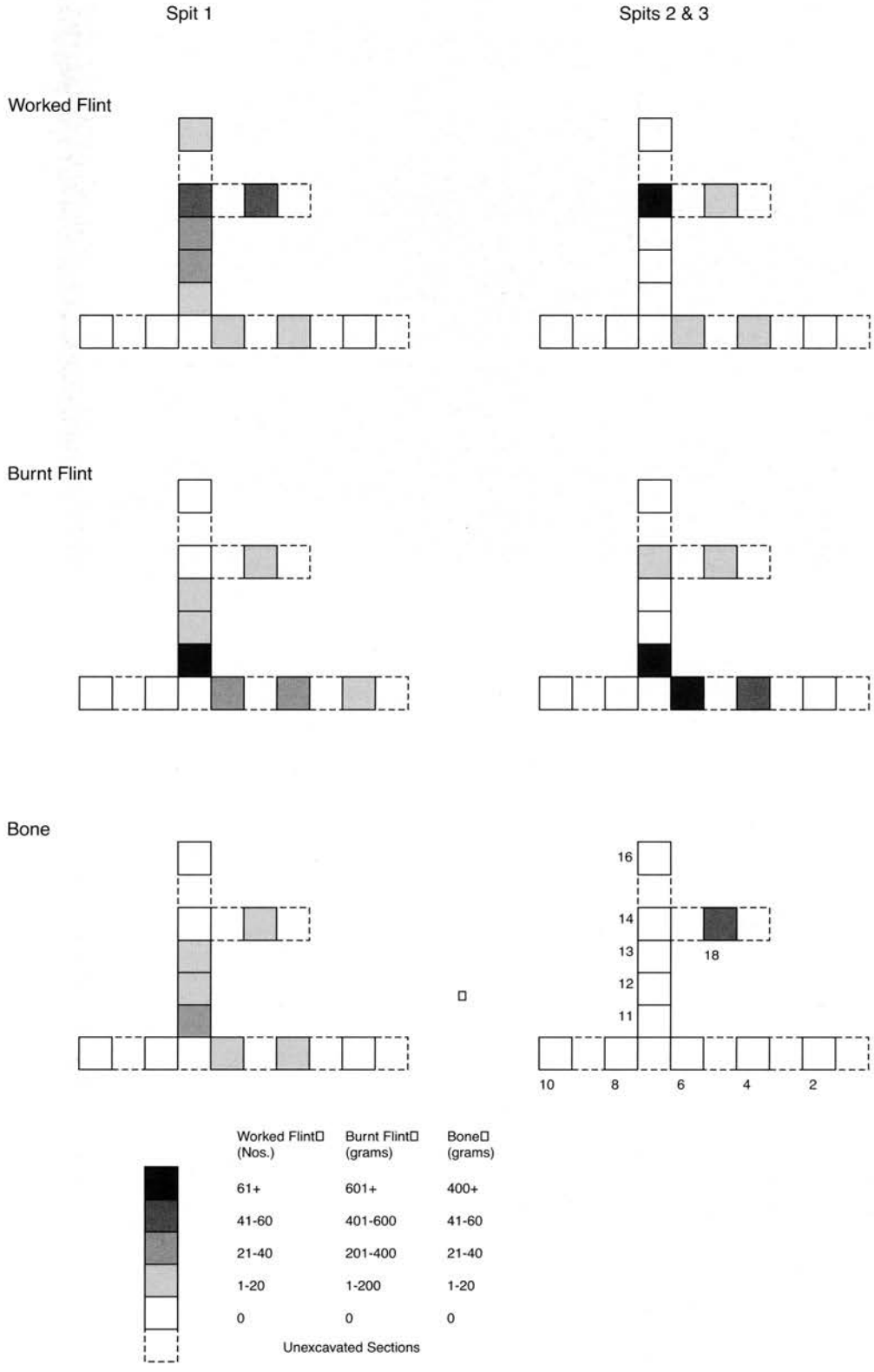


Figure 12. *Distribution of worked flint, burnt flint and animal bone from the hollow*

domestic cattle, the 3rd mandibular molar of a mature fallow deer, and the distal (fused) radius of a *Bos primigenius*. Four out of ten identifiable bone fragments from the upper (later Bronze Age) fill comprised isolated cattle teeth. The remaining specimens were long bone fragments of large-size mammals, presumably also cattle.

Assessment (by V Fryer and P Murphy) of macrofossils from two samples of the blackened loam taken close to the base of the hollow identified mollusca of predominantly open country (*Helicella itala, Pupilla muscorum* and *V. excentrica*) and catholic species (*Cochlicopa* sp. and *Trichia hispida* group). Shells of *Aegopinella* sp., a woodland/shade-loving species, were also present.

Although the hollow was probably of periglacial origin, it may have been humanly modified, probably during the extraction of flint nodules for working and heating/burning.[1] That cultural material should have been recovered from so close to the base of the feature (within 50mm) is itself surprising, accepting an early (Pleistocene – early Holocene) date for its formation. It would be expected that a far greater degree of silting would have taken place by the time of the earliest episode of flintworking, and one explanation for this would be truncation of the silts by later quarrying. The irregularity of the base also supports this. In a landscape where few exposures of good gravel flint may have been available, the hollow could have provided accessible material that would require little effort to extract.

The worked and perhaps burnt flint appear to represent *in situ* activity, though the remaining material, such as the bone and a limited quantity of pottery (15g in fabrics 5 and 6), might have been brought from elsewhere. Given the low lying situation of the hollow and its proximity to the river, the deposits may have been transported over a limited distance by fluvial action, though the focused distribution of flint around the hollow edge suggests this is unlikely. Alternatively, burning on the animal bone could be linked with the burnt flint, indicating cookery, analogous to practices associated with burnt flint mounds (and here the proximity to the river is surely important).

Discussion

Radiocarbon and artefactual evidence suggest the ring-ditch was constructed during the mid-2nd millennium BC, within a landscape that had already witnessed intermittent prehistoric activity. The monument was defined by a broad, shallow ditch into which posts were set, there was a central post-pit, and surrounding pits and a large post setting. Material from the ditch probably formed an enclosing bank, although even without a break it would not have seriously impeded access to the ditch and centre. Structural features within the ditch, including a line of small posts on the western side, along with the large quantities of artefactual material from its base and fills, implies that this feature acted more as a surface for activity than a quarry for bank material.

Ambiguous analogies

Clearly the monument is of unusual form. The conventional approach to understanding such a construction would be to seek structural analogies – situating the site within a classificatory framework that would link it with other monuments of known function or context. As shall be shown, this approach has its limitations in this case, and ultimately it is only by contextualising the monument in relation to other features within the landscape, and the significance of a range of depositional and technological practices, that better understanding can be developed.

What of analogies? Regional context could be sought in a series of excavated later Bronze Age mini ring-ditches in Essex; for example at Vinces Farm and Martells Hall, Ardleigh (Erith 1975), and Chitts Hill, Colchester (Crummy 1977). These are associated with cremation burials, usually in Deverel-Rimbury urns ('Ardleigh Urns'). Alternatively, phase 2 of the Radley 611 'pond barrow', Oxfordshire, with its slightly raised centre, looks similar in plan to the Bourn monument (Barclay and Halpin 1999); as does the hollowed first phase central structure at Thwing, Yorkshire (S Needham pers comm); and the shallow, interrupted ditch and post settings of the mid 2nd millennium BC barrow on Itford Hill, Sussex (Holden 1972). Assuming the presence of a low surrounding bank, the original appearance of the Bourn Bridge monument would not have been dissimilar to the embanked form of many Bronze Age pond barrows (Ashbee *et al* 1989, 139–43: Barrett *et al* 1991, 136–7), though the presence of external radial pits and a raised central area draws distinction. These analogies are, however, geographically diverse, and are unlikely to have directly informed the format of the Bourn monument. They serve only to illustrate the tremendous variability in monumental construction which is becoming apparent in the Bronze Age of lowland Britain, seen not only with barrows, but ring-ditches, and timber- and pit-circles (Gibson 1994; Clay 1998). The extremes of this range are represented by 'unusual' monument forms such as the Street House 'Wossit' (Vyner 1988), Seahenge (Brennand and Taylor 2000) and the Bourn Bridge ring-ditch. Nearly all of these sites are worked around the theme of the circle, but show a local inventiveness in form, function and meaning – an illustration of what Bradley has described as the 'complicated relationship between tradition and invention' (Bradley 1998a).

Working, burning, transforming: contexts for interpretation

Despite the presence of a deposit of cremated bone in the central pit and a second cremation within 11m of the ring-ditch, it is unnecessary to assume that the monument had a funerary/mortuary role. Here it is envisaged as some kind of shrine rather than a marker/memorial to the dead. After all, the cremation within the central pit was inserted at a later stage, probably after the central post had rotted. In itself, this

interval would imply that the monument was not constructed with the intention of marking a burial.

No attempt seems to have been made to re-cut the ditch or physically maintain the structure in the long-term. Maybe the monument was not constructed as an enduring 'statement', and its original significance was immediate and transitory. However, continuing deposition within the ditch whilst the secondary silts were forming implies a remaining or renewed sanctity. Though the function of the monument cannot be readily pigeon-holed, the presence of deposits of flint, animal bone and pottery within the ditch provides a series of linkages with a range of technological and social processes that might illuminate the monument's meaning. This material was deposited in the ditch over a period of a few centuries (to judge by the ceramic record, which ranges from Rusticated Beaker to PDR). Initially only flint and bone was incorporated, principally on the south-western side of the ditch around the linear post setting. Formal placing is evident in at least one deposit, where a small cairn of flint nodules was constructed between F.159 and F.160. Whilst the secondary silts were forming, further deposits were made, which now included pottery. Again, much of this depositional activity was focused on the southern side of the ditch, though bone was now present in some quantity on the east; material tending to occur in localised concentrations probably corresponding to individual depositional events. Structured through cosmological principles of spatial order, it may not be coincidental that the focus of deposition on the southern side of the ring-ditch recalls the frequent placing of Deverel-Rimbury cremation cemeteries in secondary contexts on the southern sides of earlier round mounds (eg Latch Farm, Hants. (Piggott 1938)) and the orientation of Middle Bronze Age round houses (Bradley 1998a, 153).

These deposits recall similar practices associated with the later lives of some round barrows in the region, usually post-dating the use of the monuments for burial. A sizeable assemblage of late Bronze Age pottery, flint and bone was recovered from the secondary fills of a barrow ditch at Thriplow (Trump 1956); and at Hinxton, 8km to the south-west, large quantities of knapping debris were found spread across the former mound of a barrow and filling a re-cut within the encircling ditch (Edmonds, in Evans 1993, 34–8).[2] The pattern of association between big 'industrial' assemblages and ring-ditches/funerary monuments is not just local, and a similar process of mid-late 2nd millennium BC lithic deposition is associated with round barrows in Wessex (eg Robertson-Mackay 1980; Saville 1980) and Sussex (eg Drewett 1982, 375–7). Usually such activity is interpreted as representing ad hoc exploitation of flint nodules eroding from barrow mounds, with the consequent generation of knapping waste (Fasham and Ross 1978, 49–51), implying lapsed sanctity of monumental form (Edmonds 1995, 184–7). What is interesting at Bourn Bridge is the occurrence of such activity in a primary context within the monument, when the original meaning and special significance of the structure would still have been appreciated and presumably respected. Flintworking seems to have carried a significance in its own right, the meanings of which were drawn upon and brought to the fore through deposition. That the flint appears not to represent *in situ* knapping, and that the pottery sherds were fragmented, suggests that the material was brought in from elsewhere. Both the evidence for occupation in the southern-eastern part of the site and that for flintworking in the hollow provide possible contexts for the origination of this material. Here, there could be a direct material linkage with other social practices and contexts of routinised activity (*cf.* Bradley 1998a, chapter 10).

What remains interesting is the similarity in the assemblages from the ring-ditch and hollow, even if the activities that produced them may have differed in detail. Though essentially a natural feature, the hollow's utilization both for *in situ* flintworking and the deposition of other debris defines an ascribed cultural status. It is interesting to speculate whether a sharp conceptual distinction was made in the minds of those involved between the practices and processes taking place within the modified 'natural' hollow and the 'artificial' hollow of the ring-ditch. The practices enacted within the former are curiously reminiscent of those associated with the partially silted mine shafts at Grimes Graves, Norfolk, during the mid 2nd millennium BC (Mercer 1981: Longworth *et al* 1988), whether resulting from similar functional ends – ready supplies of flint and convenient places for middening in both instances – ascribed special meaning, or a combination of the two. Another line of interpretation could relate the hollow to the kinds of practices (principally cooking) normally associated with contemporary burnt flint mounds, a common feature of the Fen-edge (*cf.* Leah and Crowson 1993). The burnt animal bone and large quantity of heat-fractured flint, along with the proximity of the feature to the river suggest this; and it would be tempting in this context to associate the locale with episodes of feasting, as well as activities such as flint extraction and working. In fact, there are a number of technological and procedural links between the ring-ditch and hollow. Burnt flint and animal bone occurs within the hollow, likewise calcined flint was mixed with the cremated bone in F.70; flint debitage and transformed (butchered/broken) animal bone and pottery occurred in both; the 'creation' of the two features probably involved digging-out and embanking.

The technological, the social and the symbolic are not exclusive spheres of practice. Many technological processes cross-over, are linked metaphorically, and become imbued with culturally specific meanings (Sillar 1996). It is tempting to see the working of flint, breaking of pots, burning of the dead and the burning of flint as linked by common metaphors of transformation. All are to do with the alteration of material (and social) states. That the practices associated with the ring-ditch appear to mimic in material representation those associated with the hollow is illustrative of the socially and symbolically embedded nature of

what at first sight appear to be disparate technological acts. Through deposition within the ritually-charged arena of the monument, these links were explicitly brought to the fore.

The basic format of the ring-ditch drew upon a wider tradition of constructing circular monuments during the Bronze Age, some intimately linked to the dead, others not. In detail though, its unusual form appears to have been informed by features in the landscape, in this case a partially modified natural hollow. This need not occasion surprise. The creation of monuments often drew upon the visual imagery of the natural world (Richards 1996, Bradley 2000), and there are instances where natural features were interpreted as humanly constructed monuments by prehistoric communities and their form emulated. At Bourn Bridge the connection between natural feature and monument is more closely embedded through associated technological processes.

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Endnotes

1. Other extraction hollows have recently been found in the area, but on chalkland and dating to the earlier Neolithic (Evans 1991, McFadyen 1999).
2. Slightly further afield, the same process of in-filling with cultural material is seen in the Butcher's Rise ring-ditch at Barleycroft Farm, on the River Great Ouse (Evans and Knight 2000).

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A Great Circle: Investigations at Arbury Camp, Cambridge

Christopher Evans and Mark Knight
With contributions by CAI French, G Lucas, Q Mould, P Murphy, AWP Oswald and M Taylor. Postscript by John Alexander

In 1990 and 1995 evaluation fieldwork was undertaken at Arbury Camp, an Iron Age ringwork previously investigated by T McKenny Hughes at the beginning of the 20th century and Alexander and Trump in 1970. Radiocarbon dated to the 4th–2nd centuries BC, the interior of the enclosure was sample investigated, but no evidence of settlement was found. Trenches were excavated across its circuit; in one a major eastern entrance was discovered, including a substantial tower–like gateway. The basal fills of the ditch terminal proved to be waterlogged and a quantity of contemporary leatherwork was recovered. Fieldwalking and ploughsoil test pitting demonstrated that a late Roman pottery scatter extends across much of the enclosure and continues north-east beyond its circuit.

Anticipating expansion of the town's Science Park, in 1990 and, again, in 1995 the Cambridge Archaeological Unit (CAU) of the University of Cambridge was commissioned to undertake evaluation fieldwork on a large site just north of Cambridge (Evans 1991a; 1992; Knight 1995). The roughly triangular 22ha plot lies near the edge of third terrace gravels and the clay plain. It is commanded by Arbury Camp, a large circular univallate enclosure *c.* 275m in diameter (*c.* 5ha), much of whose western perimeter had been destroyed during the construction of the Histon Road (B1049) and the A45. Previous investigations indicated it to be of Iron Age date. Given the site's relatively low fen hinterland situation (ie undistinguished topography), it is surely inappropriate to consider it a hill-fort and 'ringwork' seems a more apt term. All classificatory titles are, of course, weighted. Here the enclosure's place-name designation as a 'Camp' will be retained despite its many connotations (eg Evans 1988).

This report involves many 'resonances' and must be informed by a sense of historical research perspective. Perhaps due to its location on the fringes of Cambridge, the Camp had previously seen two campaigns of excavation prior to the recent investigations. The historiographic dimension to this study must be further extended to take account of Arbury's striking similarity with the hillfort at Wandlebury. Involving matters of cultural/geographic affinity, it requires discussion of that hillfort in the broader context of the region's other great Iron Age enclosures, and the contrasting preservational history of the two sites will also be explored. Finally, because Arbury featured in David Clarke's renowned 'Glastonbury Model' paper of 1972 – arguably amongst the most influential studies of Iron Age society – the recent fieldwork reflects upon the construction of theory as its results would not support his characterisation of the site.

The enclosure survives, at least around its eastern and north-eastern perimeter, as a relatively impressive earthwork. Its plough-distorted bank, although stripped away in the south-west, still stands 0.30–.50m high. (As described by Oswald below, the site was subsequently surveyed by the Royal Commission in 1995 and comparison of their plan with the 1885 OS plotting demonstrates just how much damage its circuit sustained during the 20th century; fig. 1 and 2.) Prior to excavation in 1990, R Palmer undertook an assessment of aerial photographs from the area with the aim of accurately plotting the Camp's perimeter and investigating other cropmarks within its environs (Appendix I in Evans 1991a). Numerous periglacial features were detected. As some could have been potentially 'archaeological', the trenches beyond the Camp itself were laid out so as to maximise their testing. While all the suspect candidates eventually proved to be geological, in the course of Palmer's appraisal a distinct sub-rectangular archaeological enclosure was identified at TL 44726185 (fig. 1 and 6). Lying north of the development area, this has been partly covered by the embanking of the A45. It appears to be discrete with no ditched links to suggest the presence of adjacent contemporary sites or conjoining field systems.

From the out-set our investigations were primarily directed towards two objectives:

1) The determination of any internal settlement within the enclosure

2) To investigate whether archaeological remains lay outside the field to the east, especially the potential cropmark site SMR: 09530.

It was intended to undertake intensive fieldwalking, but the field was not to be ploughed until after the excavation season. Also, it was learnt that much of the ploughsoil had been stripped away during the demolition of farm buildings in the 1970s. This led us to

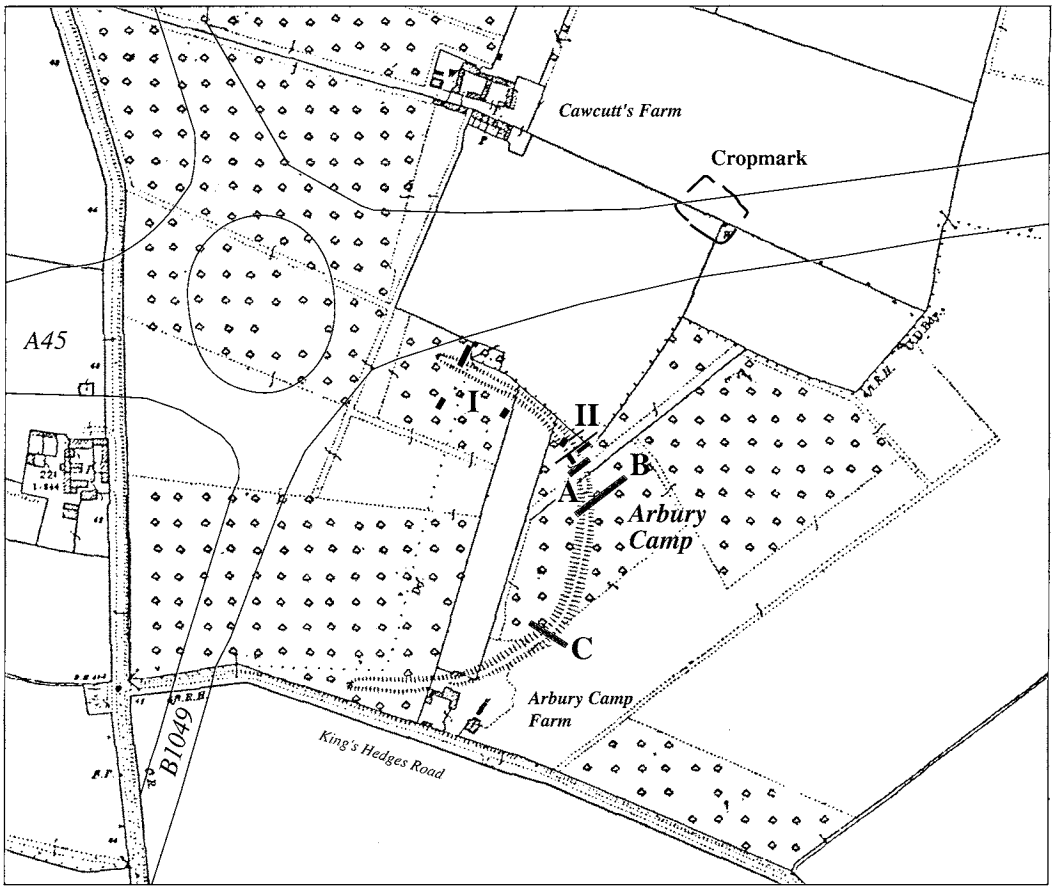

Figure 1. *1885 OS map of area showing location of Hughes' (A–C) and Alexander and Trump's trenches (sub-sites I and II), with modern roads imposed and the sub-rectangular cropmark indicated (note location of Cawcutts Farm).*

revise our strategy and David Hall was only later commissioned to undertake the fieldwalking as a check on our results and, specifically, to establish the eastern limits of a Roman pottery spread discovered through test-pitting.

The first of the above priorities, settlement within the Camp, was addressed through the grid excavation of metre test pits that were later expanded into 5 x 5m trial stations. The issue of extra-enclosure occupation was tested by trial trenching east of the enclosure (V–XI; fig. 5). Three trenches were also taken across the perimeter of the Camp to investigate variations in survival, construction, and artefact density around its circuit (I–III). That the ditch was not present in the eastern of these (Trench III) led to lateral open-area exposure in which a major entranceway was eventually discovered, including potential traces of a substantial gate-tower (Trench IV). Due to the pressure of resourcing and the importance of this find, aside from one posthole, this was not excavated but only base-planned.

As proposals for the development site were later revised, in 1995 a second stage of evaluation was undertaken (Knight 1995). Of more modest scale, this was largely management-oriented and directed towards the exact determination of the line of the Camp circuit and the retrieval of environmental samples. Eight cuttings were taken, set on approximately a 50m interval, across the line of the ditch and bank (Trenches XII–XIX; fig. 5). However excavation *per se* was confined to Trench XVI, with the profile of the ditch otherwise established by augering. Aside from these, to facilitate environmental sampling the northern edge of the Trench IV entrance area was also opened and extended to allow for the clean exposure and excavation of the bank and ditch.

Arbury has now been investigated many times on a small scale. While more rigorous in its application of sampling procedures and of substantially greater scope (due to the machining), even CAU's two-stage campaign only involved *evaluation testing* and not full excavation. Accordingly, many of the interpretations of specific feature groups must remain ambiguous and the plan-only results cannot be equated to excavated sequences.

Earthwork Survey

AWP Oswald

In conjunction with the second stage of fieldwork, in 1995 analytical earthwork survey at a 1:1000 (fig. 2) was carried out by the Royal Commission on the Historical Monuments of England (Oswald and

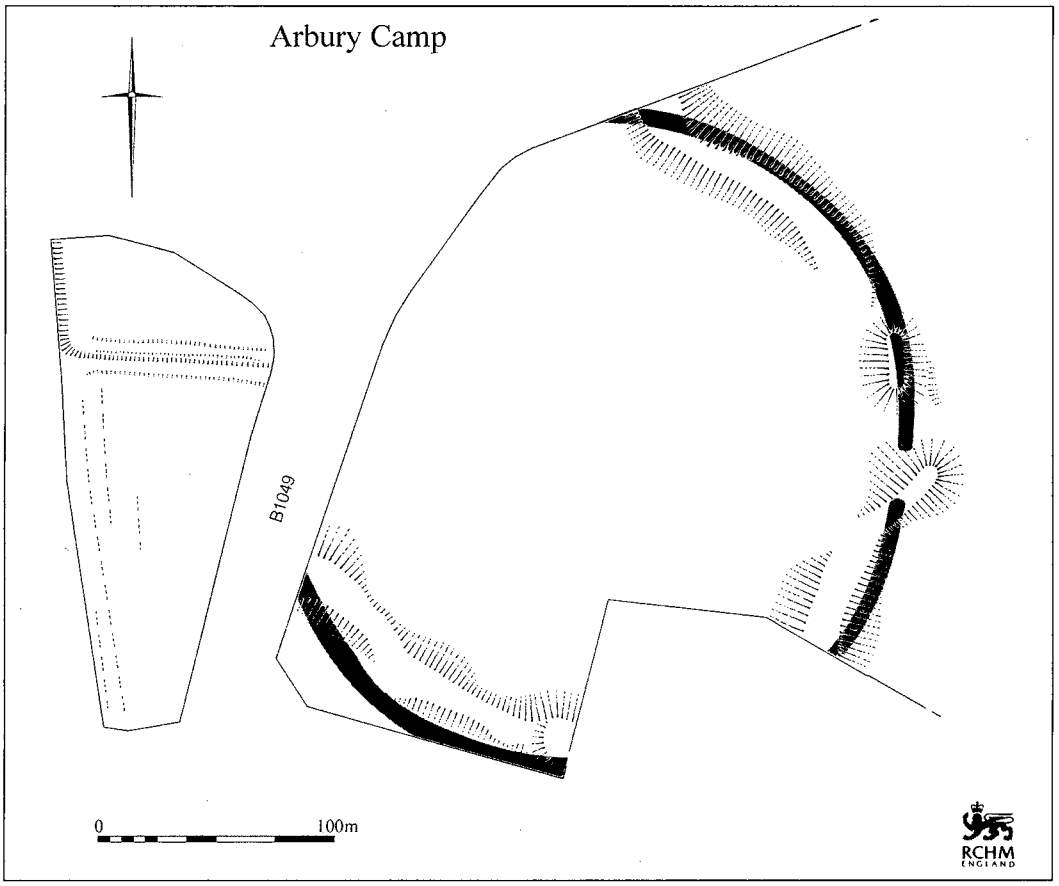

Figure 2. *The 1995 Royal Commission earthwork survey with ditch perimeter shaded (reproduced with permission; Crown copyright).*

Pattison 1995). The aims of the investigation were:

- to demonstrate the capacity of *analytical survey* – as opposed to 'objective' contour survey – to rapidly retrieve useful information about the earthwork remains that still survive, albeit in a degraded and badly distorted form

- to examine the area west of the B1049 Histon Road, where a short stretch of the western perimeter may have survived. This field had evidently been subject to ploughing in the post-medieval period and earlier. Nevertheless under pasture in 1995, it still retained a number of slight earthworks considered worthy of detailed examination

- to record Arbury Camp alongside the other Iron Age forts in the Cambridge region already surveyed by RCHME.

As noted above, the survey demonstrated the severe effects of modern development and intensive ploughing on the rampart. The 2nd Edition OS 25-inch map, surveyed in 1901 (published 1903) shows that the eastern sector of the bank remained well preserved and apparently described as a near-perfect circle. On the 1926 edition one farm building is shown cutting the bank, and the subsequent expansion of Arbury Camp Farm resulted in the levelling of most of the south-eastern quadrant of its perimeter. By 1995 the remainder of the eastern sector of the bank survived only as a broad, degraded rise, at best *c.* 0.5m high but generally considerably lower, while the external ditch could not be identified on the surface. The original near-perfect semi-circle of the perimeter could still just be identified, but the earthwork was punctuated at irregular intervals by distortions which belied the form of sub-surface features.

In passing, it is worth noting that the east-facing gateway encountered in the CAU excavations and described below was not depicted on early editions of the Ordnance Survey or any other historic map. Although a gap was detected by the RCHME earthwork survey, this essentially reflected the extent of the trench previously excavated by the CAU. It is possible this omission indicates that the gateway had been blocked at some point. Alternatively, it may be that the condition of the earthwork was not actually as good as the map depictions would suggest, and that the map-makers were unable to distinguish the original entrance from later breaches.

To the west of Histon Road (B1049), the survey identified no conclusive evidence for the course of the perimeter. Indeed, with the benefit of hindsight and an accurate large-scale survey, it can be seen that the circuit – assuming it was circular – would hardly have

extended beyond the embankment of the B1049. However, vestigial ridge and furrow extending along a north-south alignment was identified. All the furrows lay to the south of a broad, low bank interpreted as a headland (which also carried a track in 1806), but there was some slight evidence of similar cultivation to its north. This arable agriculture, which is presumably comparable to the medieval field system recorded by Alexander and Trump's excavations, probably accounts for the levelling of the western half of the perimeter. The name Arbury, meaning 'earthen *burh*', implies that the perimeter was a complete circuit then, which offers a very imprecise *terminus post quem* for the ploughing. More tellingly, the boundary between the parishes of Impington and Chesterton almost precisely bisect its circular perimeter. The fact that the levelling was limited to the west of this boundary, within Impington, confirms that the parish boundary existed by the time ploughing began. Therefore, although the furrows are not so far apart as might be expected for the broad ridge medieval agriculture, it can be concluded the levelling of the western sector of Arbury Camp took place in the medieval or late Anglo-Saxon period.

Previous Investigations

After publishing a study on the possible origins of Arbury Camp, Prof McKenny Hughes cut three sections across the eastern perimeter (fig. 1; 1904 and 1906). Hughes' fieldwork evidently occurred during a very wet season, reflected in references to rising ground water. Digging without pumps, this could account for why in at least two trenches (A and B) the published sections suggest that the ditch was not fully excavated (fig. 3). Water levels could also have influenced his recovery of finds. Hughes found none to date the enclosure and, on the whole, his excavation threw little light upon it.[1]

Hughes' speculations were, nevertheless, insightful. In his pre-excavation essay he variously considered the possibility of the Camp originating in all periods from pre-Roman through to Norman times (1904). Reporting that many Roman coins had been found both within and adjacent to the ringwork (largely late, 3–4th century issues; *ibid*: 280), he later learnt that most of these, and Roman pottery too, came from a field some 250m north, immediately east of Cawcutts Farm (TL 446619). Though disturbed through quarrying, traces of a bank and ditch system were then still visible in that area and a substantial 'brick' and masonry wall had also been recently discovered north of the farm. This led Hughes to conclude that a late Roman settlement probably lay north of the ringwork (1906: 211–13). Despite the extensive evidence of adjacent Roman settlement, in his initial paper he proposed that Arbury was a pre-Roman construction only re-occupied in Roman times. The negative evidence of his excavations did nothing to alter this suggestion.

In 1970 John Alexander and David Trump under-

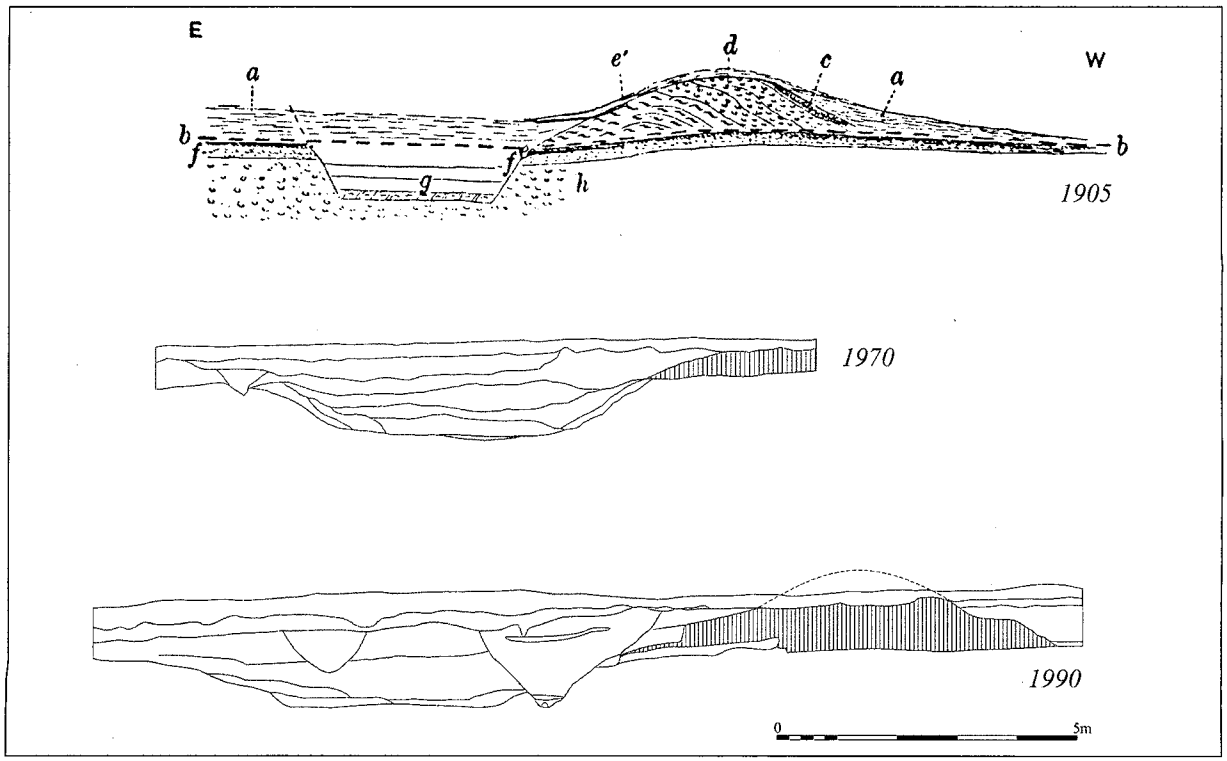

Figure 3. *Arbury Camp: comparative sections: top Hughes' Trench C (south face; scaling is approximate; 1906: fig. 5); middle, Alexander and Trump's sub-site II, Trench B (south-east face); bottom Trench II (cf. fig.9A; here reversed to provide ditch/bank correspondence, with the dashed line indicating the projection of the bank to account for modern plough truncation).*

took a four week training excavation on the ringwork (Alexander and Trump 1970). Eight trenches, clustered into two sub-sites (I and II; fig. 1 and 4), were then dug along its northern and north-eastern perimeter. Apart from testing the bank and ditch system, and a small portion of the interior, the western circuit was extensively surveyed by probe, auger and resistivity scan. In the course of their fieldwork, four main periods of activity were identified:

Period 1

The recovery of struck flint flakes, a scraper and a barbed-and-tanged arrowhead attested to a 2nd millennium BC presence. Irregular hollows, probably tree-bowls/root-holes and two possible stake-holes were found in the old (bank-buried) ground surface.

A clay sling bolt of probable Early Iron Age form, was also recovered. In their 1970 interim report, the excavator's placed great emphasis upon its discovery as it was sealed by the ringwork bank which, therefore, must post-date that time.

Period 2

Three sections were taken across the enclosure ditch which was *c.* 8m wide, steep-sided and flat-based (1–1.45m deep). In its lower fills were six small pieces of flint-tempered pottery which 'could well belong to the Woodbury Cultural tradition of the pre-Roman Iron Age' (Alexander and Trump 1970: 5; Hodson 1964). These came from a horizon of grey-blue clay above a 0.05–.10m thick 'peaty layer' in the base of the ditch.

The enclosure's bank was found to be 0.40m high and 6–7.5m wide. Based on the potential volume of the ditch (as a quarry), they postulated that it could only ever have been *c.* 1m high (*cf.* see below). While finding evidence of a turf-stack revetment, there was no trace of a palisade or 'wall' on top of the 11m length bank they exposed. (The line of square holes indicated in the extension to Trench A on their Site II base plan presumably relates to a recent fence; fig. 4.) Nor did they find evidence of the 'small pits/ditches' discovered on either side of the bank by Hughes (1906: 216–7, fig. 3 and 4). In fact, Alexander and Trump's published section bears little resemblance to Hughes' nearby section (A; Hughes' own sections display little internal consistency). Apart from an isolated gully, Alexander and Trump found no evidence of 'human activity' within the interior of the ringwork; geophysical surveys were also undertaken over 1800 sq m of the interior, apparently with little result.

Alexander and Trump saw their work confirming Hughes' speculations as to the pre-Roman (Iron Age) date of Arbury. They concluded from its unimpressive nature, that it could never have had a military function and, instead, that it might have served as a stock enclosure. This interpretation was cited and elaborated by David Clarke in his 'Glastonbury' paper (1972). He suggested that Arbury (analogous with Mendip hill-forts) could have functioned as a fen-edge winter base camp in a sheep-based transhumant cycle similar to that he proposed for the Somerset Levels.

Period 3

Alexander and Trump concurred with Hughes concerning a Roman presence in the area. While they recovered 84 sherds of Roman pottery in the upper ditch silts in Site II (associated with 98 animal bones, glass, iron and two roof tiles), no pottery of this time was found in its lower fills. This, together with the fact that a ground surface had evidently stabilised over the ditch by the first few centuries AD, led them to conclude that though there may have then been a building in the vicinity, the enclosure itself was not in use and probably lay under cultivation.

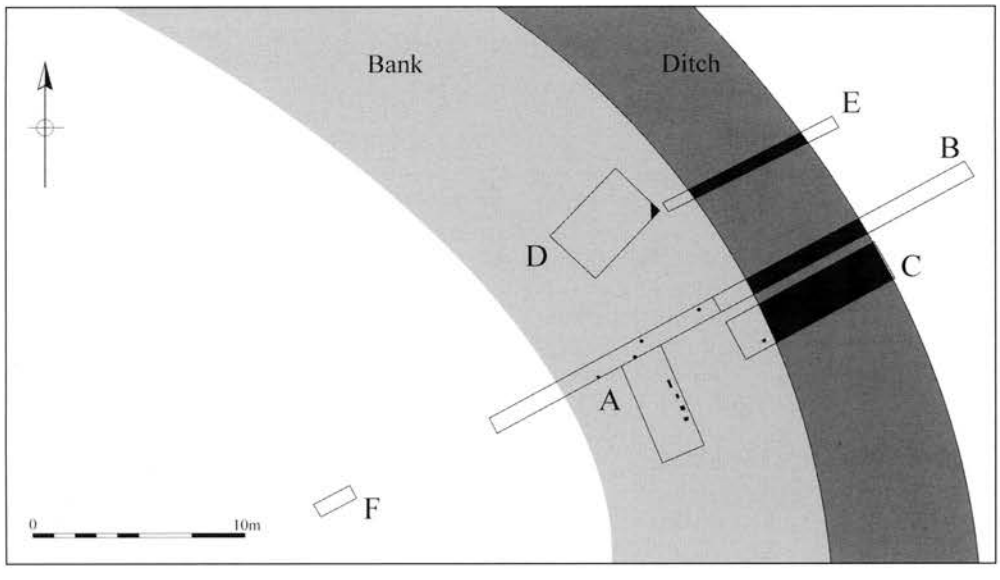

Figure 4. *Arbury Camp, 1970: Alexander and Trump's Site II (after original archive drawing).*

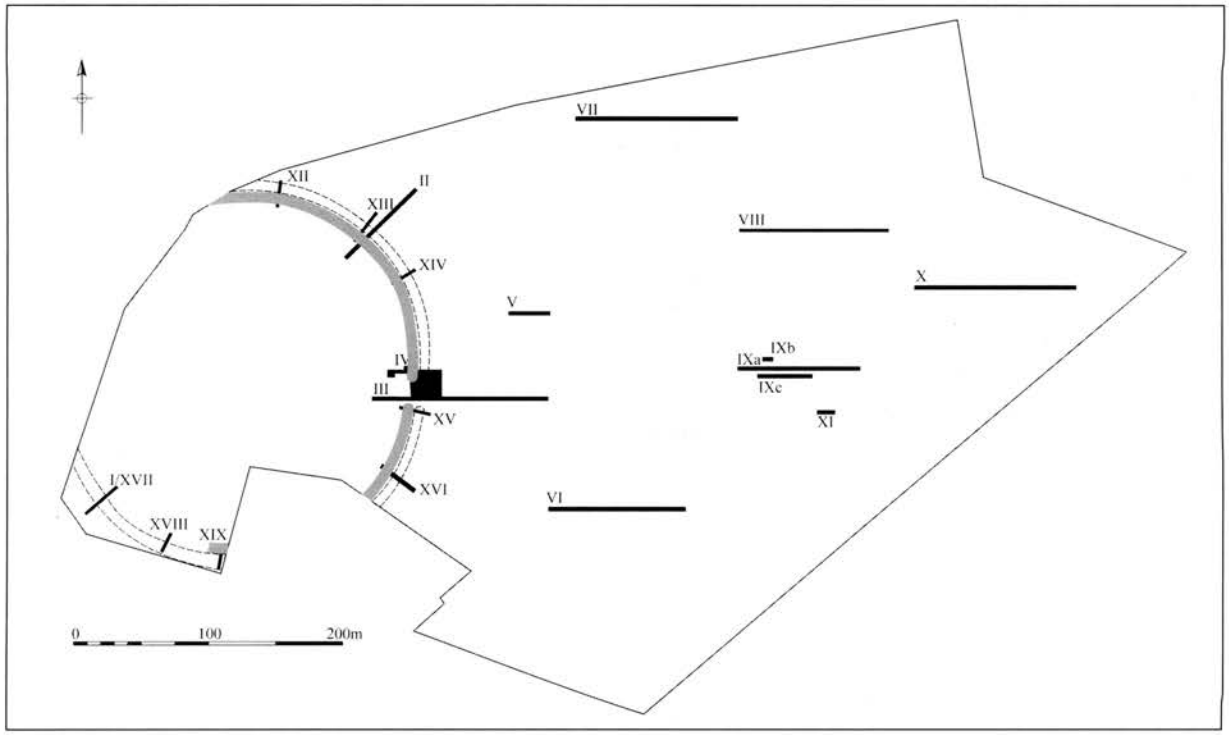

Figure 5. *Arbury Camp: Location of the 1990 and 1995 trenches.*

Period 4
Through careful excavation Alexander and Trump were able to identify a medieval ploughsoil (11–13th century?) associated with east-west oriented furrows in the upper strata of the ditch in Site II. They suggested that the ringwork bank may have served as a plough headland.

Unfortunately, Alexander and Trump neither formally published (nor finally collated) their findings. While we have had access to some of their sections and photographs, a base-plan (Site II) and finds-lists, at this time the remainder of the archive has not been located (including the finds themselves).[2]

A number of substantive Iron Age settlements have been investigated within the wider environs of the Camp. Aside from Castle Hill (Alexander and Pullinger 2000), a major Middle/later Iron Age enclosure (including a ditch of fort-like proportions) has recently been discovered at Marion Close off Huntingdon Road (Mortimer and Evans 1997). Nearer at hand are the extensive Iron Age settlements at Arbury Estate (Alexander, *et al* 1969) and the Milton Landfill site (Reynolds 1995). The latter two respectively lie 0.8km south-east and *c.* 3km north-east of Arbury Camp. However, subsequent to the 1990 investigations fields adjacent to the enclosure have been evaluated, which proved remarkable for the paucity of contemporary settlement evidence (Evans 1991b; 1992). These results will be discussed further below. Also noteworthy, however, is that during later evaluation fieldwork across the allotments immediately south of the Camp only a few undated ditches were recovered (Reynolds 1994).

Ringwork Investigations

The Interior

Within the Camp ploughsoil generally lay 0.25–.30m deep above the surface of the natural (at 11.90–12.25m OD). Across most of the interior no buried soil or any horizontal strata survived and the surface of the terrace gravels was deeply plough-scored. The loss of sub-ploughsoil strata precluded the application of chemical survey techniques – phosphate and magnetic susceptibility. In order to evaluate ploughsoil artefact densities, a series of machine-dug metre test pits were excavated (fig. 6). Within the interior of the enclosure these were laid out on a 50m grid ([001–[018]; fig. 6). It was originally intended to sieve their spoil, but a dry summer left the soil very compacted. It was therefore decided only to process those five pits that fell along the 100m grid; the remainder were hand-sorted. Set at a 100m interval, four additional test pits were also excavated on an E-W axis extending east of the Camp to check on enclosure-exterior densities.

Of the 1631 artefacts recovered from the test pits, all but 80 came from the eighteen stations within the Camp. 496 sherds of pottery were thus recovered from the interior; only 64 were Roman (12.9%), the rest post-medieval. While the Roman pottery occurred throughout the 'circle', it concentrated in the north-eastern quarter (fig. 6) and this distribution was mirrored in our informal surface collection. The Roman scatter was not, however, confined within the enclosure and extended north-east of its perimeter; six sherds came from the test pit lying immediately east

of the Camp ([019]), but none from the more easterly.

In the course of his December fieldwalking, Hall mapped the full extent of this pottery spread within the development site. While his plots display a close correlation to the test pit distributions (the 5+ sherds per metre contour), they also show that it extends for up to 200m north-east of the ringwork (fig. 6). His collection provides further insight into the character of this scatter. Including a few pieces of tile and oyster shell, it was associated with darker stained soil and concentrated in the area of the enclosure's eastern entrance (Trench IV; see below). Some of this pottery may, of course, have come to the surface as a direct result of our machining. Nevertheless, during the excavations much Roman pottery was recovered from the machine-spoil and on surfaces in that area, but *not* in any primary feature fill. This could indicate some degree of Roman (re-)utilization of the ringwork. Yet, the distance to which this scatter continues beyond its circuit suggests that it did not only relate to it. Its north-eastern distribution would, in fact, suggest that it extends south from the postulated Cawcutts Farm complex and probably derives from the sub-rectangular enclosure on the line of the A45.[3]

The low recovery of animal bone from the plough-soil test pits (14 only) warrants comment. Though their number is too small to say much concerning distribution, none were found in the stations east of the Camp and what little that was, again concentrated around its eastern interior. However, based on butchery technique (a sawn cattle rib), species size and type (a marine fish and domestic fowl), at least three of the

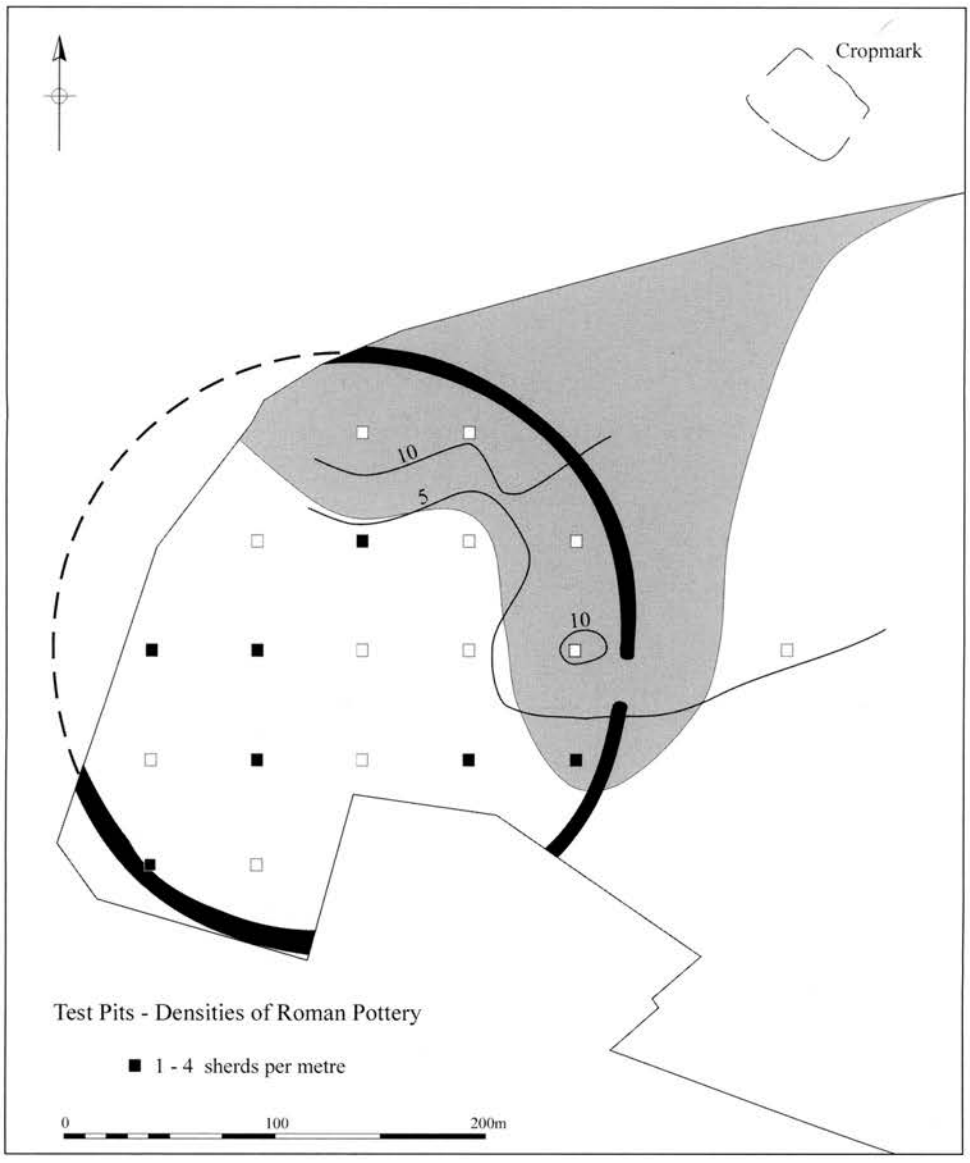

Figure 6. *Arbury Camp, 1990: The Roman pottery spread; shading indicates Hall's area of high surface density and stained soil (note relationship to the sub-rectangular cropmark now under A45). The squares within the Camp interior indicate 5m2 trial station exposures with metre test pit densities shown by contour (5 and 10+ sherds per metre) and blackened where values fall between 1 and 4 sherds.*

bones are, in fact, probably modern.[4] This could, therefore, suggest that much of the test pit faunal assemblage actually derives from the farm that until recently stood there.

To investigate whether there were any traces of settlement within the Camp, each of the eighteen test pits therein were subsequently enlarged into 5m² trial stations (25sqm each). Due to the potential difficulty of recognising features within the plough-disturbed surface of natural, the base of each of these was machined down 0.05–.10m below its actual surface level. Despite these efforts, no archaeological features were detected. The degree of plough disturbance in the natural implies that some minor features may have been masked (eg postholes). However, the subsoil within these exposures was carefully examined and any major features would not have been missed (eg ditches and pits). Given, furthermore, the enclosure's fen hinterland location, if it had been occupied then 'robust' archaeological traces could be expected (ie round houses surrounded by eaves gullies accompanied by wells, etc). This, and the largely negative evidence of the test pits, suggest that this recovery pattern is real. While only 450sqm of the Camp interior was excavated (*c.* 1% sample), this sampling programme is amongst the most methodologically sound applied to the interior of a later prehistoric enclosure in Britain (fig. 7).[5] Although one or two isolated buildings could have escaped the sampling grid, any substantive settlement cluster would have been detected.

The Perimeter

In 1990 two trenches were excavated across the circuit of the enclosure (I and II); a third was taken across the middle of its eastern side (III; fig. 5). That the ditch and bank system was not, however, present in the latter suggested an entranceway. It was, therefore, decided to extend this trench to the north to locate the terminals of the ditch and bank (Trench IV). This indeed proved to be the case. By extrapolating from the area of the entranceway exposed (*c.* ⅔rds, presuming the ditch terminals were mirrored in relationship to its central structure; see below) the circuit interrupts for *c.* 20.00m. Although in hindsight an eastern enclosure entrance could probably have been predicated in the light of Iron Age orientation propensities (eg Hill 1995 and 1996; Oswald 1997), this discovery was entirely fortuitous. (In the course of their various surveys along the western perimeter, Alexander and Trump did not encounter any entrance gap. This does not, however, entirely rule-out the possibility that there is an axially symmetric entrance on that side.)

The ringwork ditch proved to be quite consistent (F. 1), with only limited variation around its circuit. Generally 6.00–7.00m wide and 1.05–1.25m deep, it has a very broad 'U'-shaped profile with a flat base lying between 10.80 and 11.10m OD (3.50–4.00m across; fig. 8 and 9). The greater width of this feature along the southern circuit in Trenches XVIII and XIX must reflect an additional secondary feature. Otherwise, recorded variations to its basic profile relate, in the instance of augered depth (Trench

Figure 7. *Arbury, 1990: The Sample Grid, looking north-eastwards with Trench I in foreground.*

XII–XIV), to the height of its exposure in relationship to the bank (ie the basal levels are consistent). Similarly, the determination of the actual edge of its more broadly splaying outer profile is also a factor. In contrast to the more consistently steep inner edge (evidently protected by bank slippage), the much broader exterior edge clearly has been subject to sustained weathered reduction.

The fills of the ringwork ditch were remarkably uniform. Producing very few artefacts, it contained no definite trace of recutting (apart from the Trench IV terminal; see below) and nor was there obvious evidence of nearby occupation activities (eg no backfilling episodes or occupation debris-rich lenses). The ditch's primary fills consisted of stiff dark grey clay which, adjacent to its sides, was sealed by and merged into clays with weathered gravels in their matrix. This graded into a mid grey-brown sandy clay silt with extensive iron pan mottling. These very homogeneous upper fills seem to reflect the long-term settling of secondary weathering deposits; whereas the pure clay in the base of the ditch must have been laid down in standing water.

The internal upcast bank (F. 2) survived in all but the trenches along the south-western sector of the circuit (I/XVII–XIX). Although locally only *c.* 5m wide, it appears to have originally been 7–8m across; its more narrow profile elsewhere being attributable to reduction incurred through subsequent agricultural practice and only in Trench II did its full width survive (fig. 9A). There, the bank deposits sealed a north-south oriented linear feature, whose indistinct fills proved difficult to excavate (F. 5). Within this somewhat irregular, 0.40–.60m wide and 0.15m deep, flat-based trough, was what appeared to be a post-hole (0.40 x 0.45m; 0.15m deep). The sides of the latter had been scorched, as had the silts within it which also included burnt flints.[6] In the main, the trough was filled with dark grey sandy clay silt with charcoal flecks, which had locally been discoloured through scorching and along its sides interbedded with the surrounding natural. This feature could represent an early post-setting trench whose upright timbers had been packed with redeposited natural and which had evidently burnt *in situ*, or, given its irregularity, it could be a burnt-out tree root.

In section this feature, in part, corresponded with and merged into a layer of dark grey sandy clay silt with extensive charcoal flecks which extended for 2.50m west of the ditch-side (fig. 9A.ii). Along its western side, this horizon seemed to bed in relationship to a 0.20m high 'lump' of mid brown-grey sandy clay (upcast natural; fig. 9A.i). This petered-out towards the west where it was sealed by a layer of mid-dark sandy loam clay silt (fig. 9A.iii). Having minute lateral iron pan lenses, the latter was identified as redeposited turf (C French, pers comm). The upcast 'lump' directly overlay a 'B'-horizon soil, a grey mottled and slightly loamy orange-brown clay.

The basal bank sequence is difficult to understand. Certainly the burning associated with F. 5 did not extend into the upper bank deposits. Given the tenuous character of the evidence, the most ready explanation is that the burnt-out trough reflects tree clearance and the basal strata, the 'prepared' re-deposition of turf. However, within Trench III/IV further evidence was found that the enclosure may have had a timber precursor or, at least, component (see below).

Standing to 0.50m and extending for 6.15m west from the edge of the ditch, the main bank strata consisted of upcast natural clays. A distinct front revetment, as proposed by Alexander and Trump (1970: 4), was not apparent (nor was it likely to be given that its 'ditch-ward' edge was there largely cut away by a post-medieval field boundary ditch, F. 3). However, there was a hint of a turf revetment inasmuch as an indistinct wedge was visible in which dark grey sandy clay silt loam predominated over and interbedded with the upcast clays. Alternatively, this might represent the line of what was probably a medieval boundary detected in the Trench IV sections (F. 41, see below).

In the north section of this trench a distinct, if discontinuous, layer of very dark grey sandy silt was recorded as running through the bank clays; two/three such horizons were observed in the southern section. While this could represent turf-lines, it is perhaps more likely that they reflect differential upcast episodes. Their existence could suggest that even the main bank deposits were not upcast in one go and instead represent cumulative construction. Sealing this, and running down from the western

Table 1. *Ditch and Bank dimensions (ex = excavated depth; otherwise augered)*

Trench	Ditch Width	Ditch Depth	Basal Height (m OD)	Bank Width
I/XVII	7.50m	1.10 (ex)	11.00	-
II	*c* 7.00m	1.10m (ex)	11.00	8.00/6.15m
III/IV	7.00m	1.20-.25m (ex)	10.80-.85	7.25m
XII	7.60m +	1.51m	10.91	5.40m
XIII	6.10m	1.45m	11.13	5.00m
XIV	6.20m	1.49m	11.07	4.80m
XV	6.00m	1.13m	11.11	7.40m
XVI	6.00m	1.00m (ex)	11.10	7.00m
XVIII	7.60m +	1.05m	11.10	-
XIX	10.50m+	-	-	4.60m

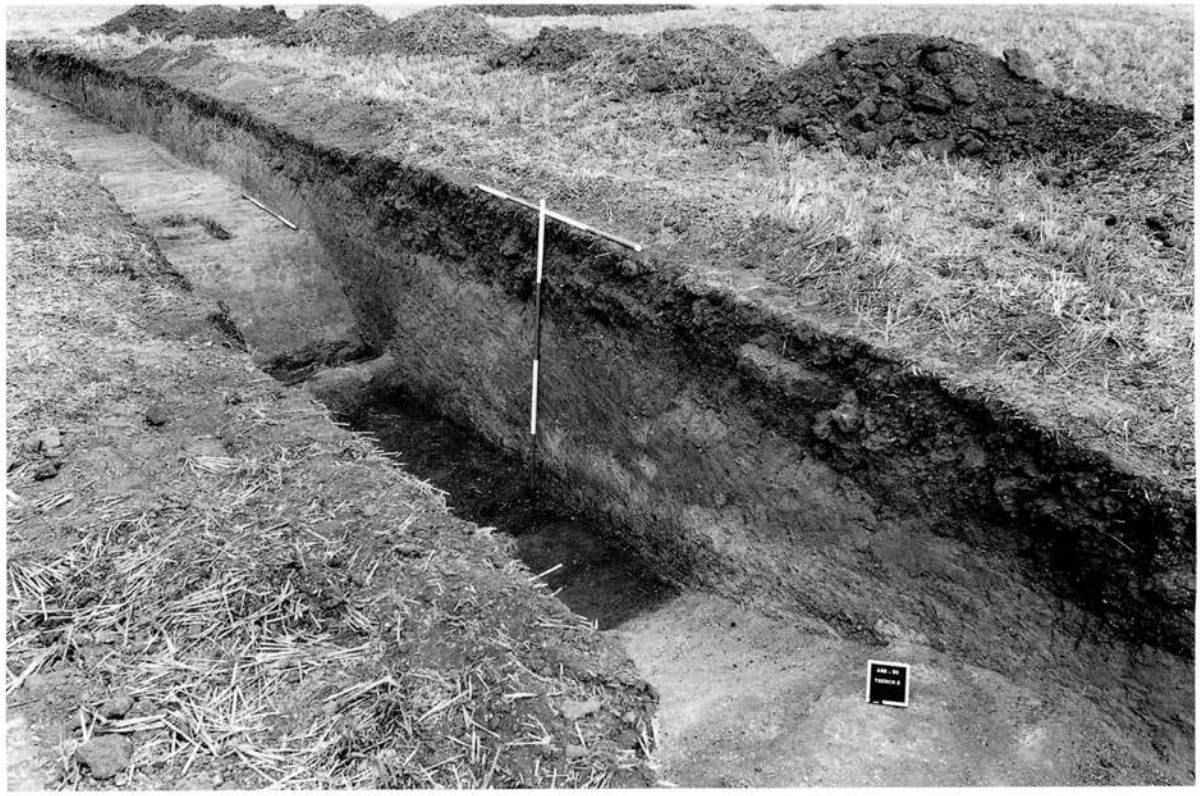

Figure 8. *Arbury, 1990: Trench II with ringwork ditch excavated. Note the late ditch cutting its interior edge (F. 3; left) and the marked profile of the internal bank on that side.*

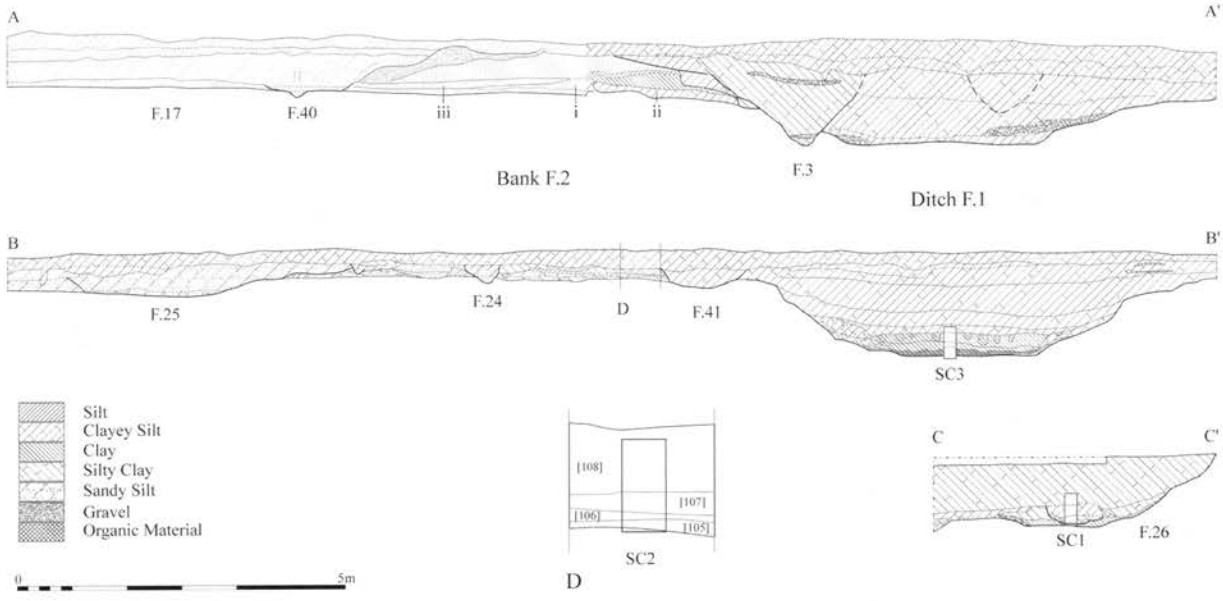

Figure 9. *Arbury Camp: sections: A) Trench II north-western face; B–B') Trench IV north edge; C–C') north-south section through F. 1/26 terminal; D) 1995 soil micromorphology sample column (SC2; see French below), with its corresponding position projected onto the 1990 section (B–B'; see fig. 14 for location of Sections B and C).*

crown of the clay upcast, was a continuous layer of redeposited natural gravel (0.05–.35m thick).

Thus far, the sequence of bank construction has been relatively straightforward, as it reflects a direct inversion of the natural strata – turf followed by clay, capped by gravels – evidently derived from digging deeper into the subsoils within the ditch, whether at once or progressively (ie interrupted phases or episodes). It is at this point in its sequence that serious stratigraphic complications come to the fore. The gravel tail of this bank was sealed by a massive horizon of relatively homogeneous mid grey-brown sandy silt loam (F. 17). This bedded down from the crown of the bank for a distance of 6m, beyond which it continued as a horizontal layer. Definitely *sealing* the western flank of the bank, this must essentially be the product of medieval agriculture and represent the plough headland identified by Alexander and Trump (1970: 2). However, that *no* weathering lines were seen to come off the bank gravels could suggest that it had been sealed immediately following deposition. 1.10m west of the outer edge of the upcast gravels, a vertical edge was recorded in the 'back-bank' deposit. While difficult to distinguish, east of that line this deposit had a slightly darker hue and more pebbles within it. This boundary would, moreover, correspond with the position of a *c.* 0.25m diameter posthole, the 'ghost' of whose post-pipe could be seen in this upper section. These eastern deposits also lay directly above a broad 0.10–.20m deep and 1.50m wide trough cutting the 'B'-horizon and redeposited turf layer (F. 40). Suggesting some manner of redefinition of the bank, this may represent a post-revetted turf-stack capping upon the clay and gravel bank. If so, then its final form would have been impressive; approximately 8m wide and, if projecting the profile of the gravel layer, at least 1.50m high (and possibly even higher if compensation is made for collapse in the lower turf horizons; see French below). This could attest to a massive expansion of the bank system. The construction of such a 'stack capping' would have probably involved de-turfing much of the interior of the enclosure. If this interpretation was to prove valid then these upcast deposits would warrant the term 'rampart' rather than bank. Alternatively, although exact co-relationship is difficult given differences in their scale, this apparently linear feature may equate with F. 25 in Trench IV, which rather seems associated with medieval agriculture. Unfortunately, the limited trench section-exposure of these features does not allow unambiguous determination.

The Entranceway

Extending for some 7m into Trench IV, there the ringwork ditch proved to be somewhat deeper (1.25m; 10.80m OD) and narrower, with its base only 2.50m wide (fig. 14). The ditch proper continued uninterrupted for 3.50m beyond the northern edge of excavation; thereafter its southern terminal took the form of a large, sub-rectangular pit (F. 26; 3.50 x *c.* 7.00m). Together excavated in longitudinal half-section, only the western half of the terminal was dug. The butt-end pit proved nearly as deep as the main ditch, its base being essentially flat and oriented across the line of the circuit. The bottom profile of the ditch and pit were not, however, continuous and a *c.* 0.20m high ridge of natural divided them. This effectively formed a 1m wide horizontal shelf, from which the southern and northern sides of the two features respectively sloped away (fig. 9B and C, 10 and 11).

How is the configuration of this ditch terminal to be accounted for? While there was evidence of recutting, this must have occurred quite early in its life. This is demonstrated by the fact that the lower clays and upper silts sealed the intervening ridge and continued uninterrupted over the basal fills of both the ditch and the pit. The only satisfactory explanation would seem to be that a shallower precursor of the ditch originally ran across the length of terminal (base at *c.* 11m OD – the level of the shelf). The butt-end pit was later cut below this level and the (secondary) end of the ditch subsequently deepened, leaving the original base upstanding as a 'shelf'. Given its fill sequence, this redefinition of the ditch terminal could *not* have occurred late in the life of the enclosure.

It was discovered that the base of the ditch held waterlogged, dark brown-black organic 'muck' to 0.10–.25m depth (fig. 10). Upon reaching this level the machining of the trench was stopped and the remainder was hand-excavated; a few pieces of bone, worked wood, and many fragments of leather were thereby recovered. Apart from these waterlogged deposits, the fill of the ditch (proper) in this trench was as that described for the other trenches. The basal horizon was overlain by grey clay which graded into the upper silts, with lenses of gravel interbedded with grey-brown sandy clay silt along both lower edges the results of primary weathering.

To further investigate these waterlogged deposits, the ditch/pit terminal was longitudinally half-sectioned. While in the other trenches we sorted through the machine-upcast ditch spoil and took a metal detector over it, the fills had not been hand-excavated. The results of these searches were only a few fragments of bone and a sherd of pottery. Because a noticeably greater number of bones had been found in the initial machine excavation of the upper silts of the ditch in this trench (IV), it was dug so as to control and maximise artefact densities. A 0.60m wide sondage was taken through the upper silts down to the clays in the western half of the terminal. 100% sieving of the spoil only resulted in the recovery of a piece of bone and two sherds of pottery (Roman). In other words, very little.

The remaining (non-sieved) upper silts of this ditch terminal were machine-excavated to the top of the clays, a depth of 0.75m. Below this level, the terminal was hand-dug using a metre grid (fig. 12). While the base of the terminal pit also proved to be waterlogged (F. 26), no leather had been deposited within it. Apart from nut-shell cases, reed stems, and small fragments of wood, the only artefact of note was the scapula of

Figure 10. *Arbury, 1990: Trench IV looking north-east to excavated section of main ditch (F. 1) with longitudinal half-section of terminal pit in foreground (F. 26); note waterlogged deposits at base of both sections and the 'shelf' between the pit and ditch.*

Figure 11. *Arbury, 1990: Trench IV looking southwards across excavated terminal of F. 1/26; unexcavated, the tower gateway lies in the trench background (with human scale provided by A Taylor and M Parker Pearson).*

Figure 12. *Arbury, 1990: metre-excavation of the waterlogged deposits in the base of the ringwork terminal (F. 1/26; Trench IV).*

an ox in the base of the pit, which may have been employed in its original digging. The basal mid to dark grey plastic clay had localised concentrations of (primary) weathered gravels. These were overlain by a block of mid orange-brown clay (redeposited natural) which must represent a backfilling episode. Subsequently (re-) cut by a 0.33m deep sub-rectangular pit, it was in the base of this that the waterlogged 'muck' lay. This was in-turn sealed by grey clay which graded into the upper silts.

Environmental sample columns were taken from these deposits.[7] Analysis shows that the primary fills (clay and weathered gravel) were laid under conditions of standing water (*c.* 0.05–.10m deep). The waterlogged muck was apparently produced in reed swamp conditions in 0.30–.40m of standing water; a line of fine gravel across the top of this deposit probably reflects erosion from the edges of the ditch and its subsequent sorting by water (C French, pers comm). These waterlogged deposits were confined to the lower 'below-shelf' bases of the ditch and terminal pit (<11.00m OD). Their occurrence only in the area of the Camp entranceway could reflect that the ringwork terminals were probably regularly mucked-out and therefore deepened. At various times, standing water and reed swamp conditions probably existed right the way around the circuit. The survival of these deposits must relate to post-ringwork (ie post-Iron Age) ground-water levels rather than localised environmental conditions in the immediate area of the entranceway.

The British Museum accepted the leather from the ditch for conservation, where a selection is now on display (fig. 13; Registration no. P1990, 12–3, 1). As discussed by Mould below, though largely off-cuts, some appear to be trimmed/shaped and probably relate to shoe production.

Gate Structures

South of the excavated terminal of F. 1/26 were observed traces of a very substantial tower-like gateway, whose four large ovoid-shaped postholes defined a structure of *c.* 5 x 5m (F. 6, 27, 29, 38; fig. 14.2). Only the south-western of this group was excavated (F. 6). This steep-sided ovoid-plan pit (2.80 x 1.15m) had a maximum depth of 0.52m. Across its eastern half the base sloped down broadly, from where it broadened and held the impression of a flat-based posthole (*c.* 0.30m/12" dia). The ovoid form of this feature was evidently determined by the fact that the shallow sloping base in the east must have effectively served as a ramp along which the post was slid into position, and that a second *c.* 0.25m diameter posthole had been cut into the main post-pit, extending its overall configuration. The two large post-pits that defined the northern side of this gate structure were not so elongated (F. 29 and 38; 1.80 and 1.60m long respectively). However, bordering their north-western ends were two separate postholes (F. 30 and 31). Whereas no discrete posthole was found to conjoin the south-eastern post-pit of this square setting (F. 27), it was also elongated in the same manner as F. 6 and it is reasonable

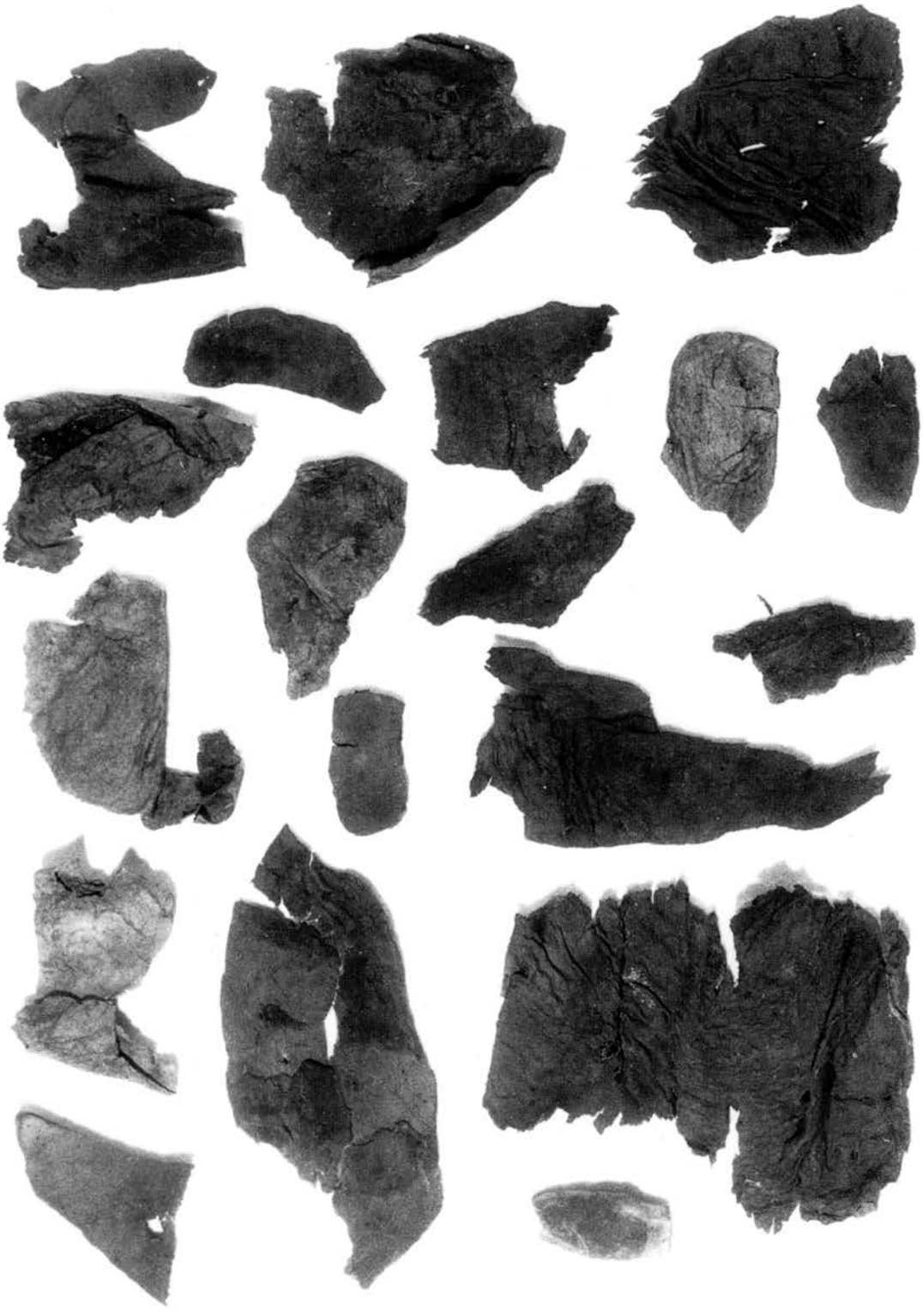

Figure 13. *Hide/leather from the Trench IV ditch terminal (copyright: The British Museum)*

to infer that it also held a second post in its south-west end. A fifth, sub-triangular post-pit (F. 28; 1.05 x 1.40m) was found to lie approximately mid-way between the two western pits. This may have either been a central gate post (ie for stopping) or relate to a later blocking of the entrance.

Two points should be stressed concerning this evidently rebuilt, or at least reinforced, gate structure. First, given the proximity of the southern limits of this trench, it conceivably extends beyond the edge of the excavation and, though unlikely, it could incorporate further post 'bays' (ie a six- or even eight-post structure). The second, that it projects beyond the line of the bank system and lies flush with the entrance terminal of the ditch. However impressive (possibly topped with a watch platform), its situation defies normative defensive logic. The only obvious way that this gate tower could have been secured is if the line of the main bank out-turned to flank its north and south sides, effectively bending around the ditch terminals. Though no evidence was found of this, such a configuration could have been eradicated by farm-related disturbance and ploughing, as these putative bank 'arms' would not have been afforded the projection of the medieval headland deposits.

Apart from this configuration, it proved difficult to fully distinguish the ringwork bank and related features in this area, due to the way the medieval headland continued across the entranceway, the extent of recent farm-related disturbance and the complexity of the exposed structural features. A line of six postholes were observed to extend for some 12m south from the main northern edge of excavation (fig. 14.3). The northernmost, F. 24, was 0.65m across and was seen in section to be 0.33m deep. South in F. 34, a burnt posthole was detected within the fill of its larger packing pit (*c.* 1m diam.). The potential interrelationship of these two postholes seem mirrored in F. 32/33 at the southern end of this line. From the latter of these, which was *c.* 0.80m in diameter (F. 33), a *c.* 0.20m wide slot ran north-east for 2.80m. Immediately south of this, F. 32 took the form of a parallel elongated trough-like hollow (3.35 x 0.90m). However, the configuration of the southern terminal of this feature would suggest another posthole *c.* 0.80m in diameter. Whereas the apparently paired post settings, F. 24/34 and F. 32/33 do seem to match each other, within the *c.* 8.00m gap between these were two smaller postholes (slightly off alignment/projected forward), F. 37 and F. 39. Both of these held distinct, if markedly smaller, postpipes (0.15 and 0.30m in diameter) with the latter being burnt. Generally having mid grey buried soil-derived sandy loam fills, all of these features in the northwest of this area were considered to be 'definite' or 'real'. However, two sub-polygonal hollows, F. 35 and F. 36 (the former cut by posthole F.34), roughly aligned on an opposite axis complementary to F. 32/33, appeared much less distinct and can only be considered as of 'possible' status.

Two other postholes were recorded west of the southern side of the main gate. Both 'definite', the one, F. 7 (lying on the same line as F. 24, 32–33), was excavated and found to be 0.45m in diameter and 0.24m deep (in the top of the sub-soil). The other, F. 18, observed in the western section to be 0.68m across and 0.35m deep, held a distinct 0.20m diameter post-impression. However, cutting through the back-bank deposits, the latter may well be a late feature (ie post-medieval).

There are two ways of interpreting the north-western cluster of features. One would have the posts as a bank revetment, possibly protruded through its crown to carry some manner of breastwork. In this case, the elongated southern pair, F. 32/33, could have contained the bank terminal proper. A second explanation would focus on the symmetry of the F. 35/36 and F. 32/33 pits (and their interrelationship with postholes F. 24, 34, 37 and 39) and have them relate to another gateway. Possibly pre-dating the main 'five-post square', this would have a funnel-like plan narrowing from 8 to 5m internally (ie westwards). The problem with the latter interpretation is that the northern flank pits, F. 35 and 36, are dubious and, unless pre-dating the ditched perimeter, an entrance in this location would be entirely illogical given the distance of the perimeter's opening. Aside possibly from F. 24 (seen in section to cut through the bank), all of these features are of 'early' attribution (ie pre-modern/-medieval). However, given the manner of excavation it is difficult to be certain of their exact stratigraphic situation. Despite the burning of F. 34 and 39, postholes F. 34, 37 and 39 (and pits F. 35 and 36) were not visible in the upper surface of the bank. Yet this cannot be interpreted as indicating that they were definitely sealed by its upcast as ploughing and farm-related damage may have obscured their recognition.

The medieval headland across the entranceway confused the distinction of the ringwork bank proper.[8] Nevertheless, its main bulk was eventually delineated and, *c.* 7m across, it terminated 2.50m beyond the southern end of the ditch circuit. For the most part, the basic sequence of upcast deposition in this trench did not vary greatly from that recorded in Trench II (see, however, French's description below of the 1995 exposure; where the bank seems truncated along its interior edge).

In the northern section the headland silts continued to bed down for 5.80m beyond the primary bank profile. At the western foot of the latter, these sealed a north-south oriented ditch 1.40m wide and 0.30m deep (F. 25). An arm of this flat-based feature was observed to return east for 2.20m within the north-west length of the trench (fig. 14.3). Filled with quite homogeneous grey silt with charcoal, the status of this shallow ditch is problematic. While reminiscent of the depression observed beneath the back-bank turf stack in Trench II, F. 25 was considerably deeper and charcoal-flecked. That what was obviously a southward extent of this ditch was observed in section in the western arm of Trench III implied that it continued uninterrupted across the Camp entrance. Therefore, though possibly contemporary with the ringwork *per*

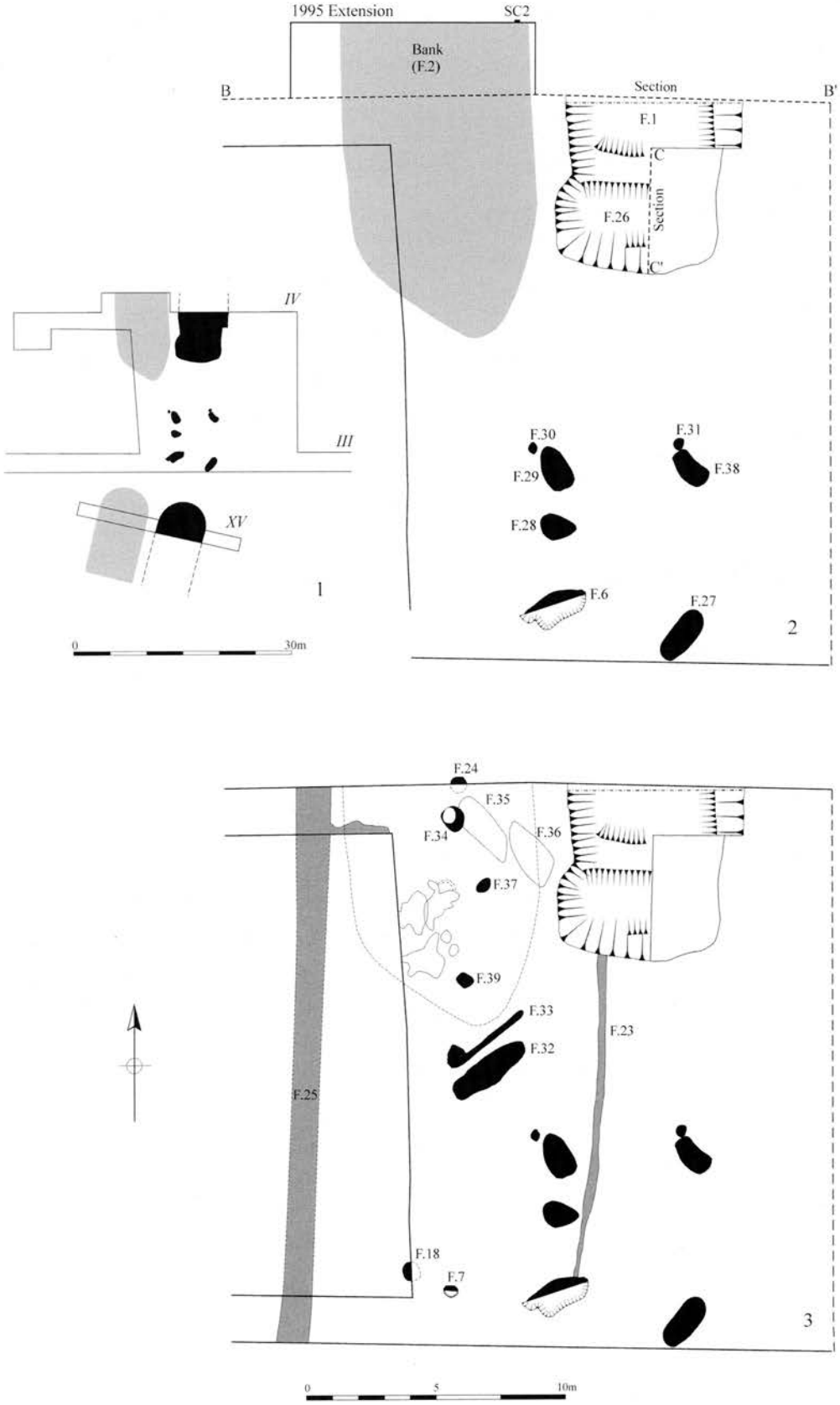

Figure 14. *Arbury Camp: the eastern entrance:*
1) as reconstructed, showing relationship of 1995 Trench XV exposure to 1990 area (Trench III/IV); 2) 'five post' gateway in relation to ditch terminal (F. 1) and bank (F. 2); 3) other features, including probable medieval ditches (F. 23 and 25), 'early' postholes and suspect features (the latter shown open/unblackened).

se, this suggests that this ditch relates to later usage, possibly medieval agriculture.

Running south from the northern terminal of the ringwork ditch was a shallow, 0.05m deep, and 0.25–.35m wide concave-profiled trough (F. 23). When first seen this appeared to continue over the fill of the south-western of the main gateway postholes (F. 6). It subsequently disappeared through cleaning and, therefore, the southern plan extent of this trough is not precise. While not visible in the southern section of this trench, it was not seen to terminate as such (ie it peters-out in relationship to machine-depth). This feature is open to a number of interpretations. It could represent either an early minor marking-out trench, dug to lay out the main ditch, or a fence-line relating to an earlier timber enclosure (*cf.* F. 5). Alternatively and more likely, it may be a relatively late element. When the northern section was re-opened in 1995 a shallow flattish ditch, 2m wide and 0.30m deep, was observed to cut the uppermost ditch fill and the exterior edge of the bank (F. 41; the hint of this possible north-south oriented feature was also apparent in the 1990 section). This could well have been the upper profile of F. 23, which would, therefore, have had to continue north across the fills of the ringwork ditch. If so, probably associated with F. 25 along the interior bank-side, it more likely represents a medieval field boundary and attests to later arable activity along the edge of the earthwork enclosure.[9]

Absolute Dating

A radiocarbon date obtained from the leatherwork recovered from the ditch terminal in Trench IV gave a determination of 2160 ± 50BP (210 ± 50bc; OxA–6582). This has a 68% confidence of falling between 360–290 *or* 250–160 *or* 140–120 cal BC (380–40 cal BC; 95%). Whereas the scapula fragment from the base of the terminal pit there (F. 26 [068]) – and possibly associated with its digging – produced the somewhat earlier date of 2250 ± 60BP (300 ± 60bc) which calibrates to one sigma to either 390–340 *or* 320–205BC (68% confidence; 95%: 410–160 cal BC Beta-142340). Together these samples suggests that the enclosure dates from the 4th–2nd centuries BC and, therefore, is appropriately assigned to the Middle Iron Age (ie pre-100BC).

Specialist Studies

Whilst many of the finds categories (and pollen) occurred in such low numbers that they only require summary reportage, the results of the soil, macrofossil and pottery studies, and also the wood and leather assemblages warrant more detailed presentation.[10]

Micromorphological Analysis

CAI French

The re-exposure in 1995 of the associated bank and palaeosol sequence in Trench IV (SC2; fig. 9D) permitted sampling for micromorphological analysis (after Murphy 1986 and Bullock *et al* 1985). Its profile is described in Table 2.

A continuous soil profile was taken through this sequence from the base of the bank material to the top of the subsoil (from 29 to 60cm). The description of the thin sections taken is summarised in Table 3.

Beneath the present day ploughsoil, on the upper surface of the mixed loamy sand and gravel deposit which comprises the inner bank of the monument ([108]), there is a 1.5cm thick zone of loamy sand which exhibits much sesquioxide impregnation and has a horizontal and parallel crack pattern. This could either represent turf development on the former bank's surface and/or iron pan development at the transition between the base of the present ploughsoil and the upper surface of the bank. The underlying context was mainly comprised of a similar loamy sand fabric, but in addition it contained irregular aggregates and zones of clean, very fine quartz sand ([107]). This heterogeneous mixture soil and subsoil material was probably also part of the bank upcast. In the field, there were also thought to be small lumps of turf-like material within this context.

There is then an abrupt change to a thin zone of heavily iron impregnated, highly organic loamy sand. In thin section this appears as two lenses of iron impregnation 'sandwiching' a thin zone of loamy sand material ([106]/[109]/[106]). This turf zone is highly compressed and oxidised, and could just possibly represent one horizon of laid turves on top of the *in situ* turf. In addition, the upper 500um of the upper surface of the turf exhibits a 'crust' of silty clay, as if it was a trampled surface (after Gé *et al* 1993).

Table 2

Depth (cm)	
0 -21	Ap; dark brown silt loam with occasional fine-medium gravel, <30mm; distinct boundary
21-34	redeposited subsoil (context 108); greyish white/yellowish brown mottled, silty clay marl; distinct but irregular and undulating boundary
34-40	redeposited ? turf (107); dark greyish brown silt/very fine sandy loam; distinct but irregular and undulating boundary
40-41	lens of reddish yellow/brown iron pan (106); distinct but irregular boundary
41-44	*in situ* turf (105); dark brown silt/very fine sandy loam with occasional flecks of charcoal, <10mm; variable thickness; merges over 20mm
44-60	buried soil (105); pale greyish brown silt loam with rare flecks of charcoal, <5mm; distinct boundary
60+	subsoil; yellow/white mottled silty calcareous marl

Table 3

Depth (cm)	Context	Description	Interpretation
29-31.5		loamy sand	similar to buried soil
31.5-33	[108]	loamy sand with much sesquioxide impregnation, and horizontal/parallel cracks	turf on/within the bank
33-40	[108]	loamy sand with small gravel pebbles throughout	upcast material from external ditch comprising the bank
40-46	[107]	loamy sand with irregular aggregates/ zones of very fine sand	mixed soil and subsoil, probably also upcast material of bank
46-46.2	[106]	surface 'crust' of silty clay on a lens of iron impregnated organic material	compacted/trampled surface on former turf
46.2-46.8	[109]	loamy sand	redeposited soil with turf
46.8-47	[106]	lens of iron impregnated organic material	compacted grass mat of former turf
47-60	[105]	loamy sand with very fine organic component and irregular zones of greater silty clay content	buried soil, probably disturbed before burial
60+		terrace sands and gravels	subsoil

[105] is a similar loamy sand fabric to the other contexts, but exhibits a greater amount of finely comminuted amorphous organic matter and occasional zones of greater amounts of non-laminated silty clay within the fine groundmass. As this buried soil has an homogeneous composition and few features of note, it therefore contains few pointers as to the history of its development. Nonetheless, the relatively small amount of within-soil illuviation of fines down the profile does point, however, to the rather poor development of a former brown earth (Avery 1980).

The thin section analysis has mainly served to confirm the field observations of a brown earth with turf development sealed by deliberately dumped material containing turf, soil and subsoil material, presumably derived from the earthmoving activities associated with the digging of the outer ditch. The buried soil is now severely oxidised and mixed by the soil fauna, with some evidence for soil disturbance given by the relative abundance of dusty or silty clay within the fine groundmass. Turf development on this soil points to an open, grassland landscape prior to bank and ditch construction. The thinness of the turf (<1cm) points to considerable compression, compaction and organic degradation, by an estimated factor of at least ten (given an average turf depth of about 10cm). By way of comparison, a compression factor of two-thirds was observed in the turf buried beneath the chalk/turf bank at the Overton Down Experimental Earthwork site after 32 years (Macphail and Cruise 1996).

Macrofossils
P Murphy

In 1995 monoliths were collected for macrofossil evaluation from the ringwork ditch in Trench IV (SC3 on fig. 9B; tops at 11.32m OD). Sub-samples were removed at 11.01–.02, 10.97–.98 and 10.93–.94m OD, each comprising a 1x10x10cm 'slice'. Following disaggregation, the organic fraction of each was then separated from the mineral residue by wash-over using 2.0, 0.5 and 0.25mm meshes. The samples had a very small organic component, including macrofossils of a range of weeds, grassland plants, wetland and aquatic plants (Table 4). Also noted were occasional pinnules of bracken (*Pteridium aquilinum*), rootlets, very rare small charcoal fragments (<3mm), scraps of monocotyledonous epidermis and degraded small fragments of mosses. Invertebrates included mollusc shell fragments, ostracods, cladoceran ephippia (water-fleas) and beetles.

The aquatic invertebrates and fruits of horned pondweed (*Zannichellia palustris*) and water crowfoot (*Ranunculus* subg. *Batrachium*) establish that the basal fill formed under standing water. The single fruit of reedmace (*Typha* sp) may have come from a plant growing in the ditch or was dispersed from elsewhere. Macrofossils of sedges (*Carex* spp) and rushes (*Juncus* spp) indicate poorly-drained soils.

Most taxa recorded, however, were of weeds, associated with some grassland species: greater plantain (*Plantago major*) and buttercups (*Ranunculus acris/repens/bulbosus*). Bracken may have grown on dry leached soils in the vicinity.

No twigs or deciduous leaf fragments were noted, nor fruits/seeds of shrubs or trees. The seeds of black nightshade (*Solanum nigrum*), including endosperm tissue, were modern intrusive specimens.

From the assessment the following preliminary conclusions can be drawn:

1) The ditch terminal held standing water at its base.

2) In contrast with Wardy Hill, Coveney, where comparable rapid scanning immediately detected macrofossils of rosaceous thorny shrubs (Murphy, in Evans forthcoming), no evidence was seen for the existence of a perimeter hedge.

Table 4. *Macrofossils noted during scanning of basal ditch fills in Trench IV (NB: All plant taxa are represented by fruits or seeds except where indicated).*

	Height (mOD):		
	11.01-.02	10.97-.98	10.93-.94
Herbs (weeds/grassland taxa)			
Aphanes arvensis/microcarpa			x
Atriplex sp.		x	x
Chenopodium album L.	x		
Cirsium/Carduus sp.		x	x
Papaver cf.argemone L.			x
Plantago major L.		x	x
Polygonum sp.	x		x
Potentilla anserina L.	x		
Ranunculus acris/repens/bulbosus		x	x
Solanum nigrum L.	x		x
Sonchus sp.			x
Stellaria graminea/palustris			x
Stellaria media-type			x
Urtica dioica L.			x
Fern			
Pteridium aquilinum (L.) Kuhn (pinnule)	x	x	
Wetland/aquatic taxa			
Carex spp.		x	x
Juncus spp.	x	x	xx
Ranunculus subg. *Batrachium*	x		
Typha sp.			x
Zannichellia palustris L.	x	x	x
Other plant macrofossils			
Charcoal	x	x	x
Rootlets	x	x	x
Monocotyledonous epidermis		x	
Mosses		x	
Invertebrates			
Mollusc fragments	x		
Ostracods	x		
Cladoceran ephippia	x	x	x
Beetles	x	x	x

3) Local terrestrial vegetation seems, provisionally, to have consisted of grassland and weeds.

The Wood Assemblage
M Taylor

Recovered from the basal deposits of the main ditch in Trench IV, the wood is very soft and beginning to disintegrate. Because of its state and the smallness of the assemblage, very few measurements were taken; those that were are for guidance only. A proportion of the material is derived from very small roundwood (ie less than 10mm diameter) which is likely to have found its way into the deposit from shrubs or trees growing close by. There is quite a large number of pieces, but as they are all tiny this does not represent a large proportion by bulk. There are also one or two pieces of roundwood with slightly larger diameters (10–15mm) which are almost certainly root.

Of the remainder, there are ten or twelve woodchips, some of which have started to fragment. Half of these are extremely small and, only a few millimetres thick, have been detached tangentially from relatively small roundwood. They are probably the debris from sharpening sticks or stakes and are not oak. The remainder of the debris, although still fairly small, tends to be more chunky and derives from working oak. The softness and poor state of the material makes it difficult to speculate about the original size of timbers, but two of these chips are bark and are very dense and thick. There is no wood attached to either,

and no sign that the complete thickness of the bark is represented. The bark chips are better preserved than the wood and have sharp edges suggesting that they have been cut rather than naturally shed. As one piece is at least 15mm thick and the other 25mm thick, these must be from a mature tree, possibly oak.

Leather
Q Mould

227 small fragments of leather were recovered from the waterlogged basal fill of the Trench IV ditch terminal. These, though rather unprepossessing in themselves, have been radiocarbon dated to between the 4th and 2nd century BC and are of the greatest interest as leather of this date is rare. An initial assessment of the material has been made and the results presented here. It is hoped that a more extensive investigation of the assemblage will be the subject of a future paper.

The leather has been conserved by freeze-drying and when examined was flexible but friable. Few features are visible macroscopically. The grain surface appears abraded or heavily worn and few hair follicles remain, with the result that the leather species was impossible to determine with certainty from this alone on initial inspection. The majority of the fragments are thin and delaminated, with all their edges torn. Few diagnostic features are present. A small number of pieces have a cut edge visible (11) and possible stitch holes were also noted.

Four pieces are distinctive, however, being of more robust appearance and significantly thicker (2–2.5mm). Knife cut edges are present around the perimeter indicating that they have been deliberately cut from a hide. One is of elliptical shape with an oblique hole passing across one edge (35 x 14mm, one end folded), two others have most of their perimeter cut (37 x 18 and 54 x 21mm) and the fourth has a cut edge surviving in places (37 x 18mm). These small pieces, particularly the ellipse, are comparable with waste leather of Roman date that derive from cutting out shoe fastening loops. Waste fastening loop cut-outs have been found in a number of Roman assemblages (eg Scole in East Anglia, and Catterick and Birdoswald in the northern frontier zone). While cut-out fastening loops occur on Roman shoes of differing constructions, the presence of certain features, such as decorative lobes, has enabled some shapes to be positively associated with the production of shoes of one-piece construction, a feature first recognised from waste leather from Maastrict (van Driel-Murray 1987: 22–28). Shoes of this type are amongst the earliest forms of footwear to have been recovered. Simple shoes, cut from a single piece of leather which wrapped around the foot and were pulled to shape and fastened to the foot by a thong passing through a series of loop holes around the edge, occur as casual finds from Scandinavian bogs. While many of these simple prehistoric shoes fasten through small thong holes or stretched slits made in the edge, examples which fasten through larger, deliberately cut-out loops are known. A shoe with large elliptical cut-out fastening loops was found in Rishjarup Mose in North Schleswig in 1804 (Hald 1972: 46, 50, fig. 42–3), regrettably it cannot be independently dated. Pattern cutting of the fastening loops from this style of shoe would produce elliptical waste pieces similar to that found at Arbury and it is suggested that the elliptical cut-out and the three other small waste pieces come from the production of a shoe(s) of one-piece construction.

The majority of the leather comprises small fragments with all their edges torn; it is possible that they originally derived from a single item. The leather is thin, much is delaminated, and fine rootlets appear to have penetrated between the grain and the flesh sides in many instances. Some areas are distinctly puckered or pleated by use/wear. The largest fragment has two parallel lines of distinct pleating with the suggestion of a third between. The grain side is heavily worn or abraded. A small area of grain pattern preserved in a fold of one piece suggests that it may be of sheep/goatskin (ovicaprid). Other fragments have the appearance of a split skin. Occasional holes are present. While some may relate to damage to the surface of the hide in life, others are elliptical and appear to have been made with an awl or needle. Most of the fragments are very small so that the surviving holes appear to be random and no seaming is discernible at present. One fragment, however, appears to have three small tunnel stitches (not penetrating through to the grain side) and a possible thread can be seen passing through these. Alternatively, they may have been penetrated by a rootlet. Similarly, a hole present in another fragment appears to have a thread impression running from it on the flesh side. Yet, in view of the rootlets present, this may only be determined with further analysis.

The recovery of leather of Iron Age date is rare. Featureless fragments of Iron Age date have been found at Dragonby (Friendship-Taylor 1996: 385) and Tattershall Thorpe, Lincs. (Chowne, Girling and Greig 1986), and Haddenham in Cambridgeshire (Evans and Serjeantson 1988). The lack of material of Iron Age date is in direct contrast to the large quantity of leather recovered from excavations of Roman date wherever waterlogged burial conditions allow.[11] It has been assumed that the earlier leather was oil tanned using a process based on smoking the cleaned skin and working animal fats into the surface (brains and marrow), followed by manipulation to make it flexible. Leather tanned in this way usually rots when exposed to damp conditions, whilst vegetable tanned Roman leather is preserved in a wet environment. How the surviving leather of Iron Age date came to be preserved is integrally linked with how it was tanned. Features of the Arbury leather, such as the thin nature of the skin, heavily abraded grain surface, and pleating and puckering, most closely resemble archaeologically recovered leather believed to have been oil tanned. Are the small fragments of leather of pre-Roman date oil tanned leather preserved under extraordinary burial conditions or do they reflect the adoption of the use, if only par-

tially successful, of vegetable tannage? It is hoped that future detailed microscopic examination and chemical analysis may address this.

Roman and Later Prehistoric Pottery

G Lucas

A small assemblage of Roman pottery was recovered amounting to 117 sherds; an archive report was compiled by Morag Woodhuysen and, in combination with inspection of the ceramics by this author, forms the basis of this discussion. Most of the sherds derive from unsealed contexts and are correspondingly mixed in date, and in many cases, post-medieval pottery is also present (chiefly 19th century). The pottery is discussed summarily by broad provenance below:

Test Pits ([001–019])
The largest proportion of the assemblage comes from the test pits and includes material from 1st through to 4th century. Included in this group are Nene Valley ware colour-coated vessels, Horningsea storage jars, shell-tempered jars and probable Hadham/Oxfordshire vessels. Some probable post-conquest or conquest period 1st century vessels occurred in test pits [009], [011] and [018], including one grog-tempered vessel and sandy wares. The most interesting sherd is one with pierced holes conjoined by scored lines on the exterior of a vessel in a fine red fabric; the Litlington incense burner provides a parallel (Fox 1923: pl. XXI).

Surface Finds within Enclosure ([027])
Although possible earlier material is present, the majority of diagnostic sherds from this context are late 3rd/4th century in date, including Nene Valley colour-coats, shell-tempered wares and greywares.

Surface Finds outside/east of Enclosure ([038])
Only two sherds were recovered: one heavily gritted (quartz/fine flint) in a grey fabric, possibly handmade; the other, a shell-tempered sherd. The former is of interest insofar as it could be late Roman (e.g Rettendon ware) or even possibly post-Roman.

Main Enclosure Ditch F. 1 ([036], [047/064])
Only three sherds came from the upper silts of the enclosure, none very diagnostic except for one from the Nene Valley and on the whole, are probably early (ie 1st/2nd century).

General Finds ([028], [033], [034])
Little can be said about these beyond the fact that pottery from all periods are represented.

A summary of fabric groups is given in Table 5; unsurprisingly, coarsewares and greywares dominate, but there is still a high number of other types. Given the small sample size, little can be gleaned from this. On the whole, only about half the sherds are dateable, and these more or less evenly divided between early (1st/2nd century) and late (3rd/4th century).

Table 5. *Summary of fabric groups*

Fabric Type	No. sherds (%)
Local coarsewares	37 (31.6)
Greywares	29 (24.8)
Nene Valley wares	15 (12.8)
Shell-tempered wares	13 (11.1)
Oxfordshire/Hadham redwares	11 (9.4)
Buffware	8 (6.8)
Other	3 (2.6)
Samian	1 (0.85)

Generally, the assemblage is in very poor condition. Almost all of it has suffered moderate to heavy abrasion, and even large sherds show clear signs of weathering on their surface or edges. The only point of note is that the later sherds are on the whole larger than the earlier ones, but this probably reflects the hardiness of their fabrics as much as the degree/length of weathering suffered (fig. 15). While perhaps their density is too great to represent outfield manuring alone, their condition nevertheless suggests some kind of post-depositional attrition, perhaps a midden dump displaced for manuring.

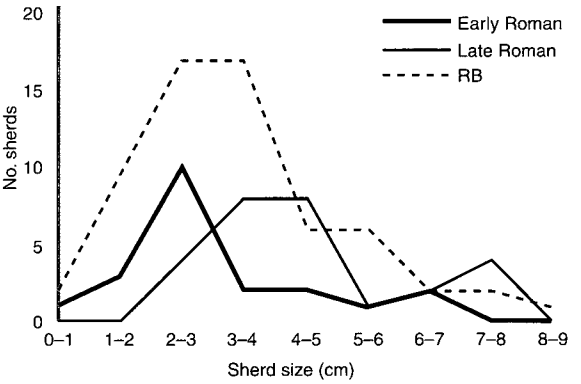

Figure 15. *Fragmentation of Roman pottery by period.*

In addition to this assemblage, the material collected from fieldwalking by David Hall in 1990 was also examined; a total of 39 sherds (530g) was recovered, all of it fairly abraded and small to medium sized (*c.* 1–4cm). Most of it comprised of local sandy coarsewares of the 2nd century or later, including some from Horningsea but there were also a few sherds of late Nene Valley colour-coat and Hadham redware (4th century). Two tegula fragments were also recovered. Overall, the assemblage, such as it is, is comparable to the excavated material. Two sherds of possible handmade vessels were noted; one in a reduced fabric, the other white/buff – these may be Late Iron Age.

Otherwise only two undiagnostic handmade body sherds of definite Iron Age date were recovered in the recent excavations. With a sand temper these can only be generally attributed to the Middle/later Iron Age (ie 300BC to AD 50). The one was from the upper silts of the ringwork terminal in Trench IV (F. 1); the other was recovered, in 1995, from the F. 2 bank deposits in that trench (as re-opened).

Eastern Field Investigations

Few pre-modern remains were found in the trenches east of the Arbury ringwork. A post-medieval fieldsystem (later 18–19th century) was found to extend north-east/south-west between Trenches VI, IX and X. Having 'clean' and much more pale leached fills, traces of what appeared to be a substantially earlier ditch system were also recovered in Trenches IXa–c and XI. Whilst possibly of prehistoric attribution (?Bronze Age), no dating evidence was recovered.

This essentially negative recovery pattern was further confirmed when, later in 1991 the CAU were able to extend this landscape sampling in a comparable evaluation programme on the conjoining Unex Lands site immediately to the east (5.6ha; Evans 1991b; 1992). While there, it was observed that deep ditches had recently been dug around the perimeter of the neighbouring eastward plot to discourage the encampment of gypsy travellers (fig. 16). Given that Roman Akeman Street was known to pass between these two sites (and their proximity to Alexander and Trump's Arbury Road complex), the decision was made to utilise these dyke-like sections to archaeological ends. In the course of this recording the line of the Roman Road was indeed distinguished and a low density of bordering contemporary features identified (fig. 17; Evans 1991b).

Aside from extensive trial trenching on the Unex Lands, metre test pits were excavated along the length of the site (five in total); this sampling transect was also continued east into the plot beyond the Roman road line where three others were dug. While only two of the test pits on the Unex Site produced Roman pottery (each single abraded scarps), three and four sherds were respectively recovered from those two sample pits nearest the early road on the 'Gypsy Ditches' plot (fig. 16). There, comparable to Arbury Camp densities, the evidence suggests that low density settlement activity extends along the line of Akeman Street north of the Arbury Estate/King's Hedges complex (see also Ette 1991 for findings on land to north and Evans 1992 for an overview of other recent work in the vicinity).

Discussion

Dating and Place History

From the evidence at hand, it is impossible to propose a close date for the enclosure and this is not abetted by the range of its calibrated C-14 dates. Certainly, given the simplicity of its plan and sequence a short chronology is possible. Yet there are hints in the possible re-modelling of its bank and gateway to suggest a greater duration. The problem with the latter is, of course, that it is one thing to envisage a relatively brief usage for the enclosure involving negligible deposition, and quite another to see such a specific function continuing over an extended period. In the light of how little artefactual and dating evidence was forthcoming, its dating can only be provisional. It is nevertheless reasonable to presume that the leather dumped within its ditch terminal probably relates to the enclosure's final usage and possibly even occurred immediately upon when it ceased to be actively maintained. The radiocarbon dates have a 95% probability of falling between 410/380–160/40 BC and, while probably best described as of Middle Iron Age attribution, it is conceivable that the enclosure had its origins in the later Early Iron Age (La Tene 1 and 2). This need not, however, imply that it was utilised throughout the 4th–2nd centuries BC and it may have only of been operational for a century or less. Within this bracketing, a pre-Late Iron Age date (ie pre-100 BC) would complement the depth from which Roman pottery was recovered in the enclosure's ditch. Occurring, at most, approximately down to its middle profile, this implies a considerable period of silting/weathering prior to the early centuries AD.

Though it is conceivable that the possible re-definition of the Camp's bank system actually relates to a Roman utilisation of the enclosure, this seems unlikely on two accounts. Firstly, if this was the case then a re-cutting of the ditch should be anticipated which obviously did not occur. Secondly, the quantity of Roman pottery recovered must essentially reflect manuring, as far more bone would be expected if this pottery had been generated through (*in situ*) occupation of whatever intensity.

However denuded today, that the Impington and Chesterton parish boundary bisects the Camp indicates its significance in historical times. This is also implied by its earthwork-suggestive Anglo-Saxon name, and the survival of its eastern perimeter was clearly impressive until the early years of the 20th century. Given this and Hughes' postulation of its Iron Age date, its sorry history thereafter warrants comment. Culminating in the recent construction of the A45/Histon Road junction (when its western perimeter was destroyed), this primarily centres upon how it was that Arbury Camp Farm came to expand so far along its eastern circuit in the middle years of the 20th century without any apparent hue and cry. On the one hand, largely involving negative evidence, Hughes' pre-Roman attribution of the enclosure was not particularly convincing, nor was the site given much prominence in Fox's *The Archaeology of the Cambridge Region* (1923: 137). Yet it is salient to compare the post-War history of the Camp with, for example, the protection afforded Wandlebury. Since 1925 a scheduled ancient monument and from the 1950s managed by the Cambridge Preservation Society – with folklore associations to Gog/Magog and its spurious hill figures – Wandlebury's wooded chalkland setting is picturesque and it more closely fits 'Hardyseque' or normative expectations of what a monument should be. To this extent, the contrasting fortunes of these two sites over the course of the 20th century is telling of the downland constitution of the region's prehistory at the expense of its lowland component prior to the 1960–70s.

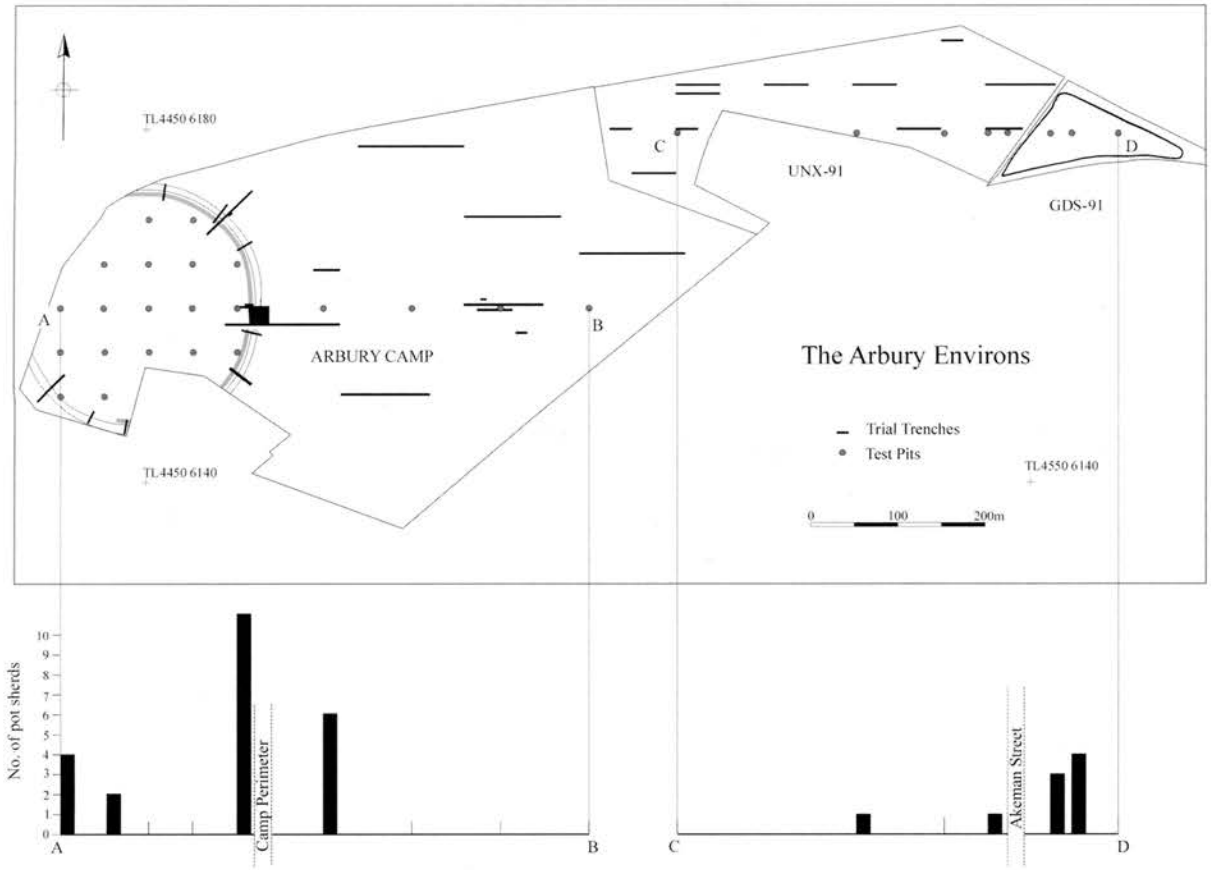

Figure 16. *Showing the location of the conjoining Unex Lands and Gypsy Ditches investigations (respectively UNX-91 and GDS-91); below, density plot of Roman pottery from metre test pit sampling indicating higher values within the Camp and adjacent to the line of Akeman St.*

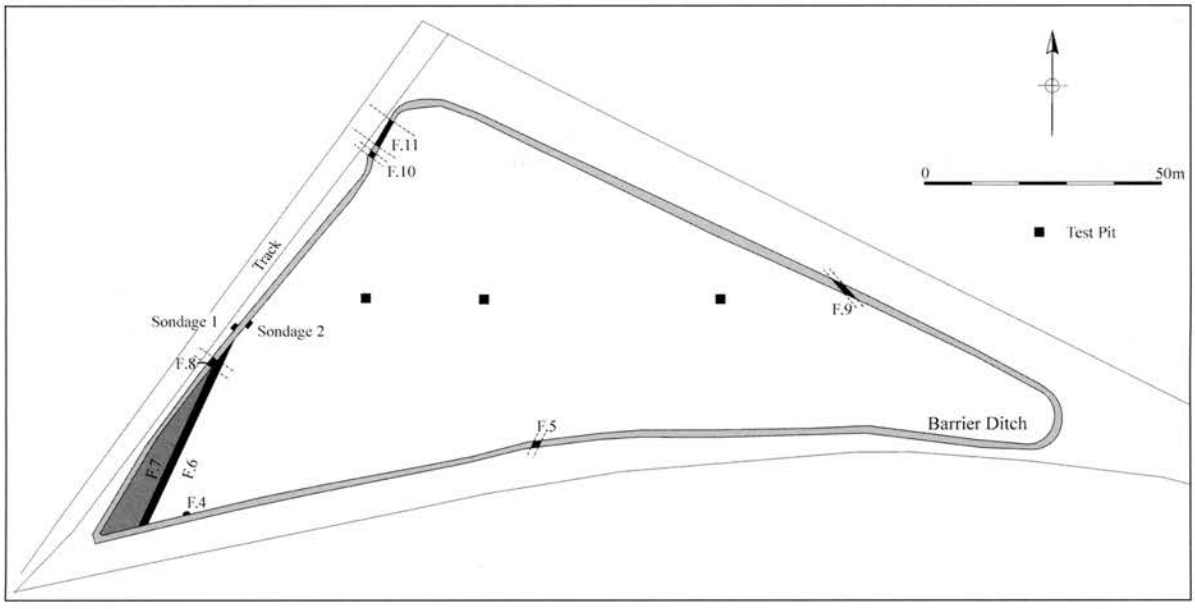

Figure 17. *The Gypsy Ditches Investigations (GDS-91) – F. 7 indicates the extent of Akeman St.-related metalling, with F. 6 a flanking road-side ditch. Possibly relating to the 'great enclosure' of Alexander and Trump's Kings Hedges villa, F. 5 would seem to be a contemporary ditch; F. 4 was the northern side of what was probably a substantial pit (1.35m across and 0.60m deep) which produced over a 100 large sherds of Roman pottery, mostly Horningsea wares (M Woodhuysen, pers comm). The remainder of the features indicated were all post-medieval; a cluster of small pits of early attribution were excavated in Sondages 1 and 2.*

Lowland Defensive Architectures

Although not definitive, the evidence of the site's environmental studies (including its wood assemblage) suggest that the Camp originally lay within grassland, perhaps dotted with oaks (see Murphy and Taylor above, and note 7). Against this and given the area's undistinguished topography, the 'monumental architecture' of the enclosure's bank and gateway would certainly have been imposing, with the line of its perimeter locally emphasised by aquatic plant communities, stands of willow and shrubs. Appearing as if almost planted in the landscape, there is nothing in the immediate environs that need imply that Arbury Camp necessarily occupied the apex of any local settlement hierarchy. Nevertheless, its scale and regularity of plan must reflect the hand of social authority in its execution and the organisation of labour required. Certainly the formality of Arbury's 'great circle' is striking. With a broad entranceway now known in the east, although of vastly different scale, it has obvious basic affinities with the plans of eaves gully-surrounded roundhouses of the period. However, apart from only the most general structuralist/symbolic associations with their eastern orientation (eg Oswald 1997; Parker Pearson 1996), it would probably be erroneous to take this parallel too far given Arbury's paucity of internal features and settlement evidence in general. Rather, the employment of unelaborated circular design as it were – an easily 'strung' geometry – is more appropriately considered as reflecting a long tradition of later prehistoric construction, and which can now also be locally linked to late Iron Age funerary architecture (Hill, *et al* 1999).

Daunting in its very simplicity, Arbury Camp continues to evade ready characterisation. Accepting its Iron Age date and that it could not have included a substantial settlement component, even Alexander and Trump's proposals that it was a great stock enclosure do not seem convincing. Admittedly, it is tempting to link the recovery of so much leather from its ditch terminal with specialist pastoral production. Yet this material could have derived from an off-site source and, lacking evidence of butchery on any scale, there is insufficient domestic evidence to even support its seasonal occupation by herders/shepherds.[12] While the act of construction itself may have been a compelling social impetus (ie group binding), by normative criteria this same negative evidence would equally apply to any kind of usage as a ceremonial or ritual centre; had large group gatherings regularly occurred there more would be expected. Therefore, almost by default – but granted some credence by the proportions of its bank and the character of the eastern gate – one is left as seeing the enclosure as either a defensive refuge or a commanding 'statement' in the definition of territory. In neither instance could it have seen any intense usage (nor assault). In this context, the enclosure's situation at the edge of the clay plain on heavy clay/marl-pocketed gravels (that saw only limited contemporary settlement within the immediate environs), is surely relevant. Amid these poorly drained soils, the Camp may have staked rights to pasture and would essentially seem to have been a fort, albeit one with design flaws.

Based essentially on the size of their surrounding ditches and internal area, Iron Age enclosures of the scale of Arbury have, by *de facto*, generally been termed 'fortified settlements' or 'defended enclosures' (eg Taylor 1977; Chowne, *et al* 1986). Pryor has argued that such definitions of 'defensiveness' probably overlook a range of less physically impressive palisade-fortified sites, at least within lowland eastern England (1982). While these have not been forthcoming, a defensive potential has since been recognised for a range of more modest Iron Age enclosure forms (eg Evans and Serjeantson 1988; Evans and Hodder forthcoming).

Alexander and Trump's earlier dismissal of Arbury's defensive capability largely related to the scale of its bank. Certainly when compared to the collective impact of Wandlebury's ramparts they are not impressive. Nevertheless, their interpretation was clearly biased by factors relating to site survival; both plough damage and compression within the bank's core. If, as its seems, all of the ditch upcast went into the construction of the bank, with an average circuit profile of 6.50 x 1.10m, theoretically this could have generated a bank approximately 2.15m high and 7.50m wide through a 1.5 displacement factor of quarried strata. While the Arbury defences may never have stood to this height and have only been *c.* 1.25–.35m high (by the projection of the gravel capping in Trench I with appropriate compensation for its turf compression), this would still have resulted in a 2.35–.50m rise in relationship to the base of its encircling ditch. Even without any manner of further bank-top breastworks, this would have been a formidable barrier.

The character of ditches also clearly contributes to the impression and attribution of defence. Yet deeply steep profiles, widely held to be a hallmark of fortified defence in later periods (ie 'V'-shaped 'leg-breaker' type) and found, for example, at Wandlebury (Hartley 1957: fig. 4), would simply have been impossible to achieve beyond a certain ditch width (*c.* 2–3.00m) in a lowland context due to high groundwater levels. None of the sites of this type investigated within the fenlands have steep ditch profiles and almost all are uniformly broad with flat bases (Evans forthcoming). In the case of Arbury, there would be no compelling reason to construct a circuit of its scale, with ditches so wide, only to kraal stock. Based on the evidence of other prehistoric enclosures (and ethnography) this could have been fulfilled by ditched perimeters of much more modest proportions (animals can only leap so far). Ultimately, the scale of its ditch fulfils no obvious functional logic unless simply to emphasis the enclosure's 'divide' and contribute all the more to the scale of its embanked perimeter.

No direct parallels are known for the Arbury entranceway. The extremely wide gap between its ditch terminals is not common and usually the passage through the ditches in large non-outwork-complicated Iron Age enclosures is between 5 and 10m,

not 20m as at Arbury (fig. 14.1). It is, however, the free-standing tower gateway situated proud of the bank that is its most outstanding feature and this would have no immediate regional parallel. While a line of four posts was found to run across a causeway located within the inner ditch at Tattershall Thorpe (Chowne *et al*, 1986: 162, fig. 2), and analogies could be drawn with the timber 'triumphal arch' at Rainsborough, Northants. (Avery, *et al* 1967), neither are directly comparable to the Arbury gatetower. It is, however, quite similar to the 'five-post-set' gateway in the south-western entrance at Danebury, though there the structure is situated between the bank terminals (and the central post is on the exterior side; Cunliffe and Poole 1991 fig. 3.19). Arbury's topographic situation may be relevant in this context. It is *not* a fort set on a hill – a *hill*fort – and its locale is essentially flat with little relief. Under such circumstances, elevated observation from such a tower would have obvious advantages. Certainly it would have made a bold statement, albeit perhaps something of a false-front.

In recent years the symbolic role of 'classic' hillforts have been emphasised in terms of their visual impact and communal definition through the very act of enclosure (eg Bowden and McOmish 1987; Sharples 1991). Equally, how do we draw the line between war and raiding; the threat of violence and actual conflict? Combat in pre-industrial societies is often characterised by set-piece 'dramas' – the taunt, dance-like duels and lingering blood feuds – and ethnography demonstrates that war can be amongst the most ritualised of activities. To attribute defence to a site is to potentially imply a wide range of social activities; group definition, the control of territory/resources and access into the enclosed, and bridges the gamut of human interaction from conflict to settlement and ritual. Given these multiple associations, it may well be appropriate to consider such constructs as some form of ubiquitous 'communal monuments'. Nevertheless they have certain characteristics (closed and heavily embanked circuits, etc.) whose defensive potential distinguishes them from just being places of generalised social gathering. While there is no evidence of attack at Arbury, nor is there documented evidence of such actions for the majority of fortifications in historical times (eg Martello towers). The key issue relating to the determination of defensive capability is a *perceived* threat of violence, which need not imply the actual occurrence of war (see Evans forthcoming and Carman and Harding 1999 for further discussion).

Given the defensive character of the Camp, the implications of its relatively 'early' or at least pre-Late Iron Age date need stressing. There has been something of a tradition in the Cambridge region of readily attributing too much to ubiquitous 'Belgic' invaders or with conflicts stemming from Romanisation. In contrast, Arbury must be seen as arising in strictly an Iron Age context and reflecting the social dynamics of that period alone (ie pre-Belgic and Roman). The recovery of Roman pottery from the enclosure and its ditch is essentially an 'incidental' aftermath in terms of the site's usage. That it clearly did not continue to be maintained into the 1st century BC suggests that its abandonment is probably attributable to changes amongst the region's later Iron Age communities (eg Hill *et al* 1999).

Marking Territory – Regional Affinities and Enclosure Definition

It is beyond the scope of this paper to review in detail the evidence for the region's Iron Age forts (see Malim 1992a; French and Pryor 1993: 68–76; Evans 1992, 2000c and forthcoming). Equally, as the many broadly contemporary settlement sites within Arbury's immediate environs still await publication, it would be rash at this time to speculate upon the Camp's broader affiliations. What, however, warrants emphasis is that the north Cambridge clay plain seems to have been a 'cultural group' border in the latter two centuries of the first millennium BC and, based on cemetery evidence, at least during the 1st century BC the immediate Cambridge area was a significant centre (Hill *et al* 1999). Though Arbury seems to date before these developments, does its existence reflect a territorial antecedent and effectively mark a claim within what may have been disputed lands?

Although only six definite and three possible Iron Age forts are known in Cambridgeshire, these display great variability of size and form (eg number of circuits). Whereas previously a propensity for circular and/or univallate enclosures in the south of the County could be recognised, in contrast to complex multi-circuit forms within the fenlands (eg Stonea, Borough Fen and Wardy Hill)[13], the discovery in 1992 of what seems a large ovoid double or even triple vallate enclosure at Borough Hill, Sawston, erodes such broad patterning (Taylor, *et al* 1993). While geophysical survey attests interior features, trial trenching has provided inconclusive dating evidence. Nevertheless, lying on the edge of the Cam floodplain only 4.5km south of Wandlebury, it is probably an Iron Age construct.

There is a marked similarity between the plans of Wandlebury and Arbury. Given the occurrence of circular forts in the south of the County and elsewhere in the region, what takes their potential interrelationship beyond the level of vague affinity is the near-perfect circularity of their layout, particularly Wandlebury's (fig. 18; Hartley 1957).[14] It is one thing to construct a circular perimeter on the 'flat' as at Arbury, and quite another to employ this plan on a elevated chalkland spur at Wandlebury. There are, of course, major differences between the two enclosures. Aside from Wandlebury's double circuit and elaborate rampart construction, most telling is the extensive evidence of settlement within its interior. Recent excavations by the University of Cambridge have demonstrated that the earlier Iron Age settlement features continue beyond the enclosure's northeastern perimeter (French and Gdaniec 1996; 1997). Possibly dating as early as the 5th century BC, while an open phase of settlement may have preceded the construction of the ditched perimeter, its interior does seem to have been occupied until *c.* 300 BC (La Tene 1) and, again, in

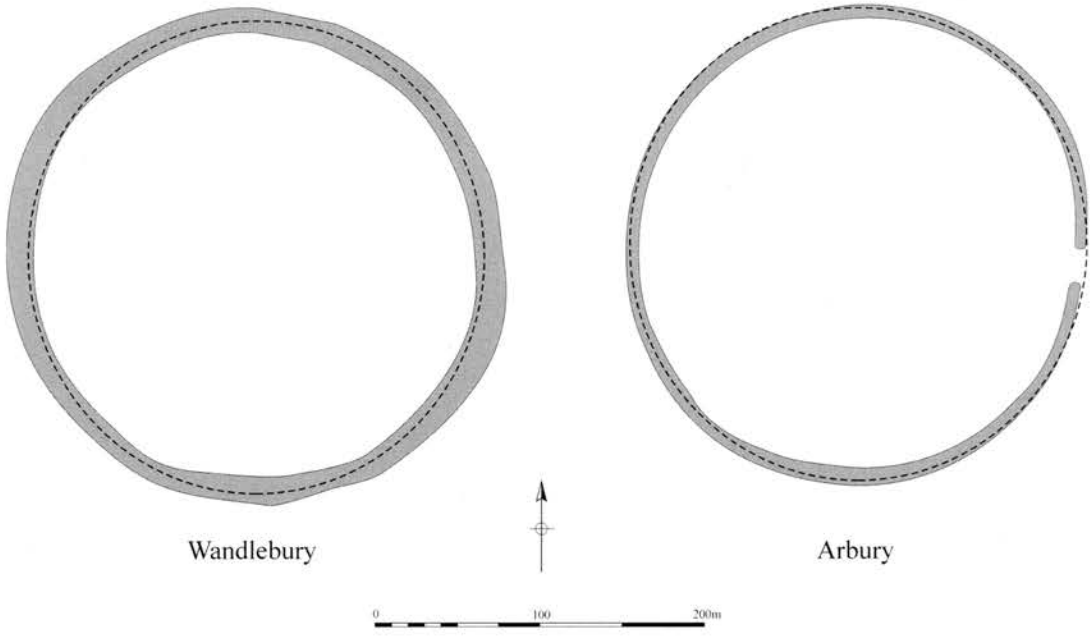

Figure 18. *'Great Circles': comparison of the plans of Wandlebury (outer ditch) and Arbury; their layouts respectively match with diameters of* c. *300 and 275m (as imposed).*

early Roman times. However, settlement features have not been positively identified in association with its secondary inner circuit (Hartley 1957) and in this phase/form the site may offer a parallel to Arbury's usage.

The potential matching or twinning of these sites suggests a 'historical' specificity and a direct interrelation. Lying 9.5km apart, together they may perhaps represent the extent of an immediate 'group 'territory'. First suggested by the late John Moss-Eccardt (1991), in such a scenario Wandlebury may have marked the core or main fortified settlement of this group, with Arbury perhaps representing a northern expansion of territory.[15] Yet, alternatively, it could be the case that both Arbury and Wandlebury were peripheral to a core zone of contemporary settlement within the Cam Valley. Such 'story-telling' explanations would, moreover, be unwarranted awaiting full analysis and dating of the other sites in the area, and do not take account of any potential interrelationship between Wandlebury and the Borough Hill, Sawston earthwork. Particularly relevant, nevertheless, is the status of the War Ditches. Lying on the lower chalk *c.* 3km north of Wandlebury, the enclosure has now all but been quarried away. It appears to have been circular (*c.* 165m diameter) and enclosed by a steep sided 'V'-shaped ditch 3.00m deep. The first serious investigation of the site was by Hughes (1903). His interpretation was that the enclosure was constructed in the 3–4th centuries BC and in the first century BC the 'massacred remains' of the site's last defenders were interred in, and the smouldering rubble of its defences shovelled into, the upper profile of the ditch by Belgic invaders; it was later occupied in Roman times (Taylor 1977: 40). However, when Lethbridge excavated the site in 1939 he found only Bronze Age material in the ditch's primary fills. This, and the fact that he could not locate the circuit on its eastern side led him to speculate that it was "an unfinished work or something of a different character" (1949: 119). The War Ditches certainly cries out for a full reappraisal. If the accepted interpretation stands then it would prove to be quite unique (ie a relatively small, perfectly circular, Middle Iron Age enclosure). Yet in the light of Lethbridge's findings, the possibility of its first phase being either a henge or even huge ring-ditch-like Bronze Age settlement enclosure cannot be dismissed.

Two other, possibly major Iron Age enclosures are known within the immediate Cambridge environs. However, given their limited exposure, there can be less certainty of their plan and extent. A 20m long arc of a 2m wide ditch was traced at Ridgeon's Gardens, Castle Hill, Cambridge (Enclosure IX; Alexander and Pullinger 2000). While as projected it is estimated to have a diameter of *c.* 100m and enclose 1.3ha, any irregularity in its circuit could result in a much more modest enclosure (ie 'typical settlement'-scale). Only Belgic pottery was recovered from its lower fills and it apparently dates to the Late Iron Age. Large postholes associated with the ditch's south-eastern terminal may relate to an entrance structure and the occurrence of at least one roundhouse within its interior led its excavator to suggest that the enclosure may have been the seat of a minor chief.

In 1996 the extreme south-western arc of a massive Middle/later Iron Age enclosure was excavated at Marion Close off Huntingdon Road, Cambridge (Mortimer and Evans 1997). Producing substantial finds assemblages, this was also evidently settlement-related. Re-cut, at its most impressive its 'V'-shaped

ditch circuit was 6m across and 2.25m deep. At this scale it is comparable to Arbury and Wandlebury, and can be considered defensive; a palisade trench was found to run interior to the main circuit. While landscaping and house cover has made it impossible to detect the enclosure's circuit from the air, it must be large. When combined with the previous evidence of Iron Age occupation at New Hall (Evans 1996; 2000d), it seems remarkable that another enclosure of this date should have been located in the town's western hinterland, given how sparse the excavation sample has been. Moreover, if it is another 'great' enclosure, then it could suggest some frequency of such sites within the wider Cambridge environs and perhaps further attests that the area was an important foci during the Middle/later Iron Age.

The aim of this overview has not been to pigeonhole the period's large enclosures into neat categories of 'unoccupied' and 'settled'. The crucial issue being that these communal constructs would intrinsically have been many things and, though predominate usage may be discerned, this need not imply any exclusivity of function (ritual or settlement *vs.* defence). Nevertheless, after nearly a century of research – but whose fieldwork impact still in total amounts to only a *c.* 2% area-sample (and much of that has not involved full excavation) – the challenge which Arbury continues to pose is how to reconcile its apparently 'empty' interior with its imposing perimeter. Given the current state of the period's research within the region, 'fort' now seems the most appropriate term for its characterisation. However, and perhaps inherent with the 'monumental', a sense of lingering inadequacy must inform any mode of prime-attribute interpretation.

Arbury Camp – A Postscript

John Alexander

It is kind of the authors to have dedicated this report to me and to have invited me to write a postscript when my connections with the site are so far in the past. The difference between the ways in which most local archaeology had to be carried out more than thirty years ago and those of today is immense and it has been a great pleasure to read how competently the recent research has been carried out.

In the 1960s plans to develop the fields in which Arbury Camp lies were already being discussed but no move for its archaeological investigation or to provide funds to do it were being made. David Trump and I undertook it with volunteers on university extra-mural training courses in field archaeology. It was due to their enthusiasm that the research could be carried out; I was sad to see that parts of their results could not be located.

The work reported on here has been thorough and skilful while the discussion and bibliography show how greatly the knowledge had increased in recent years. I found it particularly interesting that it has proved possible to distinguish the use made of the area in Roman times and that the purpose of such a large enclosure in the last millennium BC can now be discussed in more general terms than were available to us. The Cambridge region, lying as it did in the boundary zone between two, perhaps three, pre-Roman polities was of greater significance and perhaps in greater danger of aggression than has previously been realised, while attention has quite rightly been drawn to similarities with the Norfolk sites and parallels with the Mendip hillforts abandoned. The finding of a substantial gate makes our tentative suggestion of a simple stock enclosure less acceptable, although the extraordinary and well dated find of possibly oil-tanned leather might be attributed to the aftermath of stock round-ups and the absence of evidence of a palisade on the banks to thorn hedges.

I was pleased to find that the significance of the work of two of my students, Tony Gregory and John Moss-Eccardt both of whom died before their time, was recognised here.

Acknowledgements

The 1990 excavations were commissioned and funded by Camtech Developments Ltd. The co-operation of D Morgan of that company, and D Ward, their agent, is duly acknowledged, as is also that of Mr Chivers, the landowner, and D Shelbourne, the farm manager for Chivers Farms Ltd. Commissioned by Sainsbury plc, the subsequent 1995 investigations were organised by R Clark of Countryside Planning and Management, with K Gdaniec acting as the CAU Project Manager.

The 1991 Unex Lands investigations was sponsored by the UNEX group and we are grateful to its Property Director, V McElroy. Equally, the recording of the Gypsy Ditches would not have taken place without the co-operation of Messrs Atwell and Cowen of Cambridge City Council's Property Department, nor Jon Finney of the City Engineers.

This first phase of the Camp's investigations should be seen as a joint project between the Cambridge Archaeological Unit and the Department of Archaeology, University of Cambridge. We are indebted to Todd Whitelaw, then of that Department, who supervised the excavation of sampling stations. Our work schedule was tight and considerable demands were made on the site staff (I Bapty, S Hinds, S Kaner, J Meredith, J Miller, C Powell, R Rippengal, A Segobye, D Sloan and S Tarlow) and we are particularly grateful to those who volunteered their time: E and J Allen, J and S Finney and M Parker Pearson; Dick Stripe undertook the metal detector survey. During the second phase of fieldwork the site staff comprised S Ekland and L Lloyd-Smith.

Directly in connection with the production of this text and facilitated by Barry Henderson, in 2000 J Sainsbury Developments Ltd. provided a generous grant allowing for the second radiocarbon date and the advancement of the specialist study of the site's leatherwork. The illustrations in this report are the work of C Begg; the Royal Commission Survey figure

is reproduced with the permission of P Topping of that organisation (now English Heritage).

We would like to thank those specialists whose work featured in the first assessment report, but which is here only summarised: Steve Boreham (pollen), Mark Edmonds (flint), David Hall (field-walking), Dale Serjeantson (animal bone) and Morag Woudhuysen (Roman pottery). Our gratitude to Dr Ralph Jackson of the British Museum, both for his advice and in encouraging the Museum's acceptance of the site's leatherwork, is hereby acknowledged. He, with Janet Ambers, also organised its radiocarbon dating, and Alex Bayliss of the Ancient Monuments Laboratory kindly re-calibrated the two sigma/95% determinations. We are variously thankful for information and advice provided by R Boast, C Chippindale, Prof B Cunliffe, J Ette, T Lane, T Malim, T Reynolds, N Sharples, A Taylor and D Trump; as always, discussions and debate with JD Hill proved inspirational. Finally, the co-operation and advice of Dr John Alexander throughout must also be stressed. His site visits and advice provided an invaluable sense of research perspective and, in due acknowledgement, this report is dedicated to him.

Endnotes

1 Though indicated to be published at a scale of '8 feet to the inch', the printers seem to have taken liberties with the reproduction of Hughes' illustrations (1906). In Figure 3 the scale of the section has, accordingly, been adjusted based on the presumption (encouraged from his accompanying descriptions) that he evidently bottomed the ditch.

2 It has proven impossible to plot Alexander and Trump's trenches with any accuracy. In the 1970 report they are roughly shown in relationship to Hughes' 1906 plan. The marked location of Site II (for which an inter-trench base plan is alone available) cannot be accurate inasmuch as the orientation of the trenches (tied to magnetic north) does not correspond with the angle of the ringwork ditch at this point and instead must lie further east. A more surprising oversight is that in the issued sketch plan it is the line of the Camp's bank that is blackened to indicate the ditch circuit.

3 See Hall in Evans 1991a concerning the collection methodology (Appendix I.ii). East of the enclosure in the area of Trenches IX and XI, Hall also distinguished two other areas of slightly darker soil. While not nearly so distinct as in the area of the Roman scatter, red burnt pea-gravel occurs within them; there were no finds of any description, either sherds or flints.

4 Identified by D Serjeantson (Appendix II.iii in Evans 1991a), only 23 bones were recovered from contexts other than the test pitting. Those from F. 1 included the range of species which would be expected in the Iron Age: sheep/goat (six bones), cattle (five), and pig (three). There is also an ulna from a very large dog from within the upper silts of that ditch and F. 26 pit in Trench IV; comparisons with modern dogs show that this was the size of a large hunting dog.

5 Drawing, in part, upon procedures developed in the course of the earlier Haddenham Project, the sampling programme was designed in conjunction with Dr T Whitelaw. Subsequently this technique of machine-expanded 5 x 5m 'stations' from metre test pits was adopted as the basic sampling policy of English Heritage's Fenland Management Project (see Evans 2000a). Having the virtue of providing expedient site sample cover, in the case of Arbury grid while statistically there would only be a 9% probability of recovering 10m diameter 'objects' (ie individual roundhouses), there would respectively be a 49 and 100% chance of intersecting 30 and 50m diameter settlement clusters (presuming that occupation traces were present within each 5m²/25sqm of their extent). Otherwise, the 450sqm given to sampling the Camp's interior would not have even extended to the cutting of a single machine bucket-width trench across it (ie continuous, *c.* 2.00m wide).

In conjunction with the 1995 programme, geophysical surveys were undertaken across the area of the enclosure. That no interior features were then identified cannot itself be taken as negative evidence as the ditch circuit also failed to register.

6 As reported upon by M Edmonds (in Evans 1991a) only a small quantity of lithics were recovered from 1990 excavations and test pitting programme. Of the 46 pieces in total, there were only seven struck flints, though 14 other pieces showed evidence of working prior to burning (25 otherwise unmodified burnt flints were also retrieved). Unfortunately none retained sufficient attributes to indicate their dating. However, when compared to the frequency of worked stone from other excavations and surveys elsewhere in the region (eg Edmonds *et al* 1999), the density was so low as to suggest that the immediate area saw little activity associated with the production and use of stone tools at any point in prehistory.

Only two flints were recovered from the 1995 investigations, a blade and a denticulate.

7 A monolith was recovered from the basal deposits of the ditch terminal in Trench IV (F. 26; SC1 on fig. 9C) and three samples were examined for pollen by S Boreham (see Boreham in Evans 1991a for methodology). Unfortunately pollen proved to be very sparse (<5000 grains/cm³). While some grains of *Quercus* (oak), *Salix* (willow), Gramineae (grasses) and spores of Filicales (ferns) were noted, many of the grains were degraded suggesting that the sediment had been oxidised. As a result, it was decided not to proceed with a full palynological investigation.

8 The full width of this secondary headland bank was visible in the southern section of Trench III, where it stood 0.35m high and was 14.50m wide (F. 17). A minor 'tail' of brown sandy gravel bedded along its eastern edge; gravel was also observed along its western side but not so distinctly.

9 Here attributed to medieval agriculture, in the 1991 report the F. 23/25 linears were thought more likely to be of 'early' derivation. Equally, the 1995 investigations have necessitated some adjustment to the line of the western circuit as shown in Evans 1992.

10 While no post-medieval material was retained in the 1995 investigations, in 1990 some 460 sherds of pottery, and 430 and 25 pieces of glass and tobacco pipe of the period were respectively recovered (plus clinker/slate and brick/tile, etc).

11 Typically, no leather was recovered from the extensive Iron Age waterlogged deposits recently excavated at Market Deeping, Lincs. (otherwise producing much cultural material of that period), whereas a shoe sole was recovered from the site's Roman levels (Lane 2000 and pers comm). No leather has been recovered from Flag Fen (M Taylor pers comm) nor, for that matter, was any reported from Glastonbury.

12 With so little leather recovered from Iron Age sites in general and, too, the otherwise negligible deposition around the Camp's perimeter, it is impossible to assemble any convincing context for its dumping at the entranceway. Considered in relationship to the paucity of immediate settlement evidence, why such waste material would be transported any distance just for the sake of discard cannot be explained. Any overtly convenient argument that the re-worked ditch terminal was itself intended for the purposes of tanning would, as outlined by Mould above, be undermined by what seems to have been the properties of the leather's probable oil-based treatment. Incidental factors are probably relevant here and perhaps the introduction of oak bark into the watery deposits of the ditch (see Taylor above; possibly stripped from the timbers during the construction of the gateway) inadvertently created a 'secondary' tanning environment. Beyond this, in all honesty the recovery of this material at all can only suggest that, however minor or localised, some settlement and/or 'industrial' component of the site's usage has escaped our sampling.

13 Although considerably smaller (1.5–3.5ha), the closest regional parallel to Arbury/Wandlebury-'type' plans is provided by a cluster of near-perfectly circular 'forts' in northern Norfolk: Wareham, South Creake and possibly Narborough (Rickett and Gregory and Rogerson in Davies, *et al* 1991: 59–68, 69–72). Generally attributed to the Iron Age, their assignment is not conclusive due to the limited quantities of material recovered. This is especially marked in the case of Wareham which was subject to test excavation by George St Gray in 1914 and, later, by RR Clarke (1959); the paucity of finds and interior features would also suggest that it, at least, was also unoccupied (Gregory in Gregory and Gurney 1986: 22–6).

14 An Iron Age attribution has also been proposed for Belsar's Hill – located near the fen-edge at Willingham and commanding the Aldreth causeway approach to Ely – based on its relationship to the pattern of surrounding fieldsystems (Hall 1996); this can now be further supported by the recovery of pottery of the period eroded from out of its ramparts (D Hall and C Evans pers comm). Of univallate form, while it could be argued that it has general affinities to the Arbury/Wandlebury Cam Valley group, its plan is much more irregular and it may have been unrelated to the southern circular enclosures. Whereas a major settlement component has been identified within the Borough Fen, Newborough enclosure (French and Pryor 1993; Malim and McKenna 1993), Stonea seems essentially unoccupied and have been a focus of trade/exchange and ritual activity (Malim 1992a and b; Jackson and Potter 1996). Like Belsar's, Wardy Hill was also situated to control a causeway route (across the Coveney marshes of the Isle of Ely). The latter basically seems to have been a defended familial residence, though it was connected to a much more extensive linear dyke system with other associated settlement (Evans 1992 and 1997; see Evans forthcoming for comparative discussion of the labour and social implications of these respective enclosures).

15 The potential interrelationship between Wandlebury and Arbury to some extent reverses Clarke's speculations of Arbury's role. In the Glastonbury model it was envisaged as a winter base camp in a transhumance cycle and from which stock would have been driven out onto the fen in summer months (1972). Here, instead of being the parent or home community, Arbury may have been the off-shoot in relationship to Wandlebury. While perhaps relating to pasture rights with the north-of-town clay plain, there is no evidence that Arbury had any direct inter-connection with the fens (see Evans 1987 concerning the 'convenient' linkages of transhumant modelling). In hindsight, Clarke's enlistment of Arbury as a parallel to the Mendip hillforts seems arbitrary and he obviously never appreciated the full ramifications (or extent) of Alexander and Trump's negative evidence.

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Unravelling the Morphology of Litlington, South Cambridgeshire

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Villages in south Cambridgeshire are not obvious 'green' settlements, although there are some notable exceptions to this generalisation, for example Barrington, whose green is one of the largest in the country, and Eltisley, whose triangular green survives intact (RCHME 1968, 4–5 and 89–90). Nevertheless, many south Cambridgeshire villages have a small, residual, open space near the centre of the settlement and this small space is often the relic of a very large, often irregular, common or green, like those at Great Shelford, Comberton and Bassingbourn (Taylor 1983, 131–2; RCHME 1968, 48–9; Taylor and Oosthuizen, forthcoming; Oosthuizen, 1993). A study of the morphology of Litlington confirms this pattern.

Physical Background

The parish of Litlington in south Cambridgeshire lies on the south side of the broad, flat valley of the Ashwell branch of the River Cam, here flowing east. The northern end of the parish lies below 25m OD, in an area whose relative flatness and clay soils inhibit drainage. This area was used as grazing and waste until the early 19th century (Hesse 2000). The arable lands are sited over Lower Chalk which comprises most of the parish, gently rising towards the south. The north-facing Middle Chalk scarp of south Cambridgeshire rises sharply in the southern part of the parish from 60m to 125m OD on Therfield Heath on the southern boundary. This provided heathland grazing for over 300 demesne, plus an unknown number of peasant-owned, sheep in 1086 (VCH 1, 416). The boundary between the Lower and Middle Chalk – and hence also the spring line – lies at about 35m OD, on a line running roughly south-east to north-west across the parish. The medieval village lies at about 35m OD where a number of springs, including the Chardle Ditch, rise out of the chalk.

By 1830 settlement at Litlington was polyfocal (CCRO Q/RDc 46) (map). One focus, just east of Huntingfields Manor, lay on the edge of common or enclosed pasture. Another lay to the south of the settlement along South Street, and a third lay near Dovedales Manor. These foci were connected by a maze of small lanes and footpaths with no obvious pattern. Residual patches of open land lay at the intersection of Cage Lane and Church Street, and at the intersection of Cage Lane and Meeting House Lane.

Context

The area has been settled since prehistoric times. The Icknield Way, whose branches run south-west to north-east through the parish, has been in use for millennia: a Neolithic long barrow and a Bronze Age barrow cemetery lie on its course on Therfield Heath south-east of Litlington. Field names and aerial photographs show that many other barrows, since ploughed-out, were scattered across the area (Hesse 2000; CCC SMR). A major Iron Age settlement at Belhus Hill in neighbouring Abington Pigotts flourished until at least the 4th century AD (VCH 7, 58). There were Iron Age sites elsewhere in the area, notably west and south-east of the present village, suggesting a dispersed pattern of settlement in this period (CCC SMR). The triple Mile Ditches, running from Therfield Heath to Litlington, are also believed to be Iron Age in origin (Bryant & Burleigh 1995; Hesse 2000).

In the Roman period, a large villa was built at Litlington, on the west side of the present settlement (VCH 7, 46). The main building had at least thirty rooms arranged around a courtyard and occupied an area 150 x 90m, and it was furnished with a bathhouse, and mosaic and tessellated pavements (ibid). The tenantry were buried in an extensive walled cemetery nearby at Heaven's Walls on Ashwell Street, while at Limlow Hill a large conical barrow within an enclosure may have served as a burial site for at least some of the villa owners.

Anglo-Saxon occupation of the area is indicated by a boar figurine, probably a helmet mount, which was discovered in a burial at Guilden Morden in 1908, and a collection of five or six *sceattas* found in Bassingbourn (Foster 1977, 166–7; CCC SMR). This brief summary does not include a wealth of other prehistoric and historic features known from aerial photographs and other sources (CUCAP; CCC SMR; Taylor 1979, 37).

The estate unit fossilised in the present parish has Anglo-Saxon origins. The name of the Litlington/Bassingbourn parish boundary – called

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Litlington Mere in 1570 (CRO P11/28/1) – utilises the *gemaere* element and may indicate an early to middle Anglo-Saxon date for the origin of this unit, perhaps as a subordinate element within a multiple estate (Reaney 1943, 28 and 338). The place-name, first recorded in 1086, was *Lit(e)lingetona* – 'the farm of the people of Lytel(a)' (Reaney 1943, 57). Gelling has commented that 'these names can date from as early as the eighth century but they were certainly still being formed in the tenth and eleventh centuries' (Gelling 1993, 56).

Before 1066 Earl Algar held the Manor of Litlington, which was assessed at 5 hides.[1] It was made up of nearly the whole of Litlington together with another three virgates (90 acres), some of which was in Guilden Morden and some in Abington Pigotts. The Litlington manor was the demesne farm of a much larger estate, about half of which was sublet to Goda and centred on Shingay. Litlington's 11th century manorial status was further underlined by the composition of its dependent population: there were 26 villeins, 11 bordars and 6 serfs, in contrast to the Earl's other holdings, which had no villeins. It is tempting to infer that this late Saxon manor was the administrative descendent of the Roman villa estate. There is, however, little to support this conclusion and some tentative evidence to contradict it.

First, there is no evidence that there was a manorial centre at Litlington in the early or middle Anglo-Saxon period, as one might expect if there were continuity of administration from the villa estate into the later Anglo-Saxon period. Litlington – along with the other parishes in the study area – was held exclusively by the West Saxon royal family (or its closest courtiers) in 1065, and this makes it likely that it was part of a large estate, centred on Steeple Morden, acquired by the house of Wessex after the reconquest of this part of the Danelaw by Edward the Elder in 917. Litlington's detachment from the estate centre is likely to have been relatively recent in 1086. Steeple Morden, for example, was not granted away from the royal family until 1015.

Second, the land of middle Saxon multiple estates was divided into 'inland' and 'warland' (Faith 1997). 'Inland' was farmed directly from the estate centre and generally found food rents for the owner; it is this core land which was most likely to represent continuity of administration from Roman to Anglo-Saxon owners. 'Warland', by contrast, was devolved to tenants of varying status, including sokemen, who performed a variety of functions for the estate owner such as finding escort, carrying services or paying wardpenny. Earl Algar's manor at Litlington 'paid wardpenny to the King's sheriff or did ward' and Litlington must have originated as 'warland' (VCH 1, 416–7). Its 11th century manorial status was probably relatively newly imposed upon it, rather than derived from an older 'inland' or demesne status. This slight and tangential evidence suggests that it is more likely that the manor at Litlington was created after 917 than before. This is consistent with Gelling's comments on the dating of the *ingtūn* place-name element cited above.

At present, therefore, it seems likely that Litlington was one of a number of subordinate units within a middle-Saxon multiple estate which was acquired by the kings of Wessex after 917. At some time between 917 and 1066 it was granted away as an independent estate, perhaps in the 10th rather than the 11th century, since its name does not seem to refer to the Earls of East Anglia who held it in the mid-11th century.

After the Norman Conquest, Litlington was held directly from the king, at farm, by two new tenants: William the Chamberlain and Odo the Goldsmith (Rumble 1981, 1:18). There is no documentary reference to suggest whether these two royal tenants farmed the estate as a single unit and simply divided the income it generated between them, or whether they divided the land physically and farmed each half separately. Litlington was treated by the Domesday Commissioners as a tenurial whole since it remained part of the royal estate.

However, the possibility that the manor was divided into two physical parts immediately after the Norman Conquest receives slight, inferential support from its later history. By 1147 it had been granted to the Honor of Gloucester, and perhaps by as early as 1166 it had been granted to Hamon de Valognes, the Earl's constable (VCH 8, 55). Hamon de Valognes subinfeudated half of the manor almost at once and this may mean that it was already physically divided when he received it. These two halves were later named Huntingfields and Dovedales Manors after medieval owners.

An 11th-century creation of two manorial blocks may also be inferred from the history of the church and its relationship with Huntingfield's Manor. The church was first mentioned in 1168 and contains architectural fragments of the 12th century (VCH 8, 63). The land belonging to the church – the vicarage, rectory and churchyard – forms a regular block *overlying* the northern boundary of the demesne of Huntingfields Manor (CCRO Q/RDc 46) (map). This implies that it was laid out after that manorial site had been created. Furthermore, the patronage of the church was retained by the earls of Gloucester after 1166, and this also suggests that the church was already built when Hamon de Valognes received the manor from the Honor of Gloucester in the same year. Since the church was built by the mid 12th century, and since its site overlies Huntingfields, this implies that the sites of Huntingfields – and, by inference, Dovedales – were laid out before that date, perhaps at the time of the post-Conquest grant to William and Odo.

Factors influencing the origin and development of the post-Conquest settlement

Two earlier features, one man-made and one natural, influenced the morphology of the medieval settlement at Litlington. The first was a pre-existing field system, and the second was a large, irregular area of

ill-drained, hummocky ground along the spring line.

1. A pre-existing field system

The landscape of this part of southern Cambridgeshire incorporates the multiplicity of south-westerly/north-easterly routes which ran along the Chilterns, known as the Icknield Way (Taylor 1979, 36–39). The present A505 fossilises one of these routes; others have been lost, but at least four – linking common pastures along the spring line – survived to cross Litlington from neighbouring parishes. These are Ashwell Street, now much straightened (Fox 1923, 147–8); the footpath which enters Litlington from Guilden and Steeple Morden south of Huntingfields Manor (its alignment preserved by the Bassingbourn/Kneesworth road). A third runs approximately along the present road from Steeple Morden, past Dovedales Manor. This veers north-east to join a fourth track running along the meadow in the north of the parish which leads towards North End and Richmonds Manor in Bassingbourn (Crawford 1937, map). Others can be inferred from footpaths. The existence of large areas of land more suitable for pasture than for arable in Litlington and its neighbours may have meant that a multiplicity of informal routes connected commons both within and between these parishes.

North of Ashwell Street, the medieval fields were arranged in long narrow furlongs on a south-easterly to north-westerly axis (Crawford 1937). The furlong boundaries and their internal divisions (the latter running parallel to Icknield Way and its subordinate routes) created a 'ladderlike' framework underlying the whole parish at right angles to the general direction of Icknield Way. An early date for this system may be inferred from the fact that the west and east parish boundaries generally follow, and are presumably contemporary with, or later than, these field boundaries. The pattern extends into neighbouring Bassingbourn and Steeple Morden, as far east as Thriplow and Whittlesford and west towards Guilden Morden, Dunton and Eyeworth (Hesse 2001; OS TL24/34 and 44/54). The medieval settlement in Litlington overlay two or three of these 'ladders' (Map). The first lies south-east of the village, bounded on the north by the Bassingbourn Road, while the second is bounded on the east by Church Street and on the north by the road to Steeple Morden.

2. The influence of the spring line in creating an area suitable for common pasture

The settlement lies at the point at which this underlying framework was disrupted by the effects of the spring line, creating a large area of 'hummocky ground' between the 'ladders' (Taylor 1981). Hummocky ground is most pronounced at springheads and close to streams all over south Cambridgeshire. It is found where the freeze-thaw conditions of late glacial and periglacial times created pingo-like features in areas prone to waterlogging. These ice lenses, their weight compacting the land beneath them, and leaving a hollow when they melted, created ground that was poorly drained and difficult to cultivate, more useful as pasture than as arable. The effect of this in Litlington was to form a very large area of open pasture, perhaps underlying most of the present settlement site.

The original limits of this pasture or common are unknown. By the late 11th century it probably extended at least as far as the northern boundary of D'Ovedales Manor to the north[2]; the eastern boundary of old enclosures in 1830 on the east; and the western boundary of Huntingfields Manor on the west (see below). By the early 19th century, relics of this pasture survived at the intersection of Cage Lane and Church Street, and at the intersection of Cage Lane and Meeting House Lane. The irregular property boundaries characteristic of encroachment on open ground suggest that the area enclosed by Silver Street, Church Street and Cage Lane was also once part of the common, perhaps extending as far south as the line of the route from Bassingbourn to Steeple Morden, discussed above.

The origins of the present settlement

Litlington appears to have originated as a planned, nucleated settlement within which three distinct areas may be discerned: a manorial centre, and two planned blocks of occupation for villeins (villagers) and bordars (smallholders) respectively.

a. The Manorial Centre

Between Church Street and South Street lies an area of confused roads, footpaths and property boundaries. Careful analysis however reveals an irregular polygon defined by Church and South Streets on the west, south and south-east, Meeting House Lane to the north-east and Cage Lane to the north-west. These streets form a continuous boundary, an indication that they may once have formed a large enclosure in the southern central part of Litlington. A similar street pattern exists at Godmanchester, where traffic was diverted around the walls of the small Roman town by the barrier which those walls represented (Green 1977, 27–8 and 30). It is not suggested that there was a Roman town at Litlington, although it is suggested that the same process was at work here. That is, that the definition of an irregular area, perhaps by a fence or hedge, interrupted traffic along the natural routeways through the settlement, and travellers were simply forced to go around the impediment. Ten out of thirteen internal boundaries within this polygon butt up against the boundary at right angles, confirming that they are later subdivisions of this area.

The irregular outline of this block is very like that of manorial demesnes laid out in Suffolk in the middle to late Anglo-Saxon period, often in close association with commons (Warner 1987). Similar features appear to be common in Cambridgeshire too (Oosthuizen 1994, 1996; Taylor and Oosthuizen, forthcoming). If so, the period of its formation is consistent with the place-name evidence, discussed above, of an

8th to 10th century date for the formation of the Anglo-Saxon estate, perhaps following with the West Saxon reconquest of the Cambridge Danelaw in 917.

Alignments of boundaries inside this unit with roads and footpaths outside suggest that it lay across one of the many intersections of north-south and west-east routes across the parish. An early west-east route is suggested by the footpath which enters Litlington from the west, forming the northern boundary of the bordar plots. Its alignment is taken up by continuous property boundaries across the putative demesne block (south of 57 and 55 and north of 56 and 54, and south of 47, 48, 46 and north of 50 and 49).[3] To the east it forms the southern boundary of 103 and 104, suggesting that the Bassingbourn road was diverted a little to the north of its original course by a northward extension to the villein settlement. This line effectively bisects the demesne. Next, the demesne is crossed on a north-south axis by the southern section of Malting Lane, whose alignment was continued in 1830 by a lane running north from Burrs Lane to Dovedales Manor. Today the connection between the two lanes has been interrupted and diverted along the north-west section of Malting Lane. To the south the lane's alignment is continued by the boundary between 91 and 98 on the west and 92 and 99 on the east.

b. The villein holdings

A block of planned settlement lies south-east of the present settlement and south of the Litlington road between properties 103 and 104 in the north and 116 in the south. Deliberate planning is revealed by the way in which these properties all share a common front and back boundary, and are of a common – or multiples of a common – width. The front boundary was a lane, much of which survived until enclosure, while the continuous back boundary was defined by the surrounding arable (CCRO Q/RDc 46). In 1830 this block contained 13 properties of varying acreages. If, however, properties 105, 109, 110 or 112 are representative of the original width of these holdings (since they are all about the same area), then there were originally probably some 23 plots of about an acre each in this block. There were 26 villeins in Litlington in 1086. The relatively large area of each holding supports the suggestion that this block may have been laid out for the pre-Conquest manor's villein tenants.

There is other evidence to support the suggestion that this block was originally in domestic occupation and may have been held by villeins. In 1830 some had names ending in 'croft', indicating that they may once have been the sites of houses (Field 1993, 20). Settlement appears to have shifted away from this area by the late 16th century, if not earlier, since none of the properties with 'croft' names also had rights of common in 1830. However, about half the enclosed copyhold land in Litlington was clustered in this area and, while not conclusive evidence, it may just represent those villein tenants who could not afford to enfranchise their holdings in the later middle ages.[4] (The regularity of a similar block to the west (between 89 and 97, and 96 and 102) is not the result of settlement planning. It was enclosed from arable land between about 1577 and 1653 (VCH 8, 59). None has a 'croft' name, and one is called Saffron Close, underlining its post-medieval origins.)

At some time after it was laid out, the block was extended northwards by the addition of plot 104, thus diverting the Bassingbourn Road a little to the north. It may also have been extended further to the south, since there was an isolated island in 1830 of three closes in the field south of the village whose front and back boundaries aligned with those of this block (CCRO Q/RDc 46).

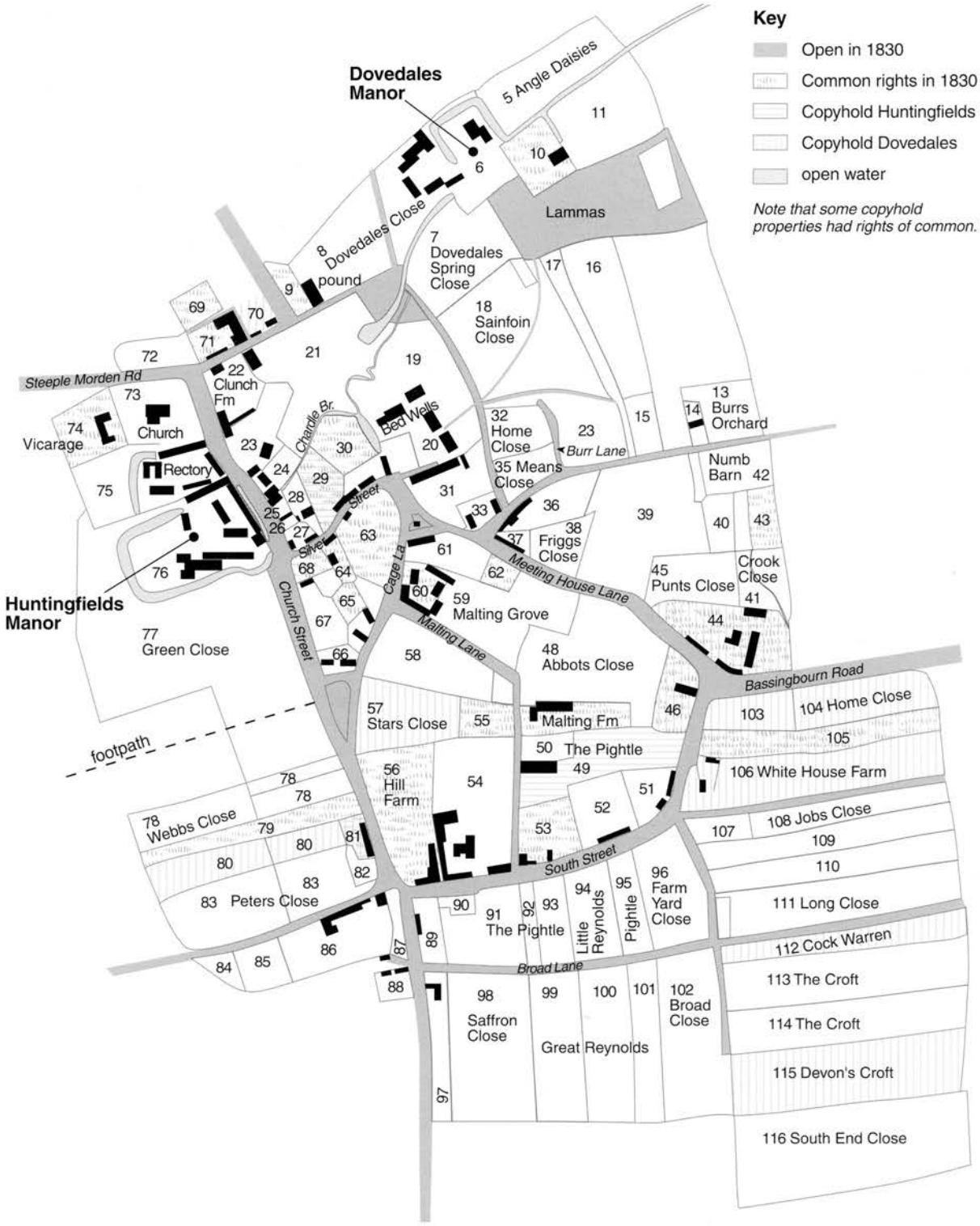
c. The bordar holdings

A second block of planned settlement lies west of Church Street between properties 78 and 82 to 83. It also appears to have been extended: the southern boundary of properties 84 to 86 south of the lane curves north at its western end to align with the corresponding curve of the western boundary of the main block. It thus forms a continuous back boundary with the block north of the lane. Church Street forms a common front boundary for most of these properties except for those bounded by the dividing lane. Holdings near the lane have been subject to later subdivision, settlement within them turning to face the lane.[5]

By 1830 this area had been divided into thirteen closes and messuages of irregular acreages, but property 79 – the most regular of all the surviving closes – may be representative of the original area of properties in this block, at about two roods. If so, there may have been nine properties in the northern block when it was first laid out, while the extension to the south will have added another three. There were eleven bordars in 1086. Perhaps significantly property 79 had a common right in 1830, and the properties immediately to the south (80 and 81) were all copyhold at the same date. The identification of this block with bordar settlement is further suggested by the smaller area of these properties compared with those east of the settlement; they are about half the size of the suggested villein holdings. The paucity of both copyholdings and common rights in this block indicates that it too, was subject to significant settlement shift before the later 16th century.

Summary and conclusion

In the Roman period Litlington was probably the centre of an estate focused on a substantial Roman villa which lay on the west of a large irregular common pasture. That estate seems to have disintegrated at the same time or soon after the villa was abandoned, since there is no indication of continuity of administration of the area into the Anglo-Saxon period. By the middle Anglo-Saxon period, Litlington appears to have been part of the 'warland' of a large multiple estate, centred on Steeple Morden. The tenants of the Roman and the middle Anglo-Saxon estate almost certainly



Map. Litlington, South Cambridgeshire in 1830 (after CCRO Q/RDc 45)

lived in hamlets and farmsteads dispersed about the parish (Taylor 1983, Ch.8).

By the late 10th century the parish formed the manorial centre of a large estate of 20 hides and it seems likely that the detachment of this estate from Steeple Morden occurred after the West Saxon reconquest of Cambridgeshire in 917. The arguments for the creation of a late-Saxon manorial enclosure have been explored above, and, perhaps significantly, locate the movement towards a new manorial centre in roughly the same period as the creation of the placename. It may be significant that the putative Anglo-Saxon centre lies within 200 yards of the Roman villa, but it may simply be coincidence based on a common attraction to the large area of hummocky pasture ground.

It is likely that nucleation of the settlement occurred before the Norman Conquest. The blocks of possible villein and bordar occupation are each in single blocks, on either side of the demesne block. This physical relationship, and the close correlation between the numbers of Earl Algar's tenants and the number of properties in each block, implies that they were laid out before the manor was subdivided after 1066. It is impossible to know whether these three elements were laid out at the same time, or whether the manorial centre preceded the blocks of dependent tenantry. The villein and bordar blocks were unlikely to have been laid out after the Conquest, since the tenants of Dovedales and Huntingfields Manors would have been more likely to have been settled alongside each manor; that is, they would each have formed the focus of a separate planned settlement as happened, for example, at Duxford, Cambs. (Taylor 1977, 190).

A more precise date for this planning may be inferred, from the close correlation between the late 11th century villein and bordar population, and the number of properties in each block. Each had been extended to achieve the late 11th century numbers, which implies that they were laid out one or two generations before the Norman Conquest. Nevertheless, the relatively small difference made to the number of properties in each block by the additions, and the relatively close correlation between these numbers and the 1086 tenantry, suggests that the planning is unlikely to have been undertaken much before about 1000 AD.

After 1066 the Anglo-Saxon manorial demesne was abandoned, and new 'manorial' centres were laid out at (what later became) Huntingfields and Dovedales manors on the west and north of the common respectively, for the two Norman sub-tenants of the new king. This was a precursor of the later development of polyfocal settlement in Litlington.

The villeins and bordars seem to have continued to live in the planned settlement areas laid out for them for as long as there was direct manorial control by the two manors of these tenants. For example, in 1279 villeins' labour services were still exacted on all the manors (VCH 8, 59). Some population increase may have been accommodated by encroachment on the periphery of the common, since Hill Farm (Hellecroft) was mentioned in the 13th century (Reaney 1943, 68). There are indications that this control had, however, slackened by the early-mid 14th century. The owners of Huntingfields Manor were minors between 1316 and 1327 and again between 1337 and 1351, and the Manor was presumably let out or controlled by trustees; it had been alienated perhaps as early as 1368 (VCH 8, 57). Fifteen half-yardlands were sold to their tenants in the 1320s and between 1378 and 1392, and on Huntingfields Manor all the customary works were commuted for cash by 1337 (VCH 8, 59). This is the period in which place-names mark settlement shift and encroachment onto the common: Alan de Chaldewelle lived near the Chardle Brook in 1327, South End and Punts Closes were first mentioned in the 14th century, and Church End and South End were each first mentioned in 1378 (Reaney 1943, 58 and 358; VCH 8, 54).

The relationship between enfranchisement and settlement shift is interesting. There was little coincidence in 1830 between copyhold properties and properties with rights of common. It seems that these rights were restricted to enfranchised properties, since there do not seem to have been any new common rights created for sheep after 1578 when sheep were stinted to men 'having *their own arable* to plough [who] might keep more than four' (my emphasis; VCH 8, 60).[6] The distribution of rights of common therefore reveals a pattern of settlement shift of enfranchised copyholders who moved nearer the common pastures as soon as they freed themselves from manorial constraint. Population decline in the same period may have been a contributory factors in the desertion of the earlier planned elements and shift to other parts of the settlement. There were fewer common rights in 1830 than tenants in 1150, even though the number of households in the parish had increased after the 1570s.[7]

The 320 sheep on the demesne in 1086 and the 31 peasants who contributed to the wool levy in 1347 underline the importance of rights to common pasture in the parish from an early period (VCH 8, 60). The right to graze cattle was not stinted until the late 18th century, since there was sizeable grazing on the common within the village and on the pastures of Bergh Meads and Cow Common in the north of the parish (Hesse 2000). Unlimited access to pasture for cattle may help to explain the development of further unplanned settlement on the edge of the common. This affected the area between Silver Street and the Chardle Brook, limited by Church Street to the west and a nodal point of access routes at about Bedwells, where Silver Street meets Malting Lane and Meeting House Lane, as well as by two footpaths, leading north-east and east respectively.

By 1830 Litlington had evolved into a polyfocal settlement with three late- or post-medieval foci, while the early medieval planned elements lay largely unoccupied. These new foci lay (1) along South Street and the southern part of Malting Lane; (2) on the common south of the Chardle Brook east of Huntingfields Manor; (3) at Dovedales Manor. The irregular property boundaries of the encroachments on the common pasture south of the Chardle Brook and on the former pre-Conquest Manorial demesne shows that this development was gradual and unplanned.

Endnotes

1 One hide is equivalent to 120 acres in Cambridgeshire (VCH 1, 341).

2 Dovedales was situated on meadow land immediately north of the Chardle Brook, which has been redirected to feed the moat. The curving boundary north of Dovedales, whose funnel shape narrows towards its western end, is suggestive of an entrance to pasture (CRO Q/RDc 46). The village pound was situated west of Dovedales where the funnel is at its narrowest (see map), supporting the identification of this part of the settlement as common pasture

on which the Manor encroached, since communal facilities like the pound are usually found on a green or common (ibid).

3 The property numbers cited in the text and on the map refer to those on the 1830 enclosure map (CRO Q/RDc 46).

4 Virtually no copyhold belonging to Huntingfields Manor survived within the settlement in 1830, except for three properties: 24, 29 and 49; a little more copyhold belonging to Dovedales still existed as shown on the map.

5 Crawford's map shows this lane continuing across the open field furlong to the west.

6 The number of households appears to have remained more or less constant from 1086, when there were 37 tenants, until the 16th century, when there were 36 households in 1563 (VCH 8, 54). However, there appears to have been a sharp rise in population in the later 16th century, since there were about 60 households in 1600 (ibid.), and this is likely to have been the trigger for the restriction of rights of common. There was a similar pattern of events at Bassingbourn, where no new common rights were created after 1634 (VCH 8,).

7 By 1830 there were only 24 surviving rights of common, although there were about 120 households in the village in 1831 (CRO Q/RDz 10; VCH 8, 54). This number is less than both the number of households in 1086 (37) and the number of tenants in 1150 (at least 32), and this suggests that there had been some attrition of population in Litlington. A 14th century date for this decline is suggested both by the enfranchisement of tenants in that period (since a declining population would have had more leverage on manors desperate for labour than a high population) and by the known decline in the population in general between about 1300 and 1400.

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Gateways to Heaven: the approaches to the Lady Chapel, Ely

Philip Dixon

Surveys of the Lady Chapel and Choir at Ely Cathedral, accompanying an excavation of the area where the new Processional Way and Services has now been constructed, have revealed new evidence for the dating, sequence, and ritual arrangements of this part of the cathedral in the early 14th century. This paper shows that the architect of these works designed two separate entrances to the Lady Chapel, in order to segregate the monks from the laity.

For nearly 450 years access to the Lady Chapel at Ely Cathedral has been through a low doorway hacked roughly into the back of one of the niches at the south-eastern corner of the Chapel, an undignified approach into one of the great glories of English Decorated architecture. The original entrance is visible in the centre of the southern side; this is an elaborate double portal with a figure on an elaborate corbel facing the direction of arrival. Until the rebuilding of this part of the Cathedral during the latter part of 2000, this double door simply gave access to a post-Reformation vestry. The southern end of the original access to the Lady Chapel was always visible in the northern aisle of the Choir. This highly decorated and painted grand entrance had been blocked up (probably at the Reformation), and then provided with a small service door by Scott during the repairs of the mid 19th century. Occupying much of the space once taken up by the passageway which linked these two openings was a late Victorian blower chamber for the organ, largely unused and decidedly lacking in quality. During 2000 the blower chamber was demolished, the site was excavated, and a new passageway built to connect the Choir and Chapel in a fitting way. Before these works began a general survey of the buildings was carried out by the writer, in collaboration with John Heward. The present account draws on all these projects to outline a particular problem: the way in which different groups of people entered the Lady Chapel in the Middle Ages.

The upper door from the Choir

A little above head height in the first bay from the Octagon, at the west end of the Choir, in the north wall is a blocked doorway. This was the entrance to a bridge or flying gallery which ran from the Choir along the east front of the adjacent North Transept to the south-western corner of the Lady Chapel, and from there along the side of the Chapel almost as far as its East End. The sill of this blocked door is a little more than three metres above the paving of the north aisle. On the choir side of the door the springers for vaulting across the Choir aisle still survive, and a long slot in the wall suggests that the vaulting was created in timber. Where the southern side of this vaulted arch rested remains uncertain. The angle of the springing suggests that the bridge should have come into contact at least with the eastern side of the first pier of the main choir arcade. No signs of that are now visible, but the pier has been restored at this point (probably by Scott), and a scar may have been removed. Atkinson, however, in his plan of this area shows the bridge ending in a spiral within the aisle.

This conjecture has the advantage of allowing the bridge to avoid the arcade pier, but it would be quite awkward to fit both an arch and a stair into the aisle, which is only 5m wide. Furthermore, no signs of this arrangement remain in the surviving slabs of the flooring below, which has the position and shape of the bridge marked out in cut slabs: these appear to be medieval. On the whole, therefore, it seems better to suppose that the bridge cleared the aisle and ended at the arcade, and that some staircase from the end of the bridge was contrived from within the choir itself. This point would be immediately to the north of the altar of St Peter in the Monks' Choir, as shown in fig. 1.

The Bridge

On the outer side of the door, the north-east buttress of the Octagon comes down hard against the doorway's western jamb, and the projection must have partially blocked passage along the bridge (fig. 6 and fig. 7). Carefully angled springing, in consequence, supports the bridge around the buttress. From this point northwards there are no traces of the bridge until the south-western corner of the Lady Chapel. At this level the original wall face of the North Transept survives largely intact, and so the absence here of tusking, creases or other scars shows that the bridge was carried across

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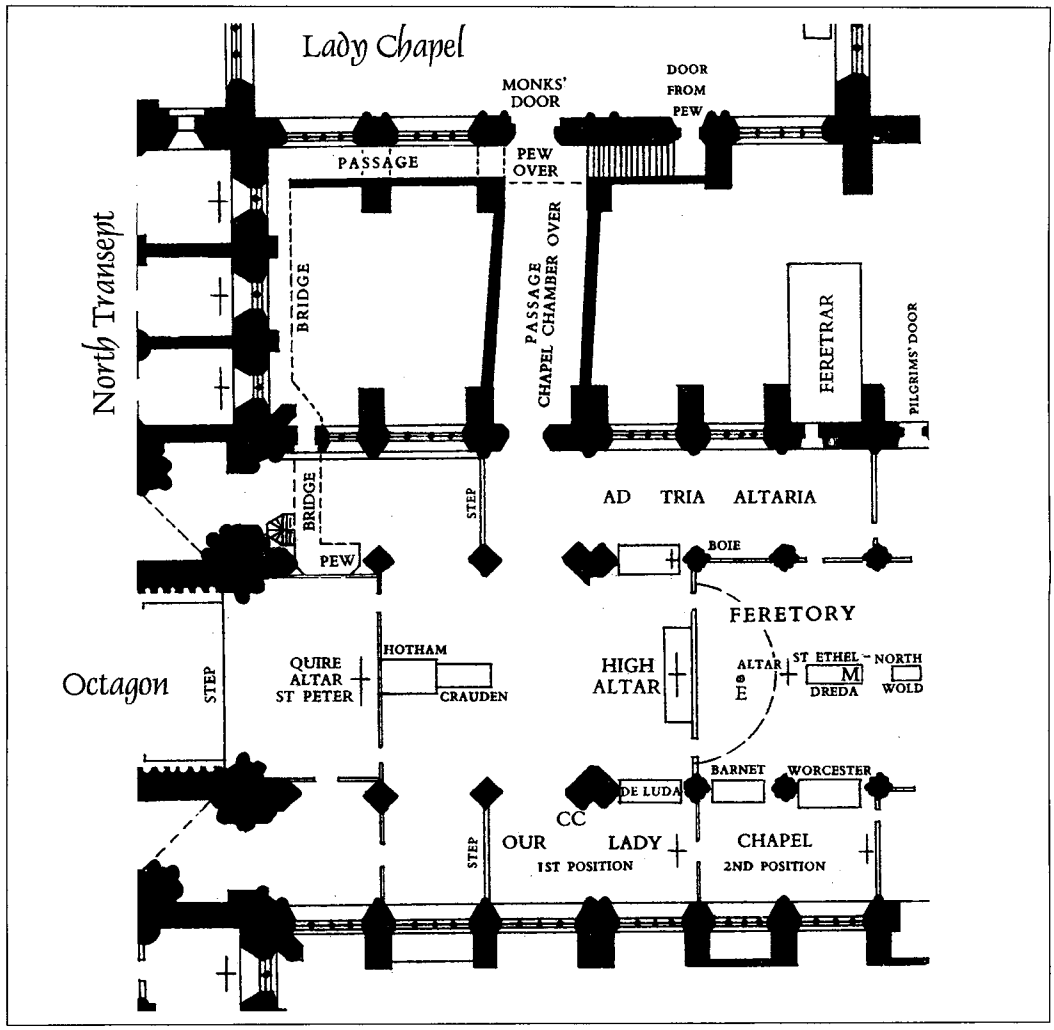

Figure 1. The medieval arrangements of the Eastern Arm of the Cathedral, showing the awkward placing of the old Lady Chapel, based on a drawing by TD Atkinson

the face of the transept as a wholly free-standing structure, apparently no more than two metres broad, and a little less than a metre to the east of the transept. This must have been an elegant almost flimsy structure. It was perhaps roofed, but there are obviously no surviving traces of this, and the reconstruction must be based only on the evidence of roofing of the northern run of the bridge, against the side of the Lady Chapel.

At the re-entrant angle between the North Transept and the Lady Chapel [in what has been used as the post-Reformation vestibule to the Chapel], the bridge reappears as a scar, with the shape of an arch, almost 5.4 metres long, running east-west on the Lady Chapel wall. Three of the four supports of the arch are preserved. The fourth, to the south-east, is missing. Its position is close to a post-Reformation doorway through the east wall of the Transept, and all traces of the bridge at this point seem to have been removed by the stoning up of the jamb. The scar on the eastern wall of the vestibule shows that the bridge was 1.78 metres [6 feet] wide overall at this point, with a walkway of a width of about 1.65 metres [5 feet 6 inches], wide enough to walk two abreast along it. How the right-angled junction between the eastern and the northern runs was achieved is not at all obvious. The simplest fashion would be to set the fourth, south-western pier about 2 metres short of the corner, thus making the inner, freestanding, arches smaller than the outer arches against the walls of transept and Lady Chapel.

It is not certain how the underside of the bridge was constructed, but there are reasons to suppose that it was finished with a diagonal rib from each impost. This would have produced a simpler version of that vaulting which still in part survives in the original entrance vestibule [that is to say, the rebuilt vestry]. In this case the vaulting at the corner would be an interestingly complex task, sketched below, fig. 2. Alternatively, the north-south running bridge could have been finished at a point about two metres from the Lady Chapel wall (where the post-medieval door has removed evidence of abutment), and the corner could have been formed by shortening only the outer

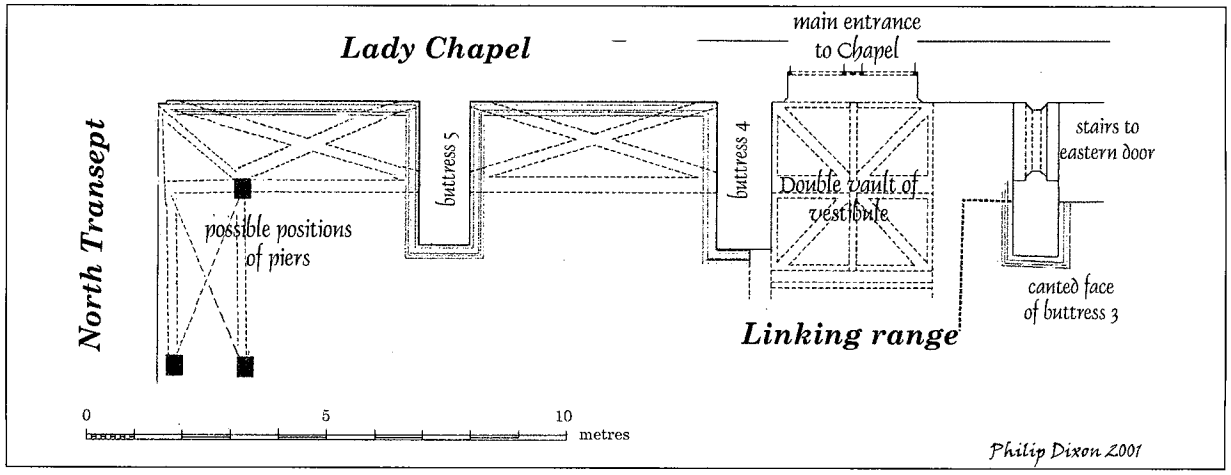

Figure 2. The vaulting of the Lady Chapel Bridge, showing the relationship with the linking range

arch of the east-west bridge against the Lady Chapel. However, in that case one would have expected to find either a scar on the transept to match that on buttress 5, or the creation of a separate square bay at the angle, leaving evidence on the wall of the Lady Chapel. In either case the visible external arch of the bridge in bay 5 would be no more than 3.5 metres [5.4 metres, less *c.* 2 metres], about a metre and a half shorter than the other arches of the bridge, which are all about 5 metres in length.

Once past the corner, the bridge passed through the adjacent buttress by a round-headed arch, now glazed to light the space which was used by the townspeople as the entry to the Lady Chapel after the Reformation (fig. 3 and fig. 4). Beyond this point the bridge extended through a space between buttresses, an area since the 19th century used as a staff room. Traces of the bridge, very similar to those in the vestibule, are visible on all three walls (fig. 5). Two differences are clear. The arch was almost 500 mm shorter, matching the spacing of the buttresses. The strongly accented upper moulding of the buttress, which forms the western wall of the staff room, was carried up vertically at a position which must have led to its forming the outer order of the moulding of the bridge arch. This detail and other variations, such as the absence of a plinth further to the east [in the 'flower room'], show that the bridge was an integral part of the planning of the Lady Chapel, and that preparations were being made for it as soon as the walling had extended above ground level. This was presumably after the first season or so of building. This is a very important point in understanding the phasing of the work, and is discussed below.

From the staff room the bridge passed through a further round-headed doorway in the next buttress, and came into the space used until 1999 as the Lady Chapel Vestry. Here the traces on the walls show a quite different arrangement. Instead of a single arch on the face of the buttress which forms the western wall of the Vestry, there are two, showing that the bridge was at least doubled in width at this point (fig. 2 and fig. 3). The buttress itself is wider than the one to the west, and part of its southern face formerly extended further southwards (as would be necessary to support the southern side of the additional vault). The width of this doubled section of vaulting is shown on the northern face of the Vestry, where the original double door entrance to the Lady Chapel is surmounted by an arch with a span of about 3.3 metres. The result must have been to produce a double vault leading to the double doors. All trace of the eastern wall of this vault has now disappeared, but it is clear from the evidence on the buttress at the eastern side of the Vestry that the bridge from here eastwards was again only of a single width span. The double vault must thus have formed a deep projection extending over a little more than half the space between the third and fourth buttresses.

On the northern wall of the Vestry a series of scars and roughly smoothed masonry show the position of the first steps of a stair descending from the bridge height of about 3.25 metres towards a round-headed doorway in the eastern buttress of this bay. This door sill lies at about 1.8 metres above floor level. The stair must have continued approximately 1.7 metres beyond this buttress, into the space now called the Flower Room. The face of the Lady Chapel wall here, however, shows no signs of a plinth, and therefore the wall was not regarded in the same way as the rest of the Lady Chapel, but was seen as internal. The eastern side of the buttress, unfortunately, has been completely rebuilt in brick, and no evidence of steps survives. It therefore seems likely that the lower part of the stair was either of stone unbonded into the walling, or of some other material, such as timber. The bottom of the stair (assuming a regular series of steps) would have been at least one metre short of the eastern door of the Lady Chapel. This would have allowed something of a dignified or measured approach, and not a short stumble into the entrance of the Chapel itself.

The details of the remainder of the bridge are clear enough from the evidence described in the previous sections. The roofing, however, needs further discus-

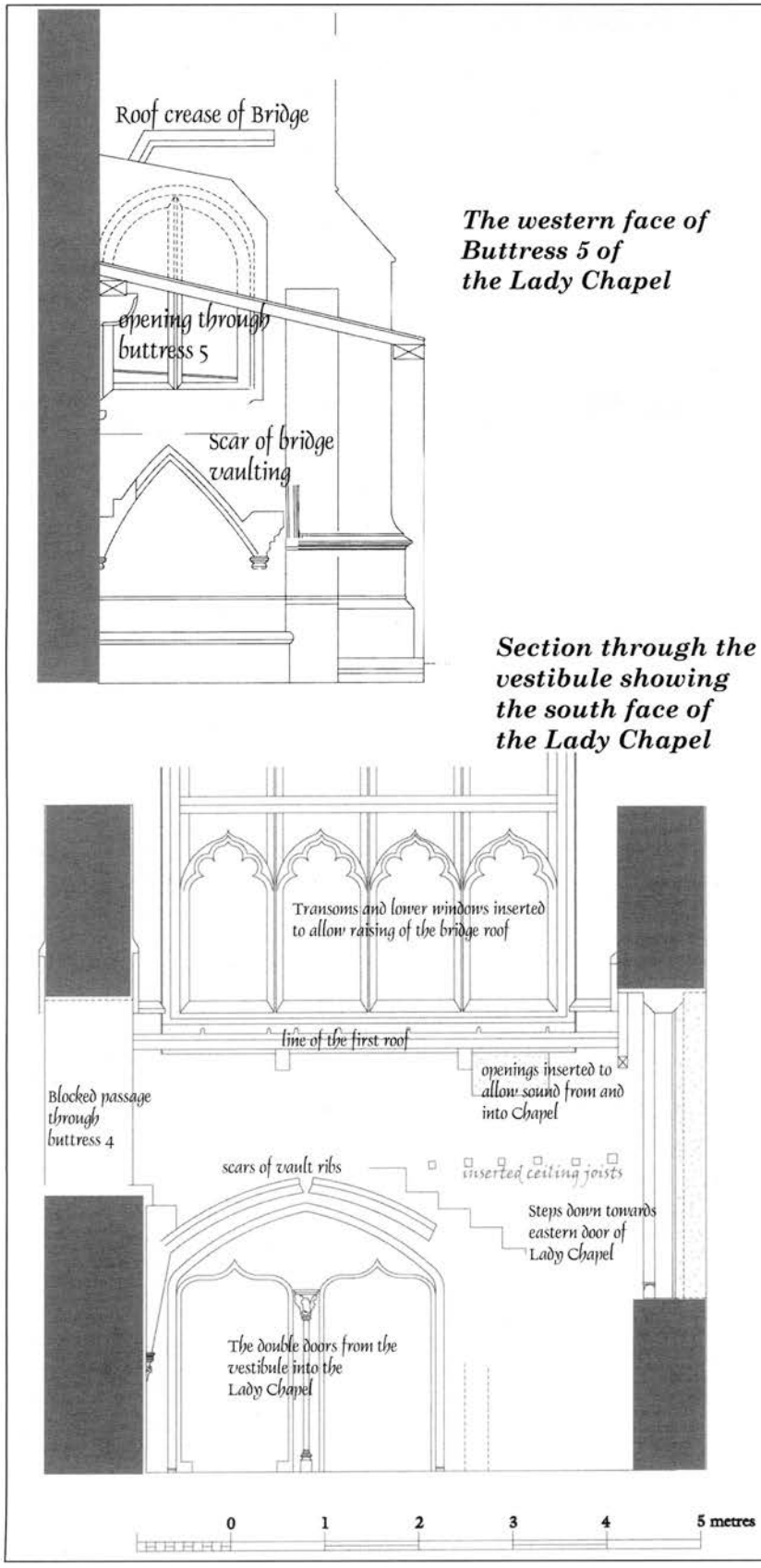

Figure 3. *Elevations of the traces of the Bridge on the walls of the Lady Chapel: based on survey drawings by John Heward*

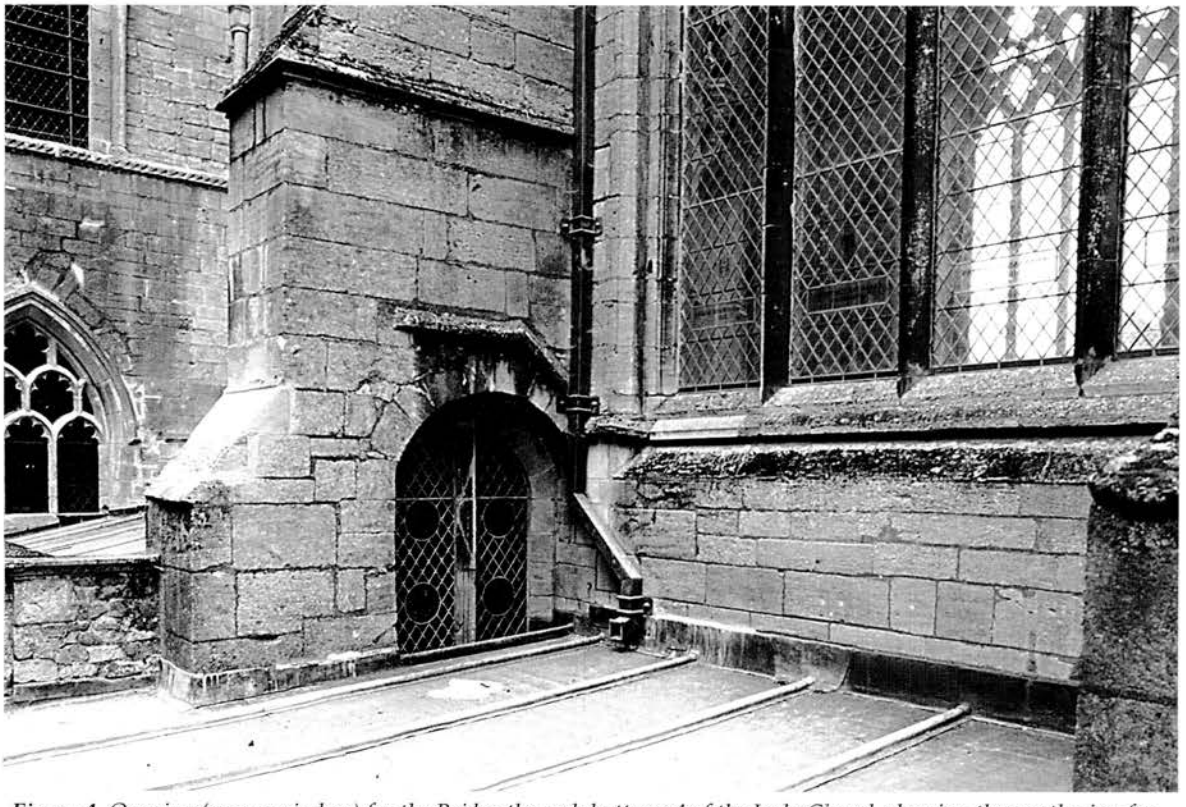

Figure 4. *Opening (now a window) for the Bridge through buttress 4 of the Lady Chapel, showing the weathering for the roof, and the lead groove below the Chapel window. Photograph Philip Dixon*

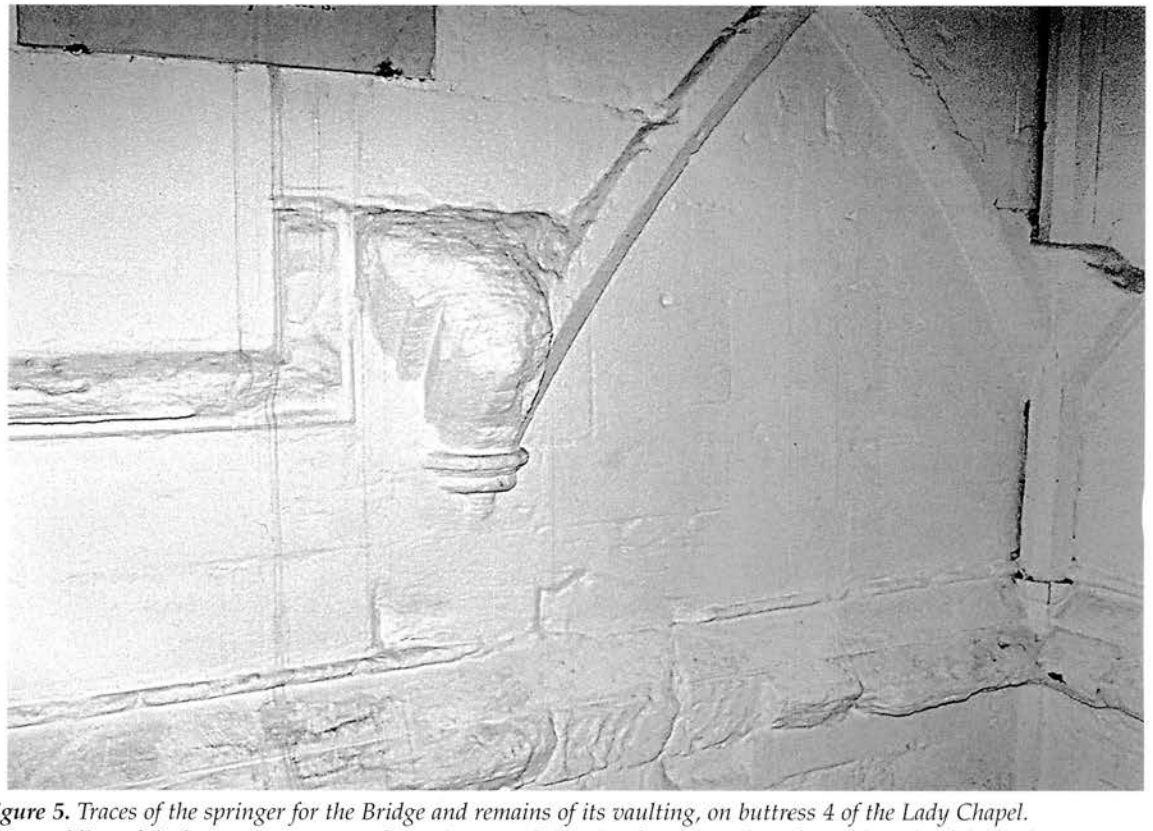

Figure 5. *Traces of the springer for the Bridge and remains of its vaulting, on buttress 4 of the Lady Chapel. The moulding of the buttress runs up to the springer, and then is taken upwards to frame the side of the bridge, demonstrating the contemporaneity of the two. Photograph Philip Dixon*

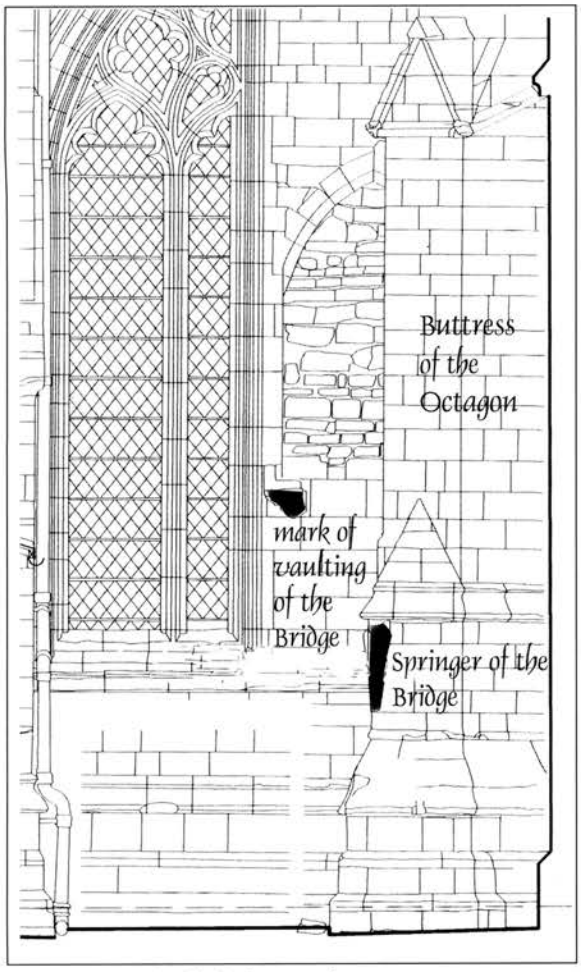

Figure 6. *The blocked upper door and adjacent buttress of the Octagon, from outside, showing the springers for the Bridge vaulting*

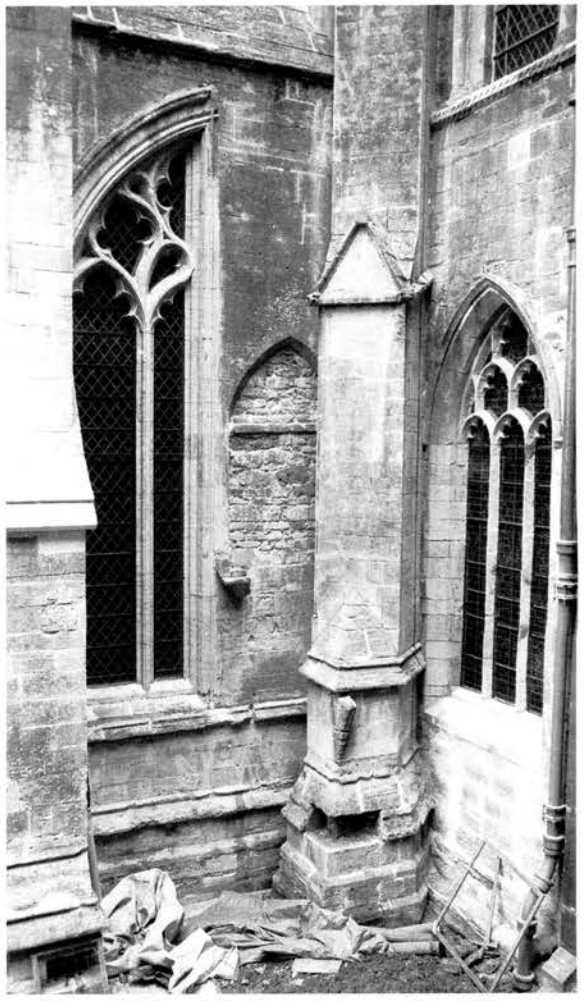

Figure 7. *View of the blocked door and the Octagon buttress. Photograph Philip Dixon*

sion. In its original form the roof over the centre of the bridge was flat, and about 1.2 metres wide. To its north, against the south wall of the Lady Chapel, the roof sloped down nearly 800 mm, in order to clear the sill of the chapel windows. How this concealed valley was drained is not clear, but some arrangement of downpipes to clear the bridge would be possible: a later downpipe of this sort is visible in the eastern face of the fifth buttress. This was introduced at a period, probably in the 18th century, when the present Staff Room was part of the open court. The outer, southern side of the bridge is more of a problem, since it is hard to show that originally it was ever enclosed. It would be possible to argue that the roofing ended with the flat top, leaving a draughty open side. The holes now visible in the buttresses probably held a timber wall plate, but these may represent a modification of and improvement to the bridge, which need not, of course, have been long in coming.

The reconstruction drawing [fig. 9] shows the southern side enclosed, in the form in which at least later it assumed. When it came to the space between the third and the fourth buttresses (at ground level the entrance vestibule to the Chapel), the roof seems at first to have extended no further here than elsewhere along the bridge. If this were so, the outer side of this vaulted area would have been unprotected. For a delicate piece of work as the soft Clunch vaulting below shows, exposure to rain seems unlikely, and so a roof supported by the putlog holes extending the line southwards seems only reasonable; but these holes, too, seem likely to be an afterthought, rather than part of the first build. Beyond to the east, the stair resumed its original narrow width, and was roofed in an identical fashion to that in the western bays. Over the end of the stair by the eastern door there was presumably a roof, but no trace has survived the thorough rebuilding of the western wall of the Flower Room, and the Victorian external porch door to its east.

The link with the choir and its roofs

Was the Lady Chapel always intended to be linked to the Choir by a range of buildings? The grandeur of the entrance facing into the Choir has always suggested that this was probable. The excavations of 2000 have now demonstrated that this was the case, and have

Figure 8. *Excavations by the Cambridge Archaeological Unit in progress on the site of the Processional Way, showing the remains of the eastern wall of the linking range from the north: two buttresses are visible. Photograph Philip Dixon*

shown that a cranked passage ran from the Choir door to the area of the vaults at the Lady Chapel entrance. At its northern end the passage was built in with the primary walls of the Lady Chapel. At its southern side it was built against the end buttress of Northwold's choir (*c.* 1234–1252), and underlay the edge of the eastern buttress of Hotham's choir (*c.* 1330). The implications of this are discussed below. Roof scars on the buttresses of both Choir and Lady Chapel show that at either end the roof was treated in the same fashion. On the north face of Choir buttress 7 [the eastern buttress of bay 7] is the angle of an infilled roof crease. This points across the court at a shallow angle towards the missing eastern wall of the Lady Chapel entrance, and the southern side of the adjacent Lady Chapel buttress 3 is canted to match this angle. These roof creases were both similarly filled in, when new roofs were created. On the Choir walls it is clear that the original roof was almost flat where it covered Choir bay 7, sloping to cast water on its outer side.

At least two subsequent rooflines are visible on the Choir buttresses 7 and 8. What was probably the first alteration slopes steeply from the outer side of the buttress to the sill of the Choir window, where it meets the scar of the first roof. Putlog holes in both buttresses indicate the positions of beams to hold up this and the subsequent roof. The latter begins at a higher level and obscured the lower part of the Choir window, where cuts in the window moulding show the level of the leads. Drainage from here (as in the case of the Lady Chapel bridge roofs) must have been via down pipes through the roof covering. The first and last of this sequence of roofs is matched by the scars in Lady Chapel bay 3, particularly on its western side. Here, however, the final high roof is connected to a rebuilding of the main window. At present we can see a series of four lower lights and a transom in the window. A close examination, however, shows that the mouldings of the original single lights are still intact beneath a coating of Roman cement, and that the transom and its heads are insertions. Though *similar*, the shape of the heads and the profile of the mouldings differ slightly from the original forms. The new high roof (corresponding to the final roof on the Choir bay 7) ran to join this new transom. Though close dating is not possible, it is likely that this alteration [which created a tall linking range] was made at the time that a new chamber was inserted into the original linking range. This upper floor room would have been entered from the room above the Lady Chapel vestibule, and is presumably the space referred to as the Lady Chapel chamber at the time of the Suppression, used for occupation by the guardians of the Chapel.

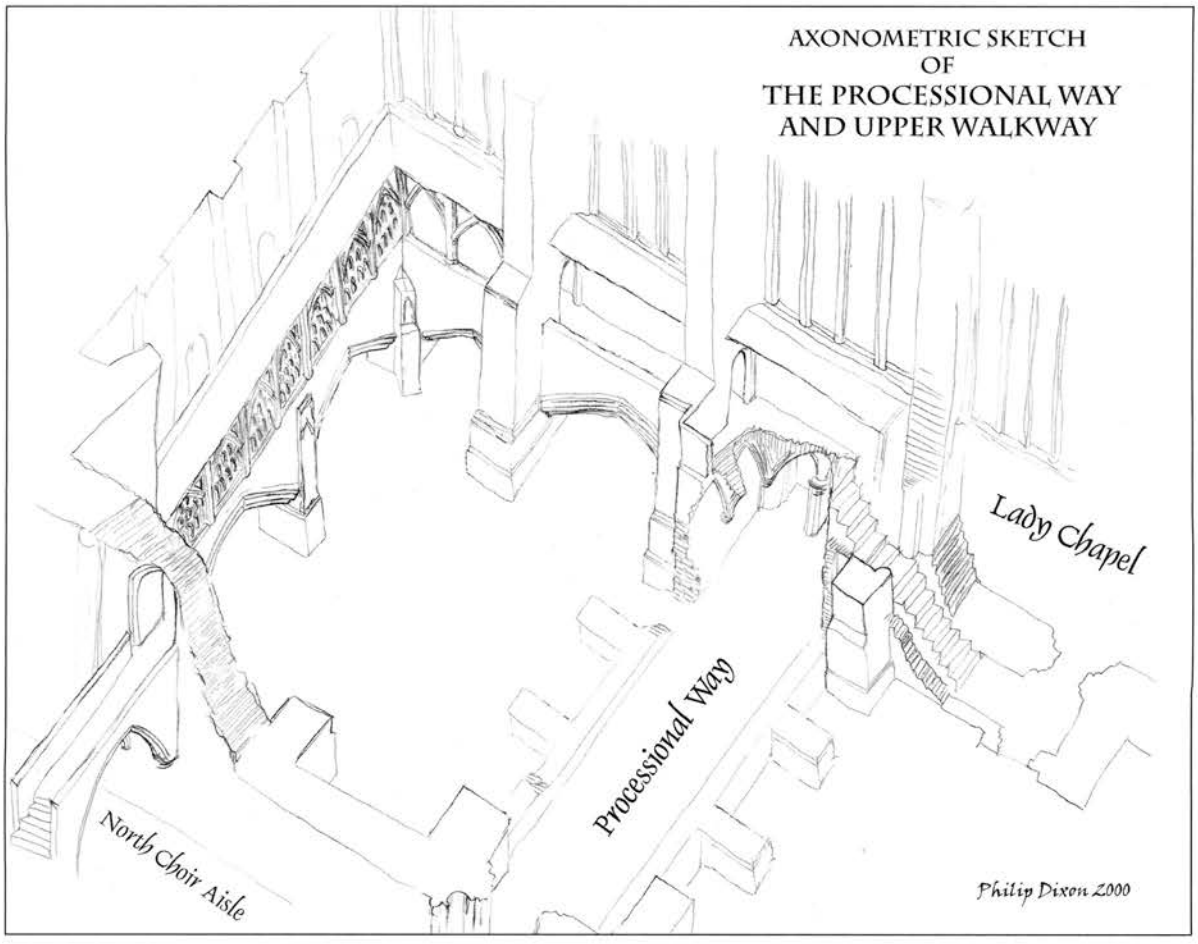

Figure 9. *A reconstruction of the Bridge and the access to the Lady Chapel.*

The Post-Reformation Alterations

After the modifications to the bridge and linking range described above, the arrangements seem to have remained in use at least until the middle of the 16th century. The parish church of Holy Cross, built as a lean-to against the northern side of Nave bays six to ten, was renamed Holy Trinity (probably at the Reformation (Atkinson)), and was demolished in 1566 (Bentham). By then the Lady Chapel had been rendered without use, and so the parochial function was transferred to the former Chapel. At some point after this period the original entrance was abandoned. At present we have no evidence for the date of this change. The earliest monument *in situ* within the Lady Chapel is probably the ledger slab of Alice Browne, who died in 1676, though the slab may have been placed at the death of her husband in 1706. By then the former main double entrance had been converted into a side room to the parish church, presumably for use as a vestry. At or before this period a new entrance to the Chapel was formed through the westernmost bay of the Chapel, reached from a new vestibule which sat between the Chapel and the North Transept, where the bridge had once turned eastwards. The northern transept chapel was cleared, and a door formed to give access to the vestibule as part of this work, providing an undistinguished and winding entrance to the new parish church.

The new vestry was similarly pieced together from the remains of the medieval arrangements. Its northern wall included the end of the bridge and beginning of the stair descending towards the eastern door of the Chapel. Its eastern wall was formed by the buttress (after the demolition of the former re-entrant angle against the staircase). Its southern wall, at first about 60 cms lower than at present) was fairly roughly built of rubble and some cut down ashlar, and may have included a window. The three-light opening which has now been removed from here probably belongs to the refurbishment of the area, and the creation of the rest of the service rooms, during the second half of the 19th century. No certain date has yet been identified for this work. However, a note in Bacon's manuscript, tells us that this room had been transformed into a furnace to heat the Church, but in 1864 the roof caught alight, and required replacing. His description does not fit the construction of the present roof, which must belong to a still more recent restoration. Some work had clearly been carried out in this area *c.* 1840 for, in an earlier note, Bacon records the discovery of the tiled passageway of the linking range which ran be-

tween the Choir and the Lady Chapel. Some of its tiles were relaid on the southern side of the Octagon, where they still remain.

The Date and Function of the bridge and the linking range

The ground-floor gallery or linking range clearly was constructed to provide a covered way between the Choir door and the Lady Chapel. At its northern end this was set out at the very start of the Lady Chapel foundations, that is to say on Lady Day in 1321. At its southern end it postdated the eastern buttress of Northwold's mid-13th-century work, and antedated the western buttress of Hotham's choir, built in the later 1320s. All this fits well with a date for the linking range of 1321 or 1322, and not later. The grand door to this range from the Choir aisle, however, fits quite awkwardly on the aisle side, and seems to be aligned not with the upper wall face, but with the bench at the base of the wall. In a recent survey of this area John Maddison has identified this bench as part of the Norman church, its position retained during Hotham's rebuilding. The clear implication of this is that the Lady Chapel entrance door was inserted into the final surviving bay of the Norman Choir, and that the walling in which it is now set was replaced around it. Thus this doorway too fits the dating of *c.* 1321. Though the slight angle or canting of the link is a little awkward, it may not have been very obvious in practice, and it was compensated for by the skewing of the south face of buttress 3 of the Lady Chapel, which is clearly an original part of the plan. A low roof was included in the design in its first form (as shown by the crease on Choir buttress 7).

The flying bridge to the Chapel was clearly part of the initial laying out of the Chapel, as the variations in the plinth and the scars of the arches makes obvious. At this period too an upper door from the Choir to the bridge must have been set in the then Norman walling of the Choir aisle. The collapse of the central tower in February 1322 and the building of the Octagon led immediately to changes in this area, and this sequence explains the awkward placing of the present upper door with a crooked start to the bridge around the bottom of the Octagon buttress.

Both the sequence and dating of these works are now clear. To establish the functions of the bridge and the linking range is more difficult. Some attempt to provide an explanation was made by the editors of the Victoria County History, who give a series of possibilities, all of which are described as having their difficulties. They suggest that it may have been a place for an anchorite, a pew for the prior, his guests, or the bishop, a place for the display of relicts, an organ loft, a place for singing boys, or (what seems to be their choice, following Atkinson) a pew for Queen Philippa, above the vaulted vestibule into the Lady Chapel. Some of these functions may have been served by the bridge across the Choir North Aisle: its disappearance leaves little to be said, and relics could easily be positioned here, matching the Saxon displays in the wall which closed the northern side of the choir in the Octagon.

None of the nine examples of such a bridge cited in the Victoria County History (in Durham, Cambridge, London, Malmesbury, Norwich and Winchester) is particularly apposite, since the *comparanda* are all relatively short, and most are internal features, unlike our Ely bridge. The external passage to an upper private pew within the chapel (such as that seen leading from the *Grutehuis* to the chancel of the church of Our Lady, Brugge) may be in the mind of the authors. In the case of the Ely bridge, however, it is quite clear that the floor levels are quite wrong for such a pew with a view of the chapel. The sill of the window is 1.76 metres above the floor of the bridge, and from this position only the middle part of the opposite window can be seen. There is, furthermore, no room for a raised floor here, or anything larger than a step-ladder, since the whole space between the arched entrance from the bridge and the start of the stair downwards is less than 3 metres wide. While the heightening of the adjacent ground floor link would have allowed a useful 'royal' withdrawing chamber (some 10 metres by 4 metres in size) entered from this space, this room had no direct connection with either the Choir or the Lady Chapel. It was in any case an afterthought which does not relate to the function of the bridge itself.

The apparently larger size of the upper room [the 'pew'] over the vault may be caused only by its ground floor design; that is to say, it follows from the provision of a double vaulted space to give a suitable vestibule to the main Lady Chapel doors below. The small size of the original roof above this upper room (covering only the inner side, as described above) is some evidence, after all, that the builders were initially thinking of the bridge as a continuous narrow passage, and not as a first-floor room. The introduction of the later wider and higher roofs, then, would be a sign that the upper area was now being used as a room. But even then this was by no means necessarily royal: its later use was to house vestments and provide accommodation for the guardians. The demonstration that the original plinths of the Lady Chapel of 1321 reflect the detailed layout of the bridge makes it very unlikely that Queen Philippa was in any way involved, since she arrived in England only in 1328, when the building was already much further advanced.

Who precisely were the intended users of the bridge access from the Choir to the eastern Lady Chapel door is still to be decided. It is important to note that the entrance to this bridge or flying gallery was probably not from the aisle (as shown in Atkinson). Instead it was from the central space of the Monastic choir beside the altar of St Peter, or possibly along a northern walkway from the *pulpitum* of the Choir. We have evidence for only one destination for the gallery, to the eastern door of the Lady Chapel. This eastern door is in bay 2 of the Chapel, immediately in front of the altar. Neither the start nor the fin-

ish of this route suggests a path for any secular visitor, and the most likely explanation is perhaps the simplest, apparently not considered by the editors of the Victoria County History or Atkinson, or their authorities. The ground floor double entrance was not 'the Monks' Door'; rather, the bridge was intended solely for segregated access from the Choir to the *eastern* door of the Lady Chapel, distinct from a more public access at ground level from the Choir aisle to the western double door.[13]

It is therefore likely that the whole bridge arrangement was contrived to allow processions of the religious community from the Cathedral into the Lady Chapel without conflicting with the access of the laity.[14] The upper room above the vaulted vestry is well suited for the proper assembly of such a procession before descending to the floor of the Chapel beside the altar. It is therefore notable that two quatrefoil openings were subsequently cut into the thin wall below the window in bay 3, half-way down the final stairs. These openings were not glazed, but are much too high to look from into the Chapel. Their purpose was probably to allow singing in one place to be heard in the other, so as to coordinate the progress of the services.

To reach this point the monks had crossed the ground floor approach twice, once in the Choir aisle, and once at the vestibule of the Chapel. This seems a complex arrangement, but it is explained by the previous history of the Lady Chapels in the Cathedral. Among the most favoured chapels for the townspeople were the chapel of Crux Ad Fontem, the site of Aetheldreda's well of the foundation story, and the chapel of Our Lady. Both were in the southern aisles, Ad Fontem in the nave, looking in to the Cloister, but reached from the west door, and cut off from the monastic church by the great screen and the *pulpitum*. The Lady Chapel, however, stood during the 13th century in the south aisle of Northwold's presbytery, and access to it was problematic. It involved entering the Cathedral by the parish door in the North Transept, then either crossing below the *pulpitum* and across the south aisle (which would conflict with passage from the conventual buildings to the Monks' Choir), or rounding the eastern end of the Monks' Choir and crossing between the altar of St Peter and the High altar. Either route produced conflicts, and the result was made clear in the Visitation of Bishop Ralph de Walpole in 1300, in one of his longest precepts: women were to be excluded from all parts of the conventual buildings, but especially the choir.[15] Under the then existing layout of the chapels, this was scarcely possible.

That this problem was the cause of the building of a new Lady Chapel is perhaps too great a claim: the development of the Marian cult is well attested elsewhere, and emulation of Peterborough, Bury or Norwich was always a consideration in the building at Ely. But it was clearly a factor.[16] The architect of the new building had as part of his plan the separation of the monks and the congregation. He succeeded in delivering the processions of celebrants from the Monks' Choir, high in the air, to the altar of the Lady Chapel without even coming into the sight of the laity. The latter's approach to the glorious new building was grand enough, but remained solidly on the ground, and the townspeople were delivered in this way firmly to their proper place at the western end of the Chapel.

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A Reconstruction of the Medieval Cambridge Market Place

Peter Bryan and Nick Wise

That the market place in medieval times occupied an area approximately twice its present size is well known to scholars. Recent research into the properties in this area and into college and town archives has brought to light considerable detail about the medieval market place and its activities. This paper builds on the research by attempting a reconstruction of that market place, showing the activities and sites associated with it.

Introduction

This paper is an attempt to recreate the central Cambridge market place and its activities as they were in the medieval period. Although it centres on the years 1150 to 1400, its scope cannot be entirely limited to these dates, as a number of important aspects of the market antedate and postdate this period. It is also the case that other activities and named sites, which are only mentioned in surviving documents of a date later than 1400, are likely to have been in existence for some considerable time before their first record. The period 1150 to 1400 was one in which markets were established all over England, and as a result documents relating both to the founding and activities of markets became more numerous. For Cambridge, both town and college archives supply evidence that particular activities were grouped within certain areas or along rows of shops or stalls. These often carried an appropriate name for the wares and produce sold there.

In common with many English towns, Cambridge has a market place which can be traced back for many centuries. Precisely how far back is not clear, for there is no written record of its origin; the earliest written references seem to be in the 13th century. The earliest reliable map evidence is found in that produced by Hamond in 1592, which was an accurate and measured plan laid down to scale, although it does have errors in detail. Earlier maps by Lyne (1574) and Smith (1588) were picturesque but scarcely reliable, for they do not provide accurate dimensions, or in some cases, relative locations. None of these maps show the market in great detail, but further discussion of the map evidence will be found later in this paper. In terms of official documents, unlike many towns in the 11th to the 14th centuries, Cambridge never acquired a specific market charter; its right to hold a market seems to have been accepted as established by right of custom. There are however oblique references in the reign of Henry I which indicate that a flourishing market was already in existence. In 1118 a grant of the monopoly of the tax on waterborne trade in the Shire loading and unloading at Cambridge was made by Henry I:

> *'I forbid that any boat shall ply at any shore of Grentabrugesheira, unless at the hythe of my borough of Cantebruge, nor shall barges be laden, unless in the borough of Cantebruge, nor shall anyone take toll elsewhere but only there'.*[1]

It is almost inconceivable that a town which controlled so much river trade would not have had a significant market. A later charter of John in 1201 makes a similar oblique reference granting to the burgesses of Cambridge the following privilege:

> *'Whosoever should come to the borough of Cambridge with his merchandise, of whatever place, whether stranger or otherwise, might come, tarry and depart in safety, and without disturbance, rendering the right customs'.* [2]

The wealth of the town is attested by other evidence, notably the presence of St Benet's church, whose Saxon tower, dating from about 1025, is accepted as proof of a wealthy post-Danish settlement. Commodities carried by the river and along local roads must have created most of this wealth. Although this cannot be stated with certainty, if a prosperous market was in existence by the 11th century it is scarcely likely that it had gained such a position overnight. A 10th century origin is therefore feasible (see Alison Taylor's *Cambridge: the hidden history* for the development of early settlement in the market area). What is certain is that by the period of which we write a large and prosperous market was operating in what we know as the market place. Other areas in the town had market functions. The main hythe for the loading and unloading of goods was at Quayside, the commodity hythes were along the east bank of the river (eg Corn Hythe, Flax Hythe and Salt Hythe), and

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there was a market area at the top of Castle Hill, called Ashwykeston, which was probably older in foundation than the central market place. There must have been some economic linkage between these areas, but they are not the main concern of this paper.

Although the existence of a large central market place at an early date is certain, it has not yet been possible to establish the precise position and details of all of the individual buildings which surrounded it. Research in recent years by Dr Rosemary Horrox and by Catherine Hall has uncovered details of many of these properties, but so far it has not proved possible to show their exact relationship to later buildings. It is possible to show by comparison with Hamond's map of 1592 that in his time both the size and shape of the market place in terms of its surrounding general building lines were similar to those which still exist. Nevertheless that cannot be taken as proof that there were not shifts in the relative positions and dimensions of individual properties between the earlier medieval period and the time of Hamond's map.

There was also one additional area south-east of the market place (not shown on Fig. 1), which formed a very important adjunct to the market. This was the Fair Yard, a large roughly triangular open space lying between Corn Exchange Street and St Tibb's Row where these two lanes formerly converged, at what is now Downing Street. The Fair Yard has also been recorded as the Beast Market, later known as Hog Hill and St Andrew's Hill. Corn Exchange Street was originally Fair Yard Lane and later Slaughterhouse Lane, finally assuming its present name in 1844. The importance of the Fair Yard area was that it served to hold the beasts brought in from the surrounding countryside, which were sold here, prior to their slaughter and preparation for sale in the market. A scalding house, where animals such as pigs and poultry were placed in boiling water to enable their skin or feathers to be more easily removed, stood on the west side of the Fair Yard, and is recorded in the Treasurers' Accounts for 1423. The Fair Yard was, as is amply recorded at later dates, a thoroughly unwholesome area, and its activities were obviously unsuited to the main market place. Indeed it was customary in most, if not in all market towns, for the beast market to be well separated from the main market, often outside the town walls.

College documents of the early medieval period show that areas behind the building frontages facing the market were in use well before the mid-14th century. This is confirmed by archaeological evidence which has revealed Saxo-Norman pottery in pits associated with some of these buildings.[3] These pits were dug for rubbish disposal or to provide gravel for paving and building. Gravels underlie most of central Cambridge, laid down by the Cam when it flowed along different courses and at different heights. Beneath the gravels lies the impermeable Gault clay which prevents the percolation of rain water, and the gravels were therefore a valuable source of water, and shallow wells were sunk into them. This has been cited as one reason for the early settlement of the market area. In the earlier part of this period areas behind the street frontages were often used as gardens or yards; in later times tenements were built in many of these open spaces. These were accessed either by narrow paths leading from the frontages or more commonly from lanes parallel to the street frontages running along the back of the properties, thereby serving them all. These back lanes were a common source of dispute when attempts, usually successful, were made to enclose them by individual property owners. By the 15th and 16th centuries some of them had been completely lost. Alwynes Lane (Fig. 1: A2 & A3), parallel to and north of the Cutlers' Row, is one such back lane beyond the market place. Alwynes Lane appears constantly in local records with regard to enclosure or stopping up, as late as 1737;[4] the earliest mention of this lane is in 1260, which refers to unauthorised enclosure: 'Thomas Tulet who is dead, obstructed a lane called Alwines Lane, which was a common thoroughfare for the whole vill'.[5]

The nature and activities of the market place

The medieval market place (Fig. 1) formed a roughly trapezoidal shape extending over a far wider area than that of the present day. Its north-south axis would have been about 160 metres (from St Mary's Street to Wheeler Street) compared with the present market north of the Guildhall, which is approximately 77 metres north-south. Its east-west dimensions would have been about 57 metres in the north, widening to some 76 metres in the south. The evidence for this, presented in this paper, is that documents name market activities and areas which can be located with reasonable accuracy within this larger area. The smaller size of the modern market is largely due to the growth of municipal buildings in the southern part of the market place since the 18th century. For this reason 19th century writers and artists showed the market place as occupying only the northern half of its former area, and the southern half gradually faded from public consciousness.

The large area of the medieval market was not an entirely open space, for buildings existed within it by the 13th century, and probably earlier. In a roughly central position there was a small cluster of 'public buildings' consisting of a gaol and a Guildhall or Tollbooth. These were not large buildings, for when the Guildhall was rebuilt in 1386, (itself implying an earlier building), the new Guildhall was only 22 feet by 17.5 feet. This was recorded by the architect James Essex late in 1781, prior to his demolition of the 14th century building and construction of the 1782 Guildhall.[6] Further consideration is given to these buildings later in the paper, but it is clear from the small dimensions that they were not dominant physical features.

A far larger group of buildings intruded into the market place at the northern end. It is known that from at least the early 13th century houses surrounded the eastern end of Great St Mary's church, as

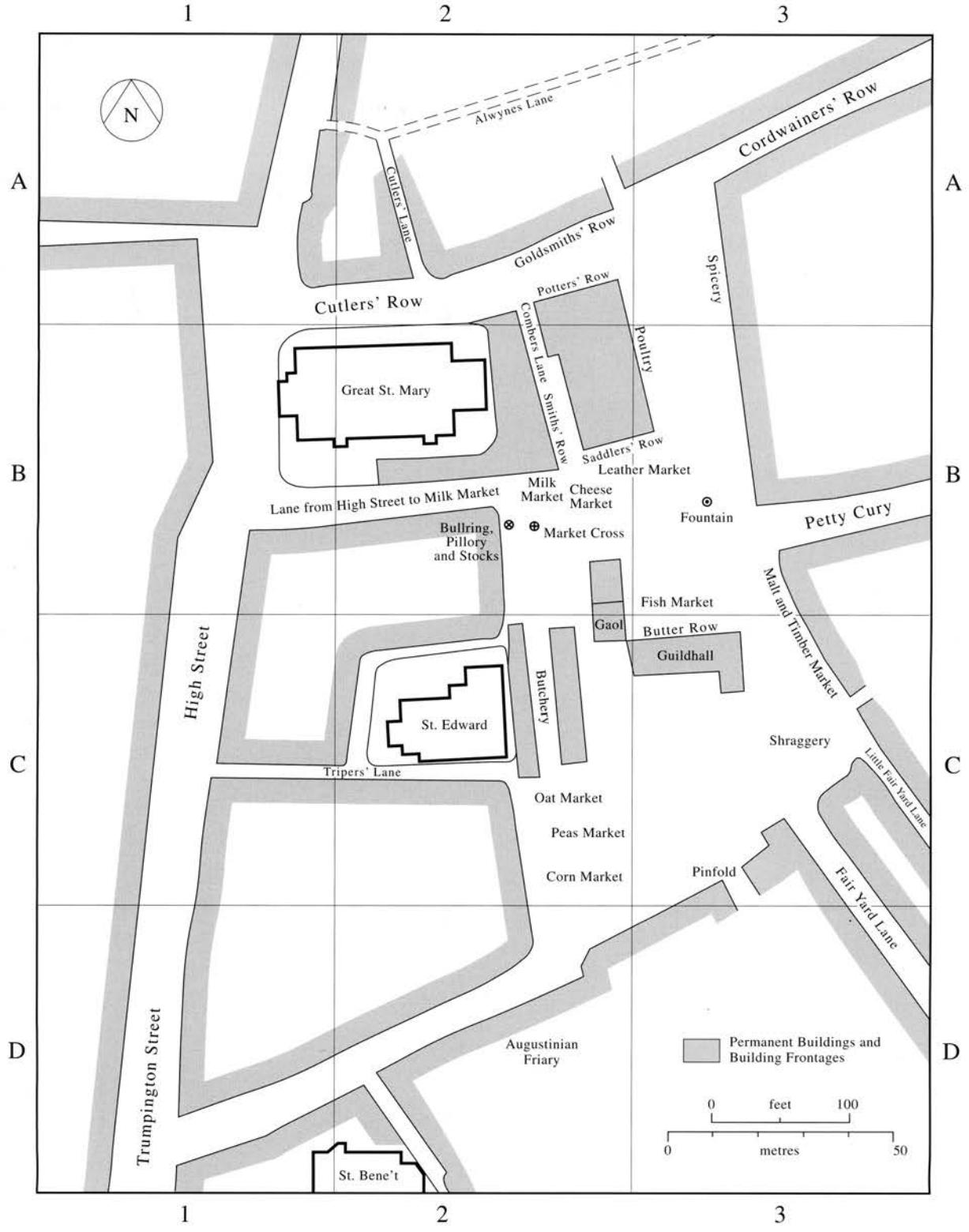

Figure 1. *The central market area in Cambridge in the medieval period*

shown on Figure 1, some of which abutted directly onto the church. They were separated from a much larger block of shop-houses by a street known originally as Smiths' Row, later recorded as Combers Lane and Well Lane. These were shop-houses, the homes of craftsmen such as smiths and leatherworkers, perhaps loosely organised into rows. The properties are shown on a remarkable sketch-plan drawn in the mid-15th century by John Botwright in the *Liber Albus* at Corpus (Fig. 2), which presents a picture of a densely packed and complex jumble of buildings of different shapes and sizes. The area lying to the east of these houses is named as 'the gret market place'. The drawing also shows and names as 'The welle lane' the thoroughfare which at an earlier date had been recorded as Smiths' Row. The properties in this area remained in existence, no doubt considerably modified by rebuilding, until most were destroyed by the fire of 1849. After this it was decreed that all these buildings should be cleared away to provide an enlarged market place, but it required an Act of Parliament to give effect to this. The houses are clearly shown on several 19th century paintings (Figs. 3 & 4) and on Atkinson's map (Fig. 5). Figure 3, which dates from 1820, shows a view of the northern part of the market looking north; on the left hand side is the southern end of the block of houses, whilst on the right hand side is the fountain fed by Hobson's Conduit. This stood here until it was removed to its present position at the junction of Lensfield Road and Trumpington Road in 1856.

Cramped and bustling rows of market stalls and tables between the shop-houses and the eastern side of the market place are vividly depicted. Figure 4 dates from 1801 and shows the same area looking

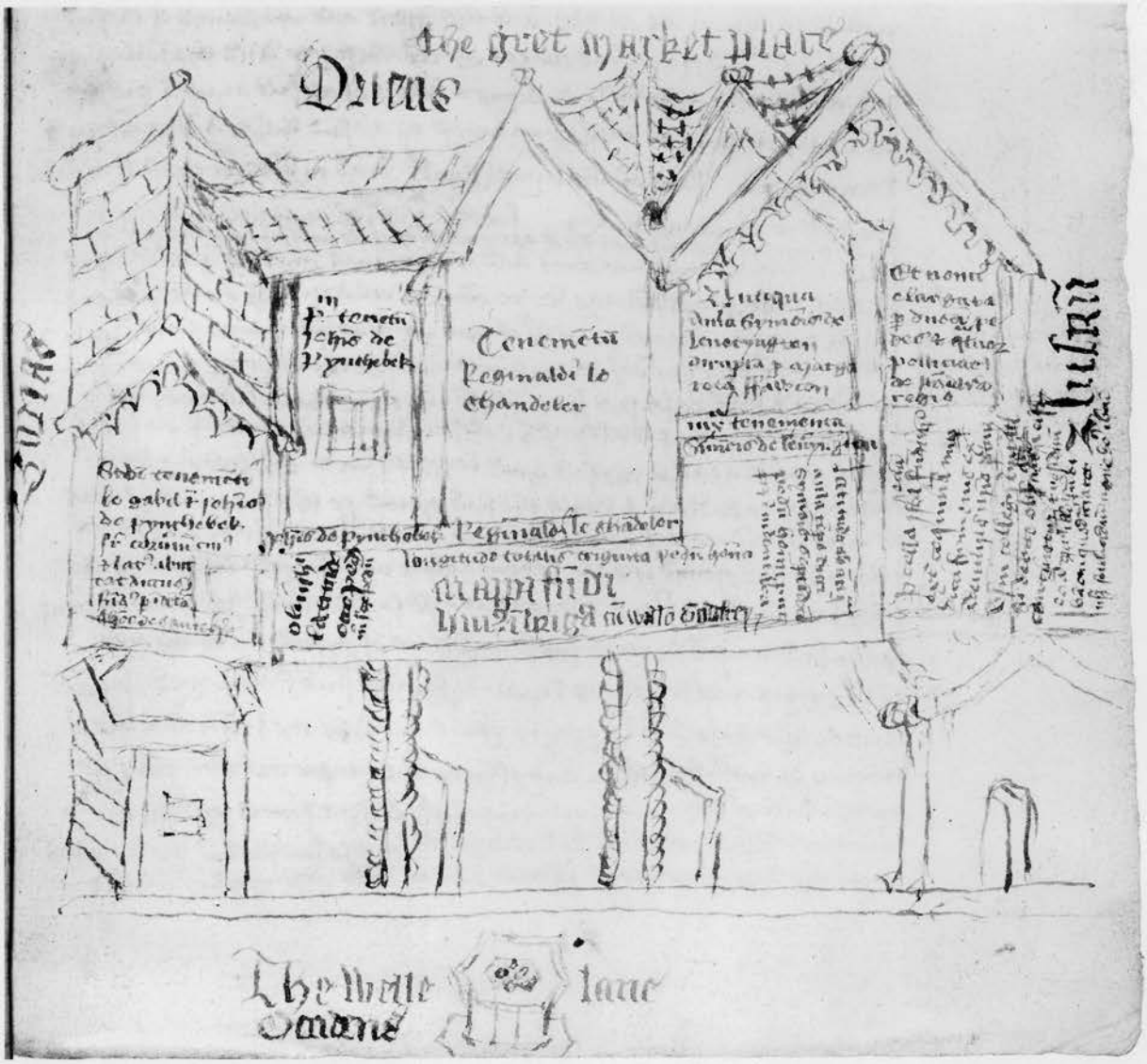

Figure 2. *John Botwright's sketch in the* Liber Albus *at Corpus Christi College showing the block of shops and houses in the northern section of the market, looking east from Great St Mary's church. Copyright to the Master and Fellows of Corpus Christi College, Cambridge*

Figure 3. *The northern market place, looking towards Holy Trinity Church, as shown in a watercolour by JS Cotman, 1820*

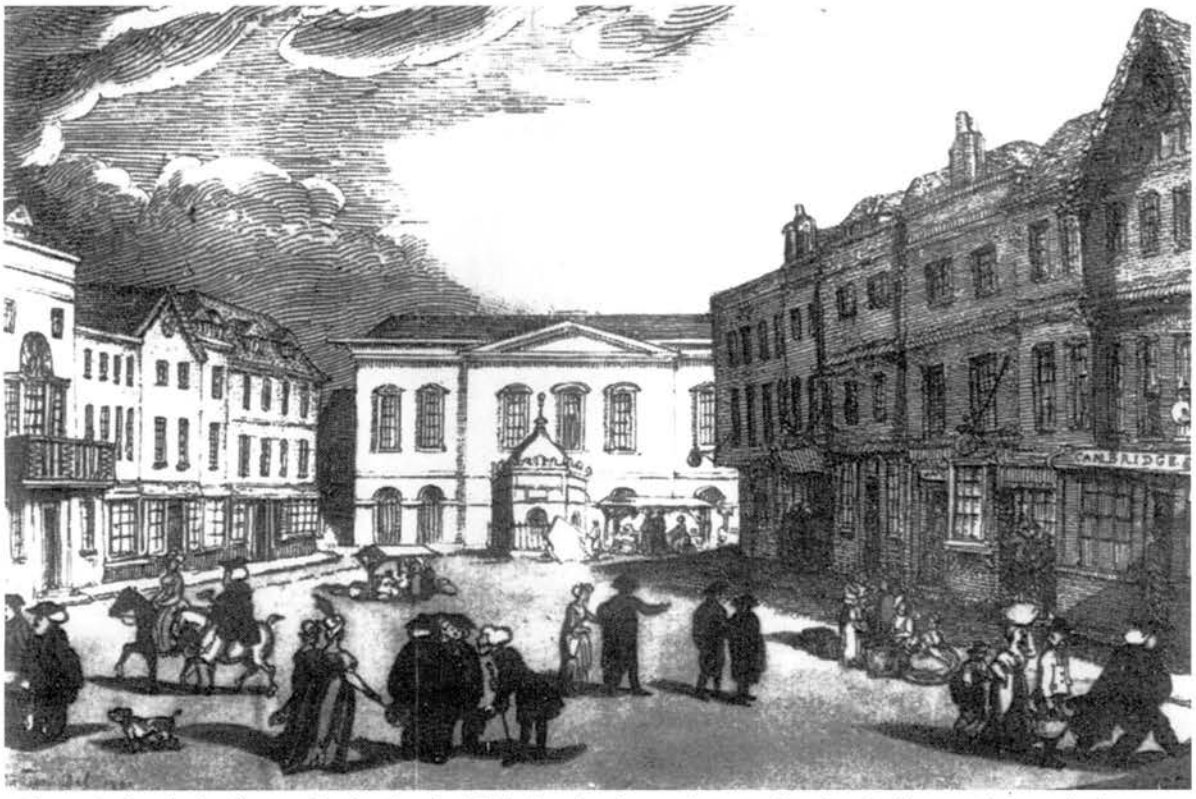

Figure 4. *A print by Thomas Rowlandson in 1801, showing the northern market place looking south towards the Conduit or Fountain and the Shire House*

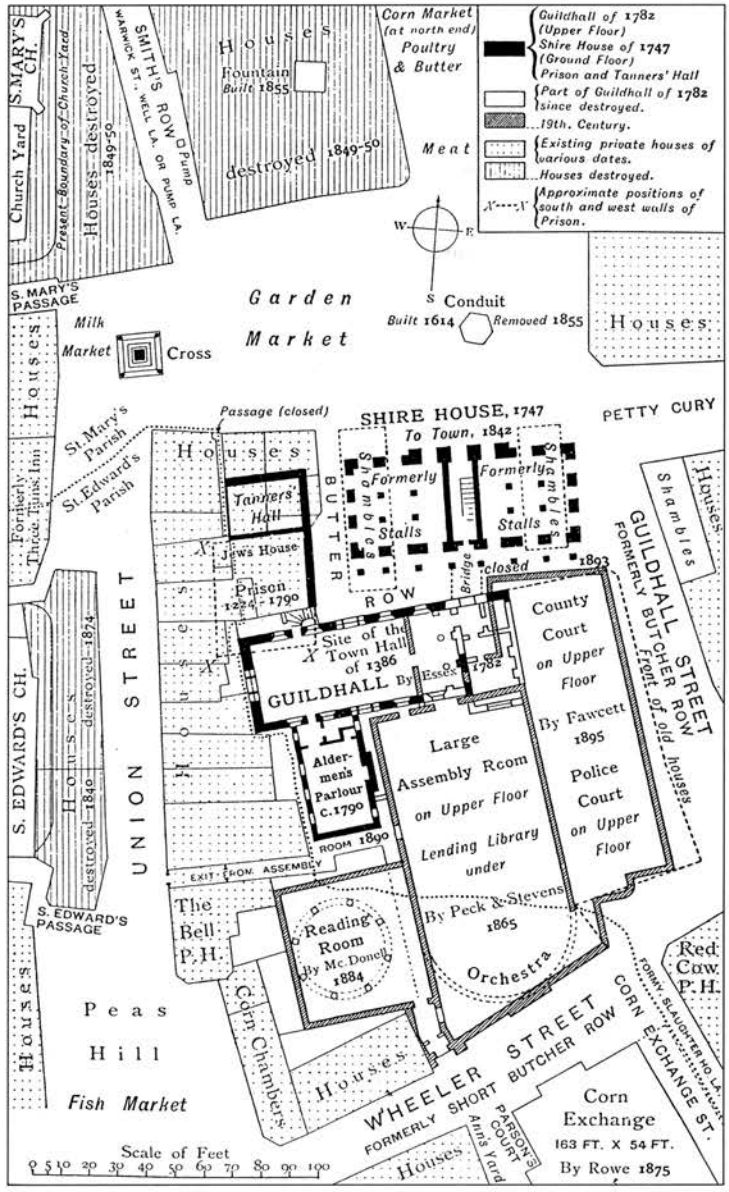

Figure 5. *Plan of the market place by Thomas Dinham Atkinson, prepared for his* Cambridge Described and Illustrated, *1897*

southwards, with the fountain standing centrally against a background of the Shire House, which dates from 1747. The eastern side of the block of shop-houses is clearly shown, but only a few pedlars and stalls are depicted; it was presumably a non-market day. Atkinson's map of 1897 shows the market features as they existed in his time, but he overlaid them onto features dating as far back as the 13th century. The result is somewhat confusing, but it does have the virtue of showing the general relationship of the late 19th century market to its medieval predecessor.

It is therefore suggested that the medieval market place was a large open space of considerable size. Such an area would have provided space for what, judging by the economic importance of Cambridge as a market town at this time, must have been a large and varied market. It would certainly be impossible to visualise its activities fitting into the present market square.

The medieval market in Cambridge would have consisted partly of temporary stalls or booths and partly of permanent shop-houses facing onto the open spaces of the market. Documentary evidence exists to show that the floor of the market was paved with sand, which was absorbent, and easily levelled and renewed. Payment by the town of 20 shillings 'to William Wegewode for 60 cartloads of sand to raise the market and make it level' was made in 1422–3.[7] It seems that other areas were paved with stone; in 1490 there is a reference to payment for 'three carts of stones, called paving stone…for the reparation of the hill in the market, 3s.6d'.[8]

Stalls and booths in the open market would have been used by townsmen and by those from outside the town who had to pay a toll to sell their goods on

market days, especially the official market day, which was Saturday. These goods were brought in from the surrounding area, including the town's open fields, and the indications are that they were predominately foodstuffs, such as meat, poultry, dairy goods, various grains (wheat, oats, barley, malt) and raw materials such as leather and wood. No doubt other goods were brought up the Ouse, including foreign imports such as wine and spices. It is unfortunate that no details are available to indicate the precise nature of this trade.

Burgesses of the town could conduct their business on any day without paying tolls, and selling would have been a daily occurrence in the shop-houses owned by them which fronted onto the market. They were likely to trade in goods such as higher quality clothing, metalwares, including precious metals, and luxury items, such as spices and wines. Many of these merchants traded not only in the town but also with surrounding estates and more distant areas, importing and exporting goods over considerable distances, mainly by river. Both the university and the religious houses in the town would have been good customers. Not all merchants and craftsmen however were to be found in the market place; there was a group of hatters in what is now Sidney Street, and other craftsmen were scattered throughout the town without necessarily forming distinctive rows or quarters.

It has been indicated that stalls or booths played an important part in the buying and selling of goods. Unfortunately there is a difficulty with these terms, because it is not always clear from documentation what kind of structures are implied, since their size, shape and degree of permanence are not referred to in surviving archives. Nor do the documents, and at later times, the maps, always make clear a precise location. Moreover it seems likely that, for some activities at least, stalls gradually evolved over time into booths or lean-tos and then into what we would now term shops. In the latter case the owners or tenants selling from such premises would have had to pay a property rent rather than payment to erect a temporary stall. For the selling of produce in the open spaces of the market local ordinances in the 14th century refer to 'tables' being hired and set up in the controlled market place.

There are references to market stalls in three documents from Jesus College, which specifically deal with property in St Edward's parish and refer to grants of land or shops near the Butchery in the 13th century; 'three shops *in stallis* Cantebr. [9], 'land *in stallagio*'[10] and 'a shop in the Butchery, between the stalls'.[11] These references seem to show one example of progressive change, where the Butchery, which was originally an area of stalls, later became a collection of more permanent structures. The 16th century maps of Lyne (Fig. 6) and Hamond (Fig. 7) both show for this site two rows of buildings which look like permanent shop-houses rather than stalls or booths. The Treasurers' Accounts for 1347 record *'shoppis sub Aula'* and *'shoppis juxta fratrum Sancti Augustini'*,[12] which must have been respectively under the old Guildhall, which was a raised building, and against the wall of the Augustinians' house on the south side of the present Peas Hill.

Many of the local ordinances regarding the working and control of the medieval market are recorded in the Corporation Cross Book; this volume contains ordinances from 1328 to 1427, transcripts of the town charters and other material relating to the town up to 1728. The following quotation from the Cross Book for 1347[13] gives some indications of how the market worked.

> *'It is ordained by the whole commonality, that no butcher having a shop, or part of a shop, have any table standing in the market on any day in the week except only Saturday, and that then the market being finished, all tables be carried away and amoved, and in some certain place, where best they can, without nuisance, be laid up, and that on other days in their shops, those having shops, or part of a shop, may sell flesh. But if any foreigner come with flesh on other days on which the market is holden who have not shops, nor part of a shop, it shall be lawful for them to hire tables from the treasurers, and to sell their flesh, nevertheless that the market being finished, the tables aforesaid being amoved, as above is said; if any tables or stocks be found standing the market contrary to the ordinance aforesaid, that the tables and stocks be confiscated, and the tenants of the tables or stocks be grievously amerced...that then the market may be held on the Lord's-day, and therefore it shall be lawful for them at that time to put their tables in the market, and to sell flesh, so that the market being finished the tables be removed as is aforesaid.*
>
> *The same day it is ordained, of the tables of fishers, tanners, and others selling cloths and mercery and other saleable things whatsoever, that they have not any tables standing in the market on any days except the day on which the market is held, and that the market being finished, they be removed as above is ordained under the same pain'.*

From the quotation a number of comments may be made. It is clear that the operation of the market was strictly regulated, in the interests of both the town and the university. From the time of the university's origin in the early 13th century, relationships between the two had been difficult and at times, as in 1261 and 1332, quite violent affrays had erupted. The town `resented the special privileges given to the university, which meant that it was effectively a self-governing community living within the town; for its part the university was always vigilant in protecting its rights and about fair costs for accommodation, food and drink for its members. The Peasants' Revolt of 1381 was the occasion of a particularly violent outburst in Cambridge, when the townspeople wrought considerable damage on the university, especially its archives. The King reacted by temporarily removing many of the town's rights. Amongst these were the control of the assizes of bread, ale and wine, which governed the prices of essential commodities, and the supervision of weights and measures. These powers were given to the university and they were not fully relinquished

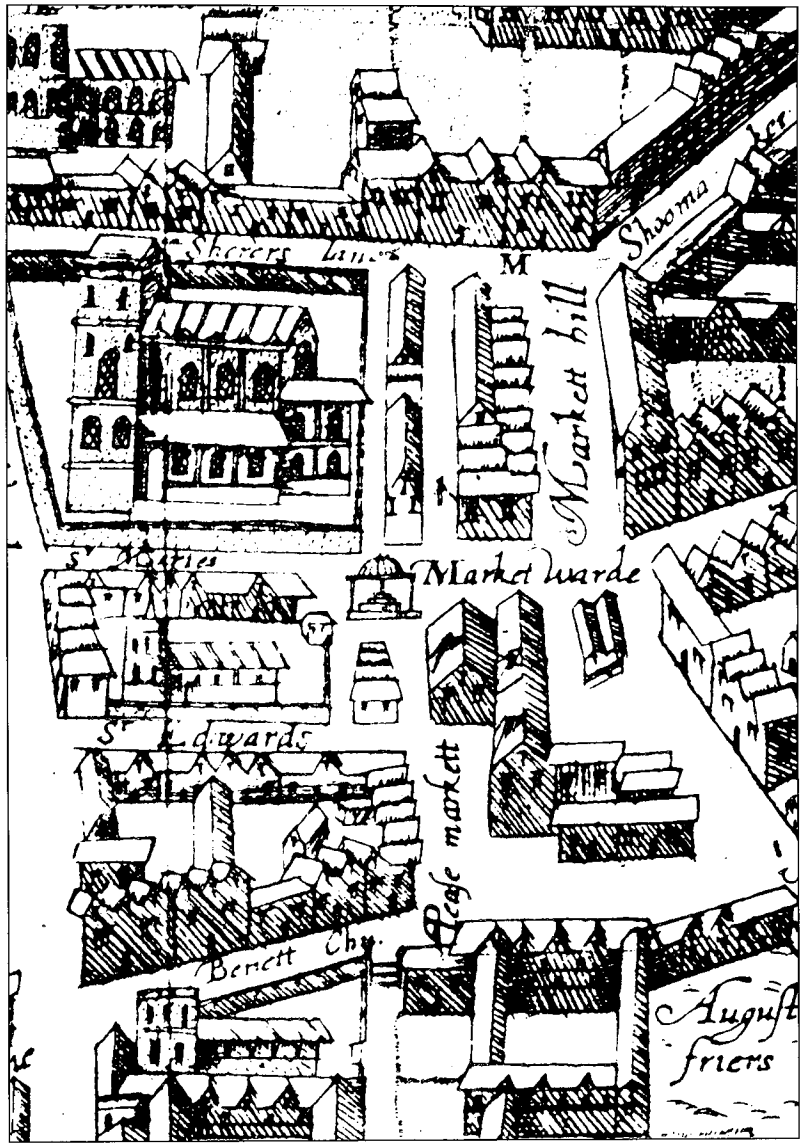

Figure 6. Detail of the market area from Richard Lyne's map of 1574

until an Act of Parliament was passed in 1865.

The market tables were clearly not permanent, and had to be hired from the Treasurers. This was designed to prevent 'foreigners' (non-burgesses and people from outside the town) from slipping into the market to conduct illicit trading without paying the toll. Note the heavy penalty for trying to evade this restriction. There were firm regulations about who could trade, especially on market days, and in what manner, particularly from trestle tables. Butchers could trade from shops and have their own trestle tables, which were not hired, on market days. Hired temporary trestle tables could only be erected on market days and used by any legitimate trader.

Evidence outlined in the Appendix gives some credence to the idea that the northern end of the market contained activities of a higher-class nature, such as the Spicery, the Goldsmiths, Cutlers and Lorimers. The distribution also suggests that the southern end of the market may have been more concerned with the sale of foodstuffs and raw materials, while the northern end dealt with more expensive craft and manufactured goods. There is also evidence of substantial mansions belonging to wealthy merchants who lived round the northern end of the market.

A brief comment on the earliest maps (Figs. 6, 7 & 8) is merited partly because they show how the nature of the market place gradually changed, especially in its southern half. They also demonstrate the persistence of site function even though the shape, size and character of features may have altered. Richard Lyne's 1574 map (Fig. 6) is reliable in the sense that the buildings depicted certainly existed, although the shape, size and interrelationship of buildings are occasionally inaccurate. In the northern part of the market his map shows the two blocks of shop-houses east of Great St Mary's, separated by the thoroughfare known as Smiths' Row. The more easterly block shows, probably conventionally, a double row of back to back shop-houses fronting north onto Cutlers' Row,

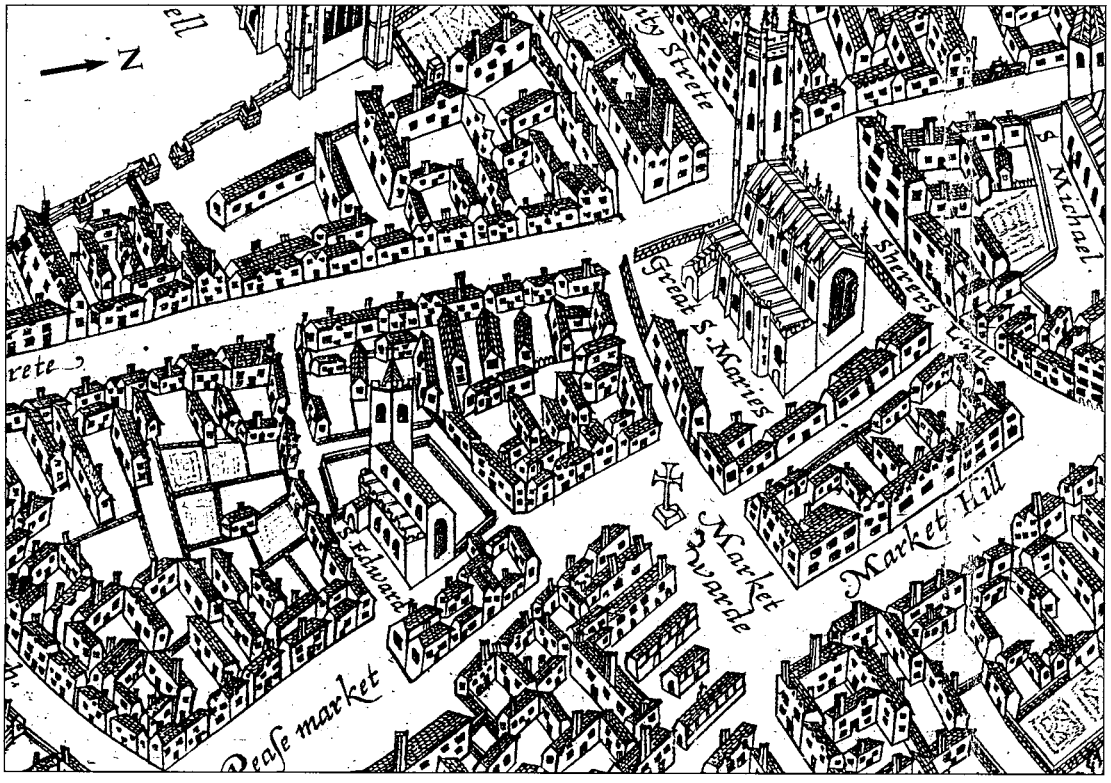

Figure 7. Detail of the market area from John Hamond's map of 1592

east onto the Poultry, south onto the Milk and Cheese markets and west onto Smiths' Row. Further south, Lyne shows the Market Cross, with its characteristic domed roof; the letters ST in a circle seem likely to represent the stocks and the pillory, which were known to exist in this area, as was a bull ring for bear baiting. South of these features the Butchery is represented, with some attempt at perspective, as a row of small properties. The main block of properties includes the Guildhall and the gaol, but it is already apparent that some other buildings have appeared in this area which are beginning to fill up the space in the southern part of the market place.

John Hamond's map of 1592 (Fig. 7) is the first accurately measured and detailed map of the town. Unfortunately it is in nine sections, eight of which have been badly damaged, but a copy of the most important central section has been preserved. It shows the market place very clearly, but part of the southern end on an adjoining section is damaged. Broadly his map shows the same features as Lyne, but in greater detail and clarity. At the southern end of the market place the number of buildings encroaching onto the former open spaces has increased dramatically. The existence of yards behind most of the building frontages is also a noticeable feature.

By the time we reach David Loggan's 1688 map (Fig. 8) the market place appears in plan view, but the earlier features are still clearly visible, although there is now a solid block occupying the southern end of the market place, interspersed with several yards and passages. The two dots on the map are the market cross and the fountain fed by Hobson's Conduit.

In recording the nature and location of market activities in this period, it should be noted that the locations of some activities have changed at a later date; a prime example would be the Butchery. The earliest reference to the Butchery is in 1279, when it lay to the east of St Edward's church, but by the mid-16th century Shambles are recorded in front of the Guildhall, although this does not necessarily mean that the Butchery had ceased to exist. Atkinson records that in the 19th century the Shambles were to be found at the corner of Petty Cury and Butcher Row. In this paper we have always recorded the date of the earliest reference traced, the majority of which lie between the 12th and 14th centuries. There are however some features for which no record has been found until a later date, but which we have included on the assumption that they must have existed at an earlier date. For example, the earliest reference to a market cross is in 1529, but as this was the site from which the market was officially proclaimed open, some such feature must have existed earlier.

Appendix of market activities

The names and locations of the market features and activities are cross-referenced with documents which have been consulted by us or by references given by Dr Horrox, who has most generously allowed us to use results from her own researches. We are also most grateful to Catherine Hall for her meticulous help in

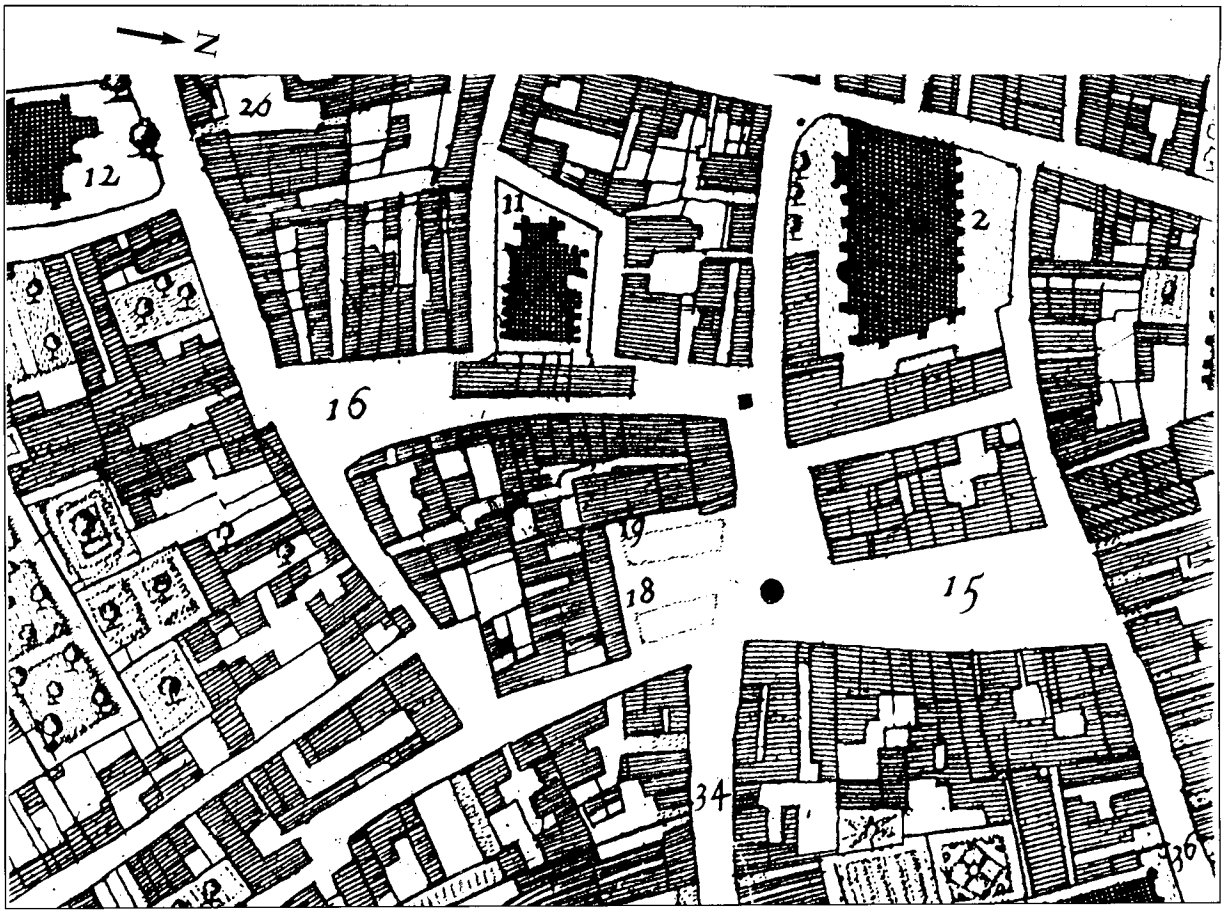

Figure 8. Detail of the market area from David Loggan's map of 1688

establishing provenance from the Corpus archives. The market activities are set out alphabetically, and a simple grid has been placed on our reconstruction plan (Fig. 1) to allow easy reference to a particular map square; an appropriate square reference is given for each activity or site in the text. Each activity is identified both by its modern name and, where possible, by the name and date recorded in an early document. As and where it seems appropriate, a comment is made on the source or nature of the activity or its site.

Bull Ring B2: 1564 'Bull Rynge' [14]

Although this 1564 reference is the earliest we have found for the enclosure known as the Bull Ring, there is a reference in the first half of the 16th century to 'a grett Ryng whiche is ffast in the grounde upon the Markett hyll'.[15] This is likely to have been the ring to which a bull would have been chained, rather than the enclosure itself. The baiting of a tethered bull was a popular sport with what Bowtell called 'the vulgar throng'. Lyne's map of 1574 appears to show the Bull Ring and the stocks in the position shown on our plan. Market regulations of 1376 state that no butcher should sell 'the flesh of bulls, unless they are baited or fed with grass in a stall'.[16] Baiting of bulls was considered a reliable method of tenderising the meat before slaughter. The Bull Ring site frequently appears by name in local records throughout the 16th and 17th centuries as the location for the pillory and the stocks.

Butcher Row/Butchery C2: 1279 'in carnificio' [17]

References in the late 13th and early 14th centuries place the Butchery immediately east of St Edward's church, where there were two rows of stalls with a lane between them.[18] The Butchery was a major market activity, because it provided a staple item of food, which, unlike bread and ale, could not be produced easily in the town. Beasts, especially cattle, were brought in from the surrounding rural areas for sale in the Beast Market at the Fair Yard. Market regulations of 1376 ordered that '...no butcher kill sows in pig, nor sell flesh of murrain [diseased cattle], nor of carrion, nor the flesh of bulls, unless they are baited or fed with grass in a stall, nor any butcher keep in his shop putrid blood or flesh, nor entrails, nor sell flesh beyond the time of its keeping, and that all putrid flesh be removed from their shops...'.[19] The Butchery is the best example of a market activity whose location changed over a period of time; the butchers were clearly using the Shambles (see below) in front of the Guildhall by the mid-16th century. It is known that they either moved or extended their activities to the south and east of the municipal buildings by the end of the 18th century. Wheeler Street was formerly Short Butcher Row, Guildhall Street was Butcher Row until 1870.

Butter Row C3: 1493 'Botirowe' [20]
Although no earlier name has yet been traced, the activity can be located in this position for centuries after this date. It is a reasonable, but unproven, conjecture that it existed here at an earlier date.

Cheese Market B2: 1382 'le Chesemarket'[21]
The selling of cheese appears to have been an activity carried out in the open market, forming an extension of the milk market. Because milk could not be kept fresh, its conversion into cheese was an important way of changing it into a much less perishable foodstuff. The Chesemarket appears in a deed of 1432[22] as a southern abuttal for property at Sadlers' Row.

Combers Lane A2: 1319 'Comberyslane'[23]
There are two suggested origins for this name of the street which was in the 13th century recorded as Smiths' Row. Dr Horrox believes that this lane, which separated the two blocks of shop-houses east of Great St Mary's, may have taken its name from a major property owner here in the 1270s, William le Comber, who was a smith. It is also possible that the name is linked to wool combing by association with the makers of the metal combs used by wool combers. Such combs were used to tease out knots in the wool fibres and remove dirt and burrs prior to spinning the wool. The name Combers Lane in various forms survived to at least 1415; from the mid-15th century the lane is recorded as Well Lane[24], as shown and named on the Botwright sketch (Fig. 2), and from the mid-16th century it is recorded as Pump Lane. This central market lane had a further name change to Warwick Street in the early 19th century before its total removal from the market after the 1849 fire and subsequent remodelling of the market.

Cordwainers' Row A3: 1322 'Cordwaneria'[25]
The occupation of a 'Cordwainer' was that of a shoemaker, and the name is derived from the Spanish town of Cordoba, where a leather, known as Cordovan leather, was originally made. The leather was greatly prized for the making of shoes for the wealthier classes because of its soft, supple character. The Hundred Rolls record a messuage at the street's west end held by Hugh le Cordwener in the mid-13th century.[26] The street names 'Shoemaker Row' and 'Shoemaker Lane' are of a later date.

Corn Market C2: 1216–1272 'foro bladi'[27]
This reference appears in a document dated from the reign of Henry III (1216–1272), which does not give a precise date or location. The deed records that Robert Seman gave to William de Carim '...all his land with the houses standing thereupon in the Corn market at Cambridge, where the storehouses are situated, with the mill and with all the land which he held of William of St Edmund's in that place'. A Radegund deed[28] dated as 1263 or slightly earlier, records 'a messuage...in the Cornmarket, between land...of Nicholas ultra forum...'. Another Radegund deed[29] of 1388 records more precisely a 'messuage in St Edward's Parish...abutting on the Cornmarket and on a garden of Angleseye Priory'. Cambridge was an important centre for the sale and distribution of corn; there were five granaries on the east bank of the river at the end of Cornhythe Lane. Ramsey and Ely Abbeys had regular corn carrying services from their numerous manors to Cambridge. King John in 1202 had corn shipped from Cambridge to Norway; and by 1565 London was using Cambridge as a source of corn supply. It should be borne in mind that the term corn has varied meanings. It can be used as the collective singular noun for seed from all cereals or for any single crop, according to usage. It has often been used as a synonym for wheat, which was grown widely in East Anglia. The two commonest grains were wheat, needed for white bread, and barley, which was also used to produce barley malt. Oats, rye, and dredge (a mixture of oats and barley) were probably used by the poorer people and as animal fodder.

Cutlers' Row/Cutlery A2: 1297 'Culteller'[30]
Cutlers were the makers of edge tools, not just cutlery. Their products probably included a wide variety of agricultural, domestic and military instruments which required higher quality steel which could take a sharp edge. In 1412 there is a reference to property in 'Cotelerrowe next the market called le Pultrye',[31] and in 1474 a reference to a 'tenement in Cultelersrowe next Well Lane'.[32] From the 16th century this site is also recorded as Shearers' Row.

Cutlers' Lane A2: 1361 'le Cotelereslane'[33]
It is possible that this was originally an extension of the activities in Cutlers' Row. As late as 1864 the site of the present St Mary's Court was recorded as Cutlers' Passage.

Fair Yard Lane C3/D3: 1422 'Feyreyerdlane'[34]
This is the lane leading from the southern end of the market place to the beast market or 'Fair Yard'. The name 'Slaughterhouse Lane' for this road does not appear until the 16th century. The name 'Little Fair Yard Lane', for the present Guildhall Place, dates from at least 1583.[35]

Fish Market B3
Although we have found no specific references to a 'fish market', it is clear from local records that fish were sold in the open market place from earliest times. There are references in 1376 to 'sea fish, salted or dried, or herrings for sale in the market' and regulations that foreigners selling fish should pay one penny to the treasurers for every table as well as a yearly payment of one penny, 'called a stall-penny', to the bailiff of the market. Every burgess of the town was allowed to 'have one table or only place reserved for him, for his dry or salt fish, herrings or sea fish' without any payment to the town, but if he occupied more than one table he would have to pay to the treasurers in the same manner as a foreigner did for one table.[36] In 1578/9 the Common Day Book records the removal of the fish stalls from in front of the old

Guildhall to Peas Hill.

Goldsmiths' Row A2: 1285 'the Goldsmith's Row in St Mary's Parish'[37]
This may be an activity which later changed its location, because there is a reference to the 'Goldsmith's corner in St Benet's Parish' in 1571.[38] Goldsmiths were primarily engaged in the production of jewellery and ornamentation.

Leather Market B2/B3: 1362 'Lethermarket'[39]
Leather was used for footwear, clothing, some domestic utensils and in agriculture.

Malt Market B3/C3: 1337 'the market where malt and timber is sold'[40]
Malt was a staple of the diet because ale was brewed regularly in many households, since it deteriorated rapidly. Beer appeared in the 15th century, but did not displace ale until the 16th century.

Milk Market B2: 1349 'the common market where milk is sold'[41]
1360 'lane leading to the milkmarket'[42]
The lane leading to the milkmarket is now known as St Mary's Passage.

Oat Market C2: 1316 'a messuage... at the end of the Bucherie between a tenement of Walter fitz Thomas, butcher and the Oatmarket...'[43]
Oats were regarded as an inferior cereal, partly used as animal fodder, but also as a constituent of pottage for the poorer classes, who could also use it as a malt if barley was not available.

Peas Market C2: 1485 'Pesemarket'[44]
The late date of this attribution makes it a little difficult to justify the inclusion of this activity on the map, although there is little doubt about its earlier existence in the Cornmarket area. Peas were a staple item in the diet of the poorer people, particularly in times when there were bad cereal harvests, because they were an essential ingredient in pottage, along with oats, beans, onions and carrots. Pottage is not easy to define precisely, but it was a gruel or porridge which contained, according to availability, cereals, peas and other vegetables and occasional small amounts of meat or animal fat. Hence the old rhyme:

Pease porridge hot, pease porridge cold,
Pease porridge in the pot, nine days old.

Christopher Dyer[45] states 'most peasants before the Black Death lived on a cereal-based diet of bread and pottage'.

Unfortunately there is misunderstanding regarding the origin of the present name of Peas Hill, which derives from the former Pease market. It has been suggested that it is derived from the Latin for fish – *piscis*. It is true that at a much later date fish was sold in this area, and Atkinson's reconstruction plan[46] shows such a fish market. But the existence of a Pease market in this location at an earlier date is entirely logical because of its situation alongside the Corn and Oats markets, so that all the staple items for bread and pottage were being sold in the same area.

It is also worth noting that the Corporation Common Day Book for 1578/9 records the removal of the fishmongers from the place where they stood 'in the market over againste the newe Shambles', to their new location of 'the pease market hill'. This makes it clear that the 1485 reference we give above antedates the fishmongers removal to Peas Hill by nearly a century. There is also a reference from the Common Day Book 1571 of a plan to 'build a house where ye fishe stalls do nowe stand within the market place', for the Justices of the Assizes and Sessions. Atkinson comments 'it would appear that the site thus defined was the ground in front of the Town Hall, on which were situated the shambles'.[47] The fish market was therefore located in front of the Guildhall prior to 1578.

Potters' Row A2: 1249 'a shop in the market at the corner of Potteres rowe'[48]
A later reference of 1306 locates the Potters' Row at the northern part of the market between the Poultry and the Cutlery: *'le culteller' ubi olle venduntur'*.[49] Pottery was generally baked from local clays and or brickearths, but better quality articles may well have been brought in from other areas. Jugs and pots were essential for storage, cooking, boiling and drinking.

Poultry Row/Poultry A3/B3: 1364 'land near the Poultry market'[50]
There is a 1344 reference[51] to '...one [messuage] in the same parish [St Mary's] by Thomas of Barnwell the poulterer's, abutting on the market place...'. The site is recorded in 1388 as 'le Pulterirowe'.[52] In 1412 there is a reference to property in 'Cotelerrowe next the market called le Pultrye'.[53] Poultry was a common source of meat for all classes, particularly as they could be easily reared on any property without much attention.

Saddlers' Row B2: 1370 'Sadelerowe' [54]
This lies, not surprisingly, in close conjunction with the Leather Market. It would be equally unsurprising if the location of Lorimer's Row (see below) were also to be found in this area.

Shraggery C3: 1438 'Shraggery'[55]
See Timber Market.

Smiths' Row B2: 1271 'Smitherowe'[56]
Smiths' Row was an area of metal trades lying between the housing abutting on the eastern end of Great St Mary's and the adjoining free-standing block of shop houses. The 1271 deed refers to 'one piece of land with a house built thereon, stretching from St Mary's churchyard to smitherowe'. Traditional iron smithing must have been present, but the term does not exclude other metals; goldsmiths, silversmiths, cutlers and lorimers were close by in the same area. It may be worth noting that in many towns blacksmiths

were not found in central areas, possibly because of the risk of fire, to say nothing of the smoke and noise. Smiths' Row has also been recorded by the alternative names Combers Lane and Well Lane. From the early 14th century the name Smiths' Row disappears from records, and is replaced with the name Combers Lane.

Spicery A3: 1311 'le spicerie'[57]
Many foods, such as meat, fish and dairy products had a very short life, measured in days, not weeks, and because they could not last they were often tainted. To some extent this problem could be overcome either by drying, smoking or salting or by the use of onions and garlic, herbs and spices. Spices were luxury items, nearly all imported, and the spicers were a wealthy and important group of merchants, probably located in houses on the north east side of the market.

Dyer[58] indicates that there were two groups of spices:

a. the dried fruits (currants, dates, figs, prunes, raisins, almonds and rice) which modest households could afford to buy in small quantities;
b. the strongly-flavoured spices (cinnamon, cloves, ginger, mace, pepper, sugar, saffron), which only the richest households could afford.

Timber Market B3/C3: 1337 'The market where malt and timber is sold'[59]
The word 'timber' refers to standing or felled wood of considerable size used for major carpentry or building work. There is a reference at a later date to the Shraggery – 'a shop and solar in Butchery Row between tenement of Thos Hounde, one head on the row the other on the Shraggery'.[55] The term is derived from a Germanic root meaning a rag or tatter, but its meaning was extended to cover lopped branches and twigs from the cutting of underwood and the clearing of woodland. Over the centuries timber was sold less and less in the market, and was later brought in bulk to the timber market at Stourbridge Fair, but smaller sized wood, such as stakes and kindling, continued to be sold at this site in the central market place.

Tripers' Lane C1/C2: 1295 'Triperislane'[60]
Immediately west of the Butchery or Butchers' Row and running east-west to the south of St Edward's church was Tripers' Lane, corresponding to that part of St Edward's Passage which lies south of the church. This activity was obviously closely associated in character and location with the butchery; tripe, which is derived from the stomach of ruminants, especially sheep and horned cattle, was an important foodstuff at this time. A Radegund deed of 1305 makes mention of '...a messuage in Tripereslane...' in St Edward's parish.[61]

Notes on market activities whose exact location is not known

Apothecaries' Row 1286 'reugio apotechariorum'[62]
This is the only reference, which gives no clue to its location. Circumstantial evidence may place this activity on the site of the present Rose Crescent.

Cloth Market
There are two references in 1295 to cloth being sold from a site in the central market place; *'Thomas de Impitone tenet unam schoppam que fuit Johannis Audr in foro Cantebrigie [in parochia Sancte Marie] ubi vendant lineam telam'* and *'Elena Scherwynd tenet unam schoppam in foro Cantebrigie ubi vendant lineam telam'*.[63] There is also a reference in the 1347 Cross Book ordinance to 'tables of fishers, tanners, and others selling cloths and mercery...'.

Lorimers' Row 1299 'le Lorineresrowe'[64]
Lorimers were harness makers. This is the only reference, which gives no clue to its location, but it would seem likely that they were near the saddlers and metal trades.

Smeremongers' Row 1330 'le Smeremongger Rowe'[65]
There is no certain location for this activity, but the following reference from John Caius[66] is suggestive – *'Ex quibus est Smeremonger Lane, ad forum pisacium'*. This seems to place it near or towards the Fish Market. Smeremongers sold tallow, which was clarified animal fat, primarily from sheep. It was used to produce soap and candles and to dress leather. Tallow candles were of lower quality than those made from beeswax, because they were smoky and left an unpleasant smell.

Other market area features shown on the reconstruction plan

Petty Cury B3: 1330 'Parva Cokeria'[67]
1344 'le Petitecurye'[68]
This street ran eastwards from the market place towards the Barnwell Gate. In the early 14th century and before, it was clearly an adjunct to the market, housing the businesses and hostelries which provided cooked food for town's population and the market folk. From the mid-14th century the name is recorded in numerous different variations. The 1330 *'Parva Cokeria'* is rendered by Cooper as 'the little Cookery'.

Fountain B3
The earliest mentions of the Fountain are in the Corporation Cross Book in 1423 and 1429. It should be noted that this is not the same as the fountain of 1640 associated with Thomas Hobson. The earlier one was probably linked with a simple pump to draw water from the underlying gravels, whereas Hobson's was fed by a stream rising from Nine Wells at the foot of the Gog Magog Hills and brought into town by the famous conduit.

Market Cross B2
The earliest references appear in the 16th century, but it is clear that a market cross had been existence at this location in a much earlier period, although no precise date can be given. A proclamation was made from the steps of the cross at a set time and trading was forbidden before the market was declared officially open.

Pillory
There is a reference to the Pillory in 1346–47 *'In meremio pro pilloria et diversis expensis pro eadem* xijs ixd;[69] this does not give a site. Close to the Market Cross, at the heart of the commercial area, seems an obvious location for shaming public punishments.

Guildhall/Tollbooth C3
It is very difficult to establish the exact truth about the early group of public buildings shown on the map. It appears that the earliest recorded structure in this area was a house said to have belonged to Benjamin the Jew. There is a record of this house being leased to the burgesses in 1224 by Henry III to be used as a gaol, in itself an indication of the growing civic status of the town. More or less at the same time the Franciscans arrived in Cambridge and they were allowed to share this property, but it is not clear whether it was subdivided or was two buildings with a common entrance. In 1238 Henry rescinded his grant to the town in favour of the Grey Friars and allowed the town 10 marks to build a new prison, presumably the building mentioned as the king's prison in a writ addressed to the town bailiffs in 1248. Unfortunately it is not known where this building stood, but it is likely to have been near the Guildhall or Tolbooth. Again it is not clear whether these were alternative names for one building, the names of two buildings or a building with an upper floor. A Tollbooth was the point at which traders paid their tolls and it must have been in existence for some time before its mention in 1322;[70] Mary Lobel suggests before 1300.[71] It is logical to think that it would have become a focal point for the meeting of the important merchants in the town (wholesalers and entrepreneurs, not retailers), and it may therefore have been a building which later became the official Guildhall. Cambridge first began to appoint its own civic officers about 1212, when bailiffs began to collect the town's farm, and the first Mayor is in 1231. It is therefore probably in the early years of the 13th century, sometime after John's charter of 1201, that the term 'Guildhall' came into use. This same charter confirmed the Gild Merchant of Cambridge, which in the 12th century had provided the elements of town government. It therefore seems likely that the Tollbooth may have developed as a building in which the Gild Merchant met, perhaps in an upper room over the area where goods were weighed and tolls paid. It is known that the later Guildhall was a building with this structure.

It must be stressed that although the existence of these buildings is certain, their exact location, structure and use have never been identified with absolute certainty. What is also certain is that they had a vital part to play in the functioning of the market, and that they were the forerunners of the much larger municipal complex that we see today.

Pinfold C3
A Pinfold is mentioned in property abuttals of 1396[72] for a site placed near to the Butchery. This animal pound is also recorded by name in 1382 and 1422 and may be that placed by Palmer[73] at the present Parson's Court. A pinfold was an alternative name for an animal enclosure, and here may have been either a holding place for animals due for slaughter prior to their sale in the Butchery, or a pound for stray animals.

Other market area features not shown on the reconstruction plan

Shambles B3: 1561 'rent of flesh shambles in the market'[74]
The term Shambles takes its name from the plural of shamble, a market table or stall (ME *shamel*, OE *sceamul*) related to the Latin *scamnum*, a bench or stool. It was originally used for a board, shelf or table on which any kind of goods were displayed for sale, but later came to have the more specific meaning of a butcher's shop or stall selling meat. A number of references dating back to at least the 16th century indicate that new buildings were being or had recently been constructed to house the shambles in Cambridge, which implies that something similar had existed earlier. Possible evidence for this is a reference in 1347 for receipt from the *'novis shoppis ex opposito gilde Aule'*,[75] although the location is not exact. It is likely that these new shops stood on the same site as those referred to in 1552 as 'two houses constructed for the butchers to stand in'[76] ; in 1578 as 'the newe shambles'[77] ; and in 1581 as 'two long shops, then building, called the Shambles'.[78] These shops can be seen on the maps of Lyne (1574), Hamond (1592) and Loggan (1688) on the north side of the old Guildhall, and they are also firmly indicated there on Atkinson's map. Clearly the Shambles did change position over the years, but it does not seem unreasonable to suggest that they were to the north of the old Guildhall in the 14th century. They remained here until the building of the 1747 Shire House and their subsequent removal to the Petty Cury and Butcher Row/Guildhall Street corner site, which Atkinson states 'was occupied on market days by about a dozen butcher's stalls'.[79]

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A Late Sixteenth Century Pit Group from Pembroke College Library, Cambridge

Andrew Hall
with Rachel Ballantyne, Andy Clarke, David Hall, Quita Mould,
Maisie Taylor and Penelope Walton Rogers

The redevelopment of Pembroke College Library, Cambridge, revealed archaeological features spanning the 14th to 17th centuries. This included a series of pits, and more importantly, a clunch-lined pit containing a rich assemblage of later 16th century finds. The assemblage included pottery, animal bone, metalwork, bone and ivory artefacts, leather, textiles and wooden objects. Such a well preserved and varied finds assemblage of this date provides a rare insight into the nature of domestic refuse during this period as well as more specific associations with an urban manorial workshop.

Introduction

During an archaeological watching brief on recent redevelopment work on Pembroke College Library (TL 54490/25810), remains were found of an extension to the Old Brewhouse[1] building which currently lies immediately to the south of the library, within the grounds of Peterhouse Master's Lodge (Figure 1). From the cartographic evidence (notably Loggan's map of 1688 and Custance's map of 1798; Figure 2), it seems clear that the northern end of the Brewhouse was in part demolished to make way for the construction of the library in 1875 on land incorporating part of the Fellow's garden, and a strip of land acquired from the neighbouring Peterhouse Master's Lodge (Willis & Clark 1886).

A stretch of wall exposed within one of the rooms of the Library (Room A) seems to correspond to the northern end of the Brewhouse, although it is probably a late 17th or early 18th century extension rather than part of the original foundations (Figure 3). This extension may have functioned as stables for the newly constructed Masters Lodge, built in 1701 and bequeathed to Peterhouse in 1727 (Hall & Baggs 2000). Use as stabling provides one possible explanation for the lack of an eastern return wall foundation, although prior, albeit limited, archaeological investigation within the Brewhouse identified a large posthole possibly relating to a post and panel east wall, probably punctuated by stable doors. The western extension wall was 0.70m wide, and survived to a depth of 0.40m, consisting of red brick and roughly dressed clunch rubble bound in a sandy mortar. A well-dressed clunch block incised with a naïve representation of a flower was found within the foundation, indicating reuse of earlier architectural fragments.

Removal of the wall exposed the top of a backfilled, clunch-lined, square pit, at a depth of 1.05m below the existing ground floor level (Figure 4). Its upper courses had been damaged by the later insertion of the wall foundation. The lining of the pit was inserted within an irregular square cut of approximately 1.4m width. It consisted of three irregular courses of roughly shaped clunch blocks of varied shape and size above four well-finished blocks of 20cm height supporting each side at the base. At the base the internal dimension was 0.75m and the pit survived to a depth of 0.80m, providing a capacity of 0.45m^3. The side walls were vertical, however the northeast and southwest walls tapered out towards the top due to later disturbance and settling. No mortar was observed between the stone blocks, however fragments of roof tile were inserted into sizable gaps. A small post or stake hole of 4cm diameter was present, adjacent to the northeast side of the pit. Considering the size and construction of this pit, its original function is interpreted as a cesspit.

The pit fill consisted of a dark grey brown clay silt with a large amount of building rubble, mainly brick and tile. There was also a high concentration of finds that are discussed below; waterlogged deposits were encountered 0.20m below the upper surface. Deposits were excavated by hand, as a single context, although some layering of materials was noted. Building rubble and pot were predominant within the upper fills. This of course may be due to preservation factors, such as the aerobic decomposition of organic remains. Two samples of approximately 10 litres of the lower fill were taken for environmental analysis (see below). The residue from the sieving was also examined to retrieve further finds, while all spoil was scanned with a metal detector.

Apart from this feature a number of others were recorded in the course of investigation. Within rooms (B) and (C) of the library, a total of four pits were recorded (Figure 3). Pits 1 and 2 contained ceramics of the 14th and 15th centuries with small assemblages of animal bone. Pit 3 was devoid of finds and so can only be attributed a pre-Library date. A much larger assem-

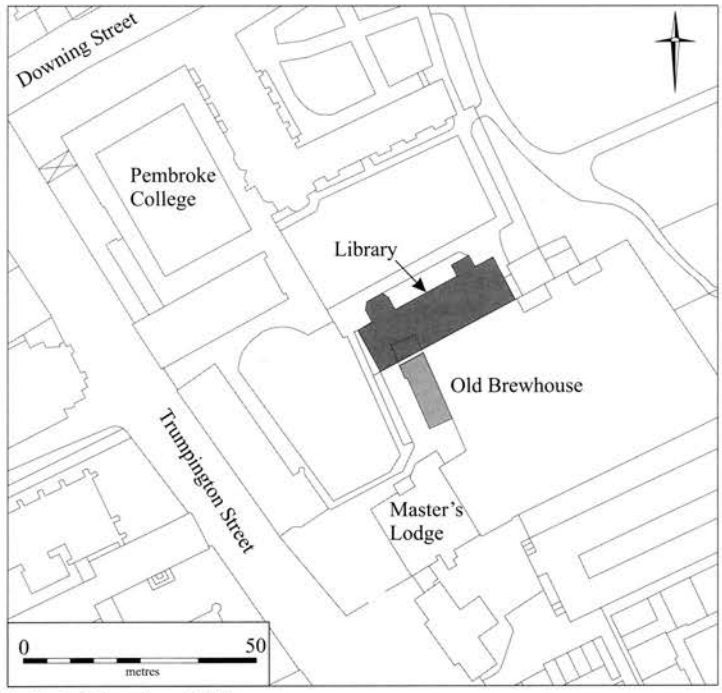


Figure 1. *Location map*

blage was retrieved from Pit 4, the pottery dating it to the early 17th century, roughly contemporary with the cess-pit assemblage. The first two pits are likely to be associated with small scale gravel extraction, possibly within the yards of properties fronting Trumpington Street. One such property was St Thomas's Hostel, which provided accommodation for scholars and was acquired by Pembroke in 1451 (Willis & Clark 1886).

Pit Assemblages

Pottery

David Hall

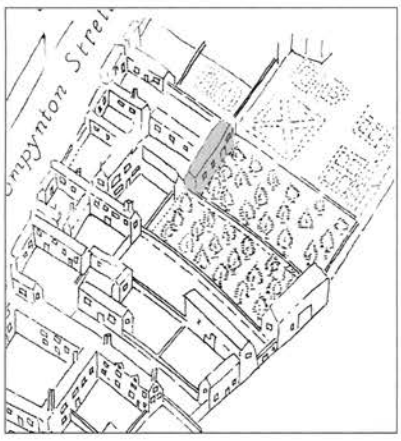
The pit produced 222 sherds, many refitting to provide complete vessel profiles. The remarkable nature of this group is that it consists almost entirely (94%) of the different types of vessel produced at Ely, at a kiln site off Broad Street and at an adjacent location called Babylon. The 16th century saw a resurgence of pottery production at Ely at the new location, making wares quite different from the coarse medieval fabrics.

Current work by Cambridge Archaeological Unit at Broad Street has revealed a kiln and pottery working area that demonstrates the full range of production (Alexander 1998). This included mugs (tygs) in a black, iron glazed red earthenware, a copy of material called Cistercian ware produced in Yorkshire from the late 15th century onward. This had been recognised in Ely in the 1960s and was then called Babylon ware after the Ely district in which it was found. Another kind of fine ware, now called Ely Fine ware, was made from a clay that fired off-white or light pink. It was lead glazed, usually with copper added to give a speckled green colour. Some vessels had a clear glaze internally that gave a light yellow finish. Forms were mostly jars with a single handle, but chafing dishes were also produced. The fabric is probably the same as material identified at King's Lynn in the 1960s, then known as NS ware (Clarke & Carter 1977).

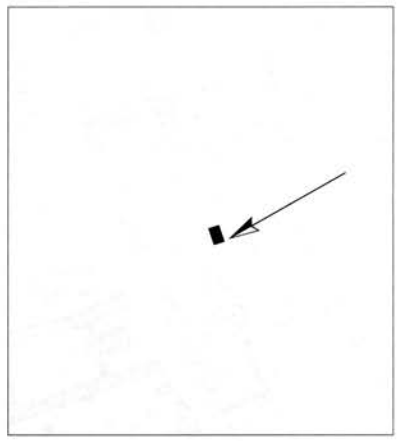
The commonest coarse pottery used during the 16th to early 18th centuries was red glazed earthenware produced at various sites. Ely produced this in a range of forms, mainly large jars, bowls, shallow dishes, basting dishes, and some jugs. Glazes were clear, giving a red or greenish appearance. These fabrics are now called Ely Broad Street Ware. Some very fine red earthenware was produced and glazed in bichrome like the off-white Ely Fine Ware. This fabric was recognised in the 1960s at King's Lynn, where it was erroneously called West Norfolk Bichrome (Clarke & Carter 1977).

Pembroke cesspit produced good examples of all three Ely fabrics (132 sherds of Red Broad Street ware, 33 Babylon, and 20 Ely Fine ware) and a complete range of forms; tygs, jugs, bowls, jars, pipkins, cisterns, and costrels (Figure 5).

There were additionally 14 sherds from imported vessels (6%). These included 11 of German stoneware (Frechen), one decorated Netherlands maiolica sherd (Figure 5: no.15), one clear tin-glazed white ware, and a sherd from a scalloped bowl in off-white fabric with a turquoise tin glaze (no.14), believed to originate from Germany or the South Netherlands[2]. The

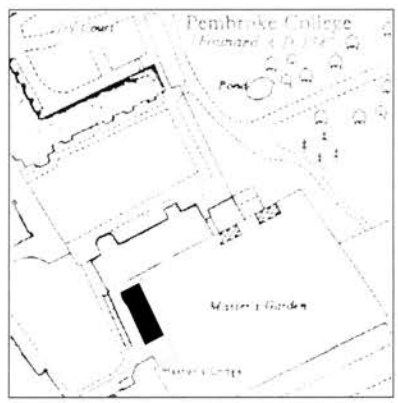


Hamond 1592



Loggan 1688

Custance 1798



Ordnance Survey 1886

Figure 2. *The cartographic evidence, showing the position of the Brewhouse structure. Hamond's 1592 map: top orientated to north-west*

Pembroke assemblage is dated to the second half of the 16th century by the pottery imports. The Ely kiln has been dated archaeomagnetically to 1510–1590 AD (Noel 2000).

Metalwork

Two jetons were recovered from the cesspit. One is of Hans Krauwinkel II of Nuremberg, active between 1585 and 1635. The other is of Egidius Krauwinkel also of Nuremberg active between 1570 and 1635 (Mark Blackburn pers comm). These provide a clear date for deposition after 1585. Such jetons are commonly encountered on post-medieval sites. Several explanations have been proposed for their function. They may have acted as small change, exchangeable for goods and services in pubs and other small businesses. They may have also been tokens associated with exchequer boards.

A small lead cloth or grain seal was recovered. This was approximately 1cm in diameter and had no apparent design impressed into its surface. An iron hook, possibly a meat hook and an iron hammer were also found within the pit. The hammer measures approximately 14cm from claw to head (more accurate measurements are not possible due to the heavy corrosion present). The iron head is attached to a wooden handle surviving to a length of 12cm.

The relative lack of metalwork within this context has already been mentioned above, and is probably related to recycling. It is unlikely that problems of retrieval are a significant factor as a metal detector was used to scan the spoil during excavation.

Wood

Maisie Taylor

This assemblage includes a high proportion of extremely fine objects and fragments. These include fragments of a spoon (Figure 6, no. 7) and a vessel base (no. 1). The latter has a thick base and foot, and may have functioned as a mortar. Small mortars were used by pharmacists and apothecaries, and also for grinding snuff in inns (Evan-Thomas 1976). The design of gaming pieces hardly changes through time (Margeson 1993). The example from this assemblage

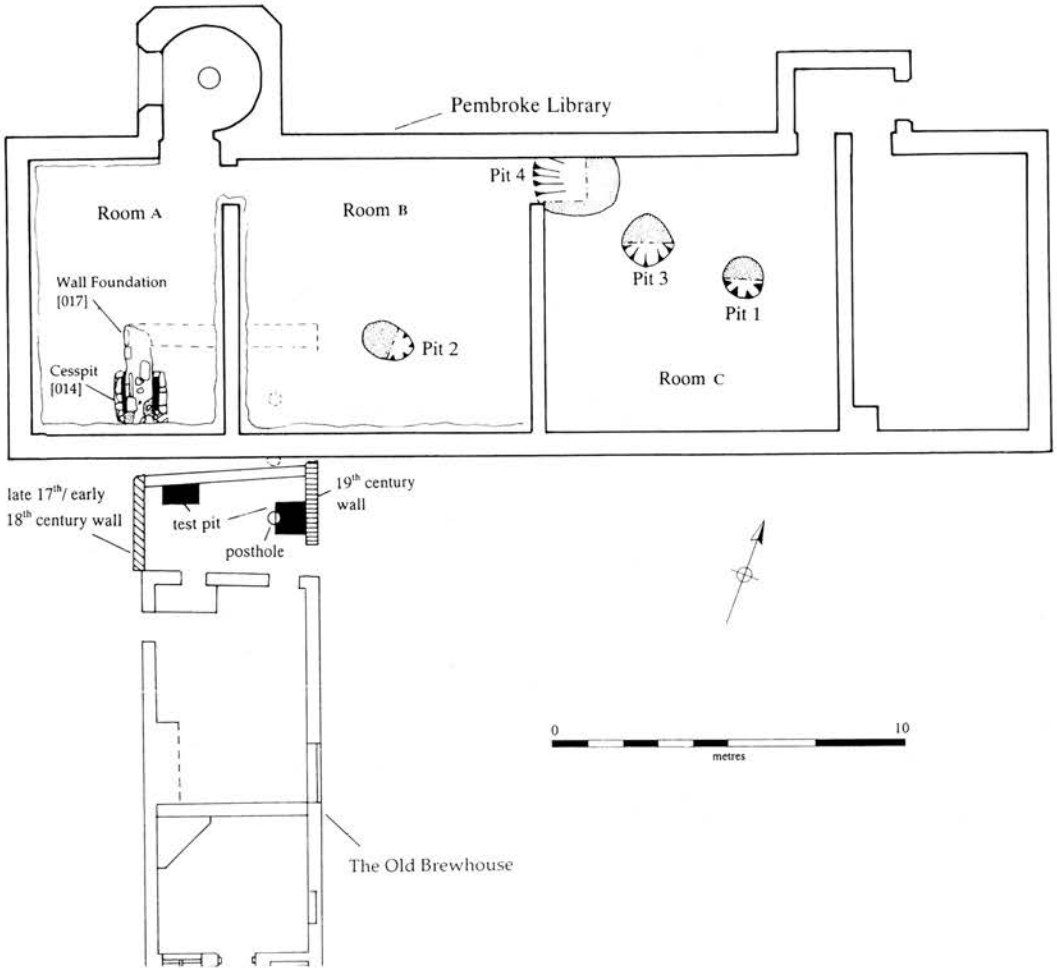


Figure 3. *Archaeological features within the Library footprint and the association with the Brewhouse structure*

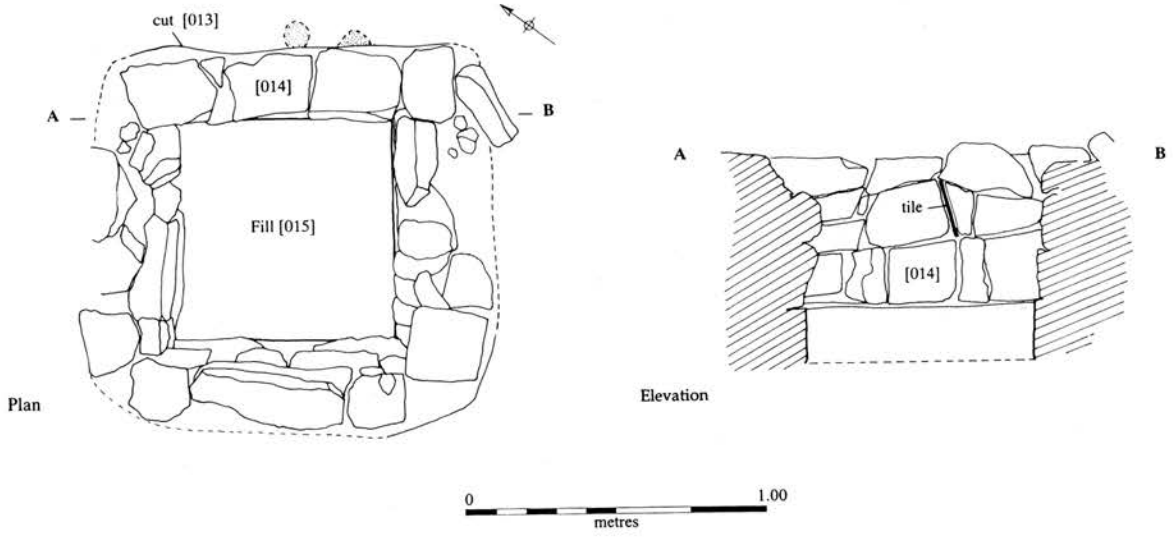


Figure 4. *Plan and elevation of the cesspit*

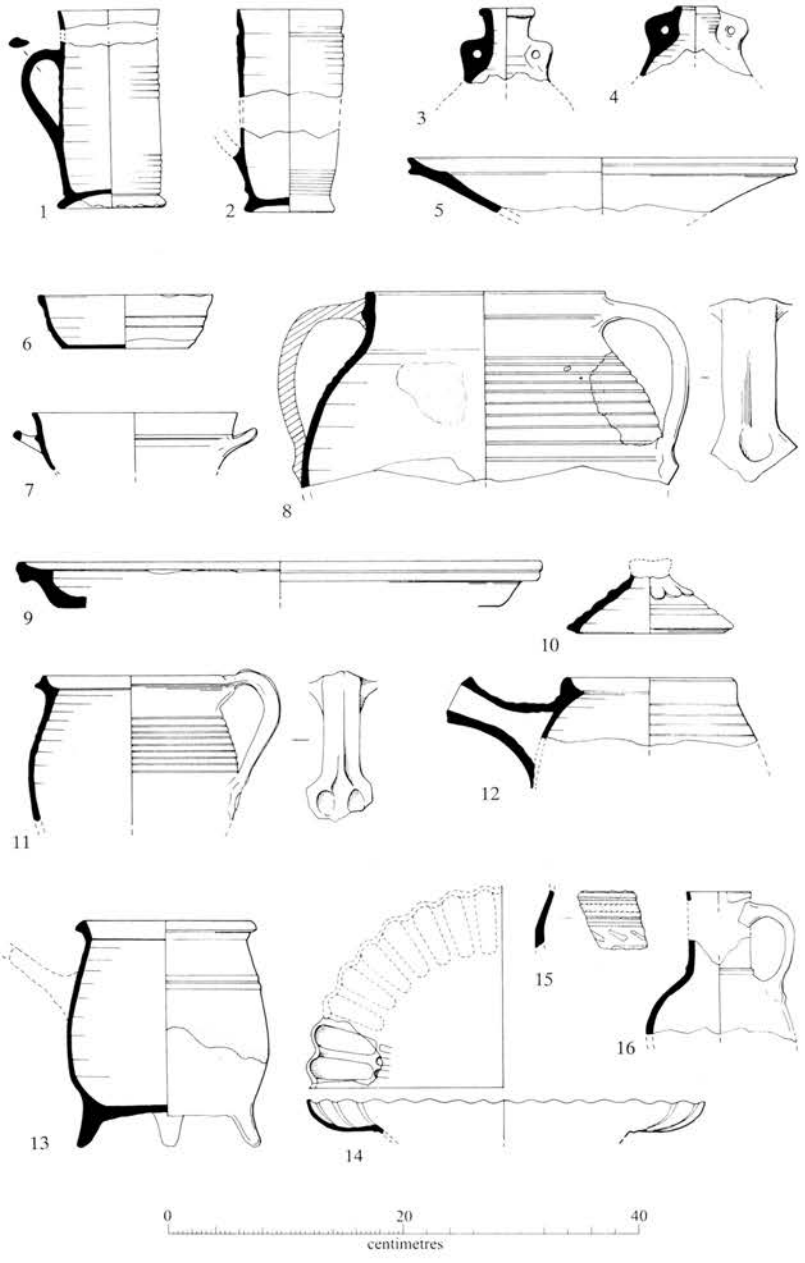


Figure 5. *Pottery*

1,2: Tygs in Ely Bablyon fabric. Red earthenware with lustrous black glaze inside and out. The vessel with an incomplete profile has a stacking scar on the base underside

3: Costrel rim in red earthenware with broun external glaze

4: Costrel in Ely 'off-white' fabric; red inner surface, external green glaze with patches of dark gree

5: Shallow bowl in off-white Ely Fine Ware fabric. Darkened pink unglazed exterior, clear interior glaze with much green addition

6: Small bowl of Ely Fine Ware with blotchy green glaze inside and out

7: Small bowl with looped handle in Ely Fine Ware. The surfaces before glazing were slightly oxidised. so the glazed colours are light orange inside and green external

8: Upper part of handled jar in Ely Fine Ware, bichrome. Clear (buff-red) internal glaze with patches of very light green, external dark blotchy green glaze. The strap handle with a single rib

9: Shallow dish in red earthenware, blackened on the outside with clear internal glaze

10: Lid in red earthenware with thin glaze on upper surface

11: Red earthenware jar with plain strap handle and patchy clear glaze inside and out

12: Red earthenware jar with hollow applied handle; dark green external glaze

13: Pipkin in red earthenware, all-over internal glaze, exterior glaze on the upper part only

14: Part of a scalloped bowl in off-white earthenware with a pinkish tinge. Dense tin glaze on both sides in a light blue-green. German or South Netherlands (J Poole pers comm)

15: Netherlands Maiolica type in off-white biscuit without glaze. Polychrome decoration with the third strip from top being purple, the remainder blue

16: Top of a Frechen jug with speckled brown iron glaze

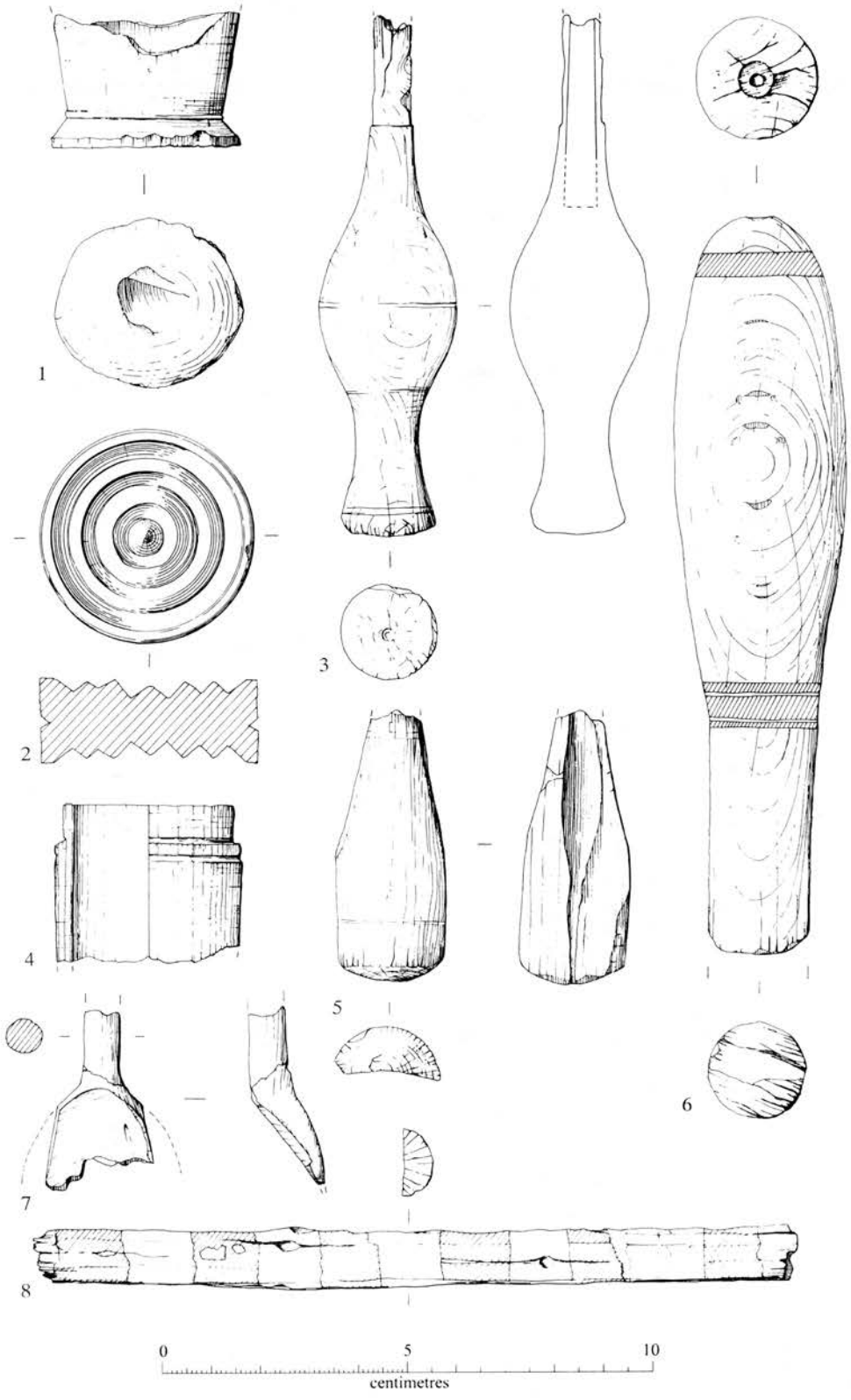


Figure 6. *Wood*

*1: Base fragment of vessel. Spindle turned, possibly of alder (*Alnus glutinosa*)*

2: Gaming piece

3: Turned handle with bulbous grip

*4: Fragment of a circular box, probably ash (*Fraxinus excelsior*)*

5: Small turned handle

*6: Turned painted handle of oak (*Quercus*) from a split billet of fine-grained wood*

7: Spoon fragment carved from very fine-grained wood

8: Split semi-circular lath or beading, painted

is a classic draughtsman (no. 2).

Handles are frequently (in comparison to other wooden artefacts) found in archaeological deposits. This is a reflection on the reusable nature of the metal tool, with the wooden part breaking or being replaced. Handle (no. 3) was for a small round tanged tool. The thin socket walls, the round section and the fine finish suggest a small hand tool rather than an object such as a knife (Margeson 1993). The turned piece (no.6) with painted bands resembles a handle, but it is possible it had a different function. A spinning wheel for example has small turned parts, and wooden handles might be fitted to equipment such as pumps and cranks.

The spoon fragment (no. 7) is small and unusually finely made (Margeson 1993). Wooden spoons of this date and of such fine quality are not common. They do not vary much chronologically, but tend to vary a great deal functionally. A further finely made artefact is the small, spindle turned, circular box (no. 4). It is of a type common from the 12th century onwards. The base of a similar box from York, is illustrated by Morris (2000).

The split lath (no. 8) is painted, and punctuated by small nails or pins. This and the delicacy of the piece suggest it was originally attached to a larger object as a decorative beading. It is interesting that the paint is better preserved on the flat side. If it was pinned to a piece of furniture or perhaps an architectural fixture, then the paint on the flat side would have been protected from wear. The presence of pigment on this piece and on no. 6 is very rare indeed.

Worked Ivory and Horn

Two artefacts within this category are illustrated in Figure 7. Both were initially believed to be handles for small tools. However closer examination suggests that the larger of the two may be a needle or pin case (no. 1). Although stained brown by tannins within the cesspit, this appears to have been turned from ivory, although of unknown species. The screw terminal suggests a small lid would have attached. This case is finely turned and finished, clearly an object of quality and worth. The other artefact is a handle carved in horn may have belonged to a small iron knife or tool (no. 2), evidenced by corrosion products.

Leather

Quita Mould

Three small fragments of shoe uppers and 11 bottom unit components from shoes of welted construction were recovered, coming from a minimum of five shoes. Shoes for adults and a child are present (Figure 8). The group was dominated by bottom unit components, the toe area had been deliberately cut away from one sole and another bottom unit component was heavily worn, suggesting that the leather assemblage represented a small dump of cobbling debris rather than purely domestic waste. The shoe parts recovered have characteristics that suggest they date to the very end of the 16th/beginning of the 17th century (1590s–1620s). The fragments of uppers recovered have a decorative scalloped edge running along an extension of the front edge of a narrow latchet. It was not possible to distinguish whether the upper fragments come from vamp and quarters, quarters and quarters lining, or two right quarters from two similar shoes from the preliminary scan.

Textiles and Felts

Penelope Walton Rogers

Waterlogged conditions in the cess-pit [15] have led to the preservation of several fragments of wool textile and felt. The textiles include strips cut from a garment or hanging of some sort, while the felts are worn pieces which were probably already quite fragmentary by the time they were deposited.

Because the material was well preserved, it was possible to select samples for analytical work. Two yarns from one of the textiles and two samples from representative fragments of the felt were used for identification of the 'fleece type'. This is based on the measurement of the diameters of 100 fibres and allows the sample to be allocated to one of seven fleece-type categories (Ryder 1969; Walton Rogers 1995). The same samples were also tested for dye, using absorption spectrophotometry and thin-layer chromatography (Walton & Taylor 1991). All samples proved to be heavily contaminated with tannins, some or all of which may have been acquired as a result of burial in association with wooden objects and tanned leather, but in one of the felts it was also possible to detect a trace of red dye (see below).

Textiles

The four fragments of textile are all woven in plain 2/2 twill. Thread-counts (number of threads per cm) range from 12 x 14 to 15 x 20 per cm and this must

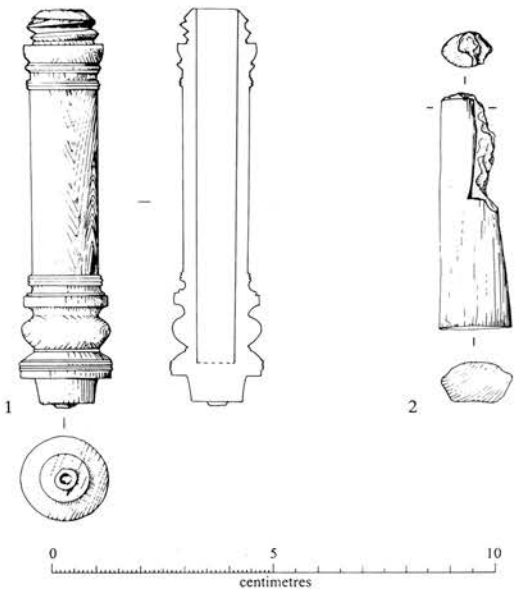


Figure 7. *Worked Ivory and Horn*
1: Turned Ivory pin case
2: Horn knife or tool handle

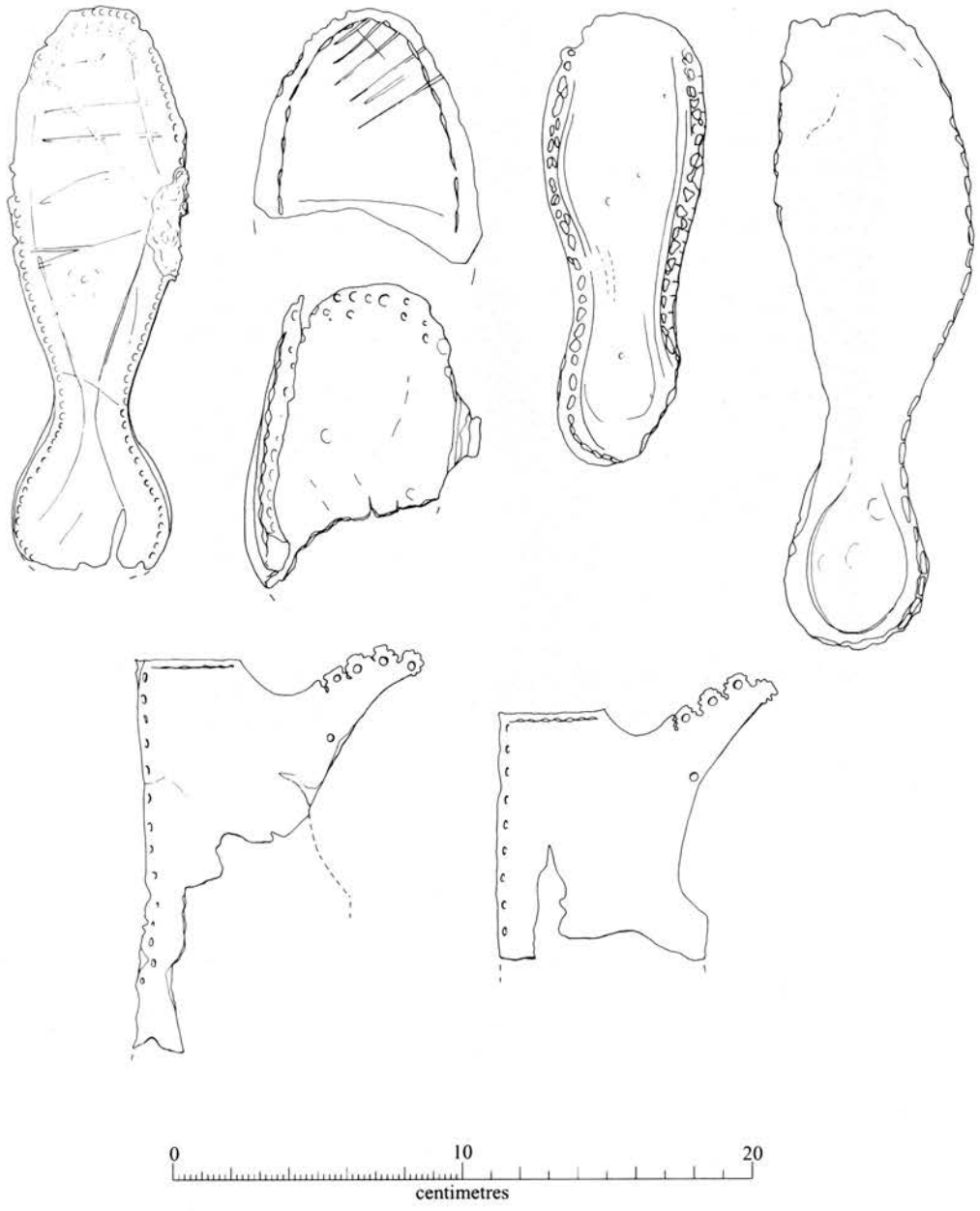


Figure 8. *Leather. A group of leather shoe fragments*

mean that there are at least two different fabrics present, although in all other respects the textiles are identical. These fragments are 'worsteds', a term which indicates that they are woven from smooth yarn which has been spun from combed wool. The fleece-types of one fragment proved to be Medium in one direction (probably the warp) and Semi-Fine in the other (probably the weft). Medium wools come from the fore-runner of the modern longwool breeds and are especially common in worsteds. The Semi-Fine is found nowadays in the shortwool Downland breeds: it appears in English and Flemish textiles from the 15th century onwards and would have given the fabric a slightly softer drape than is usual in worsteds.

Two of the pieces are narrow strips, folded lengthways, with stitch-holes along the fold and cut edges along the opposite side. They have obviously been cut from the edge of a garment or hanging, presumably during repair or re-working of the object.

Worsteds form a small percentage of medieval wool textiles, being far outnumbered by 'woollens', which are softer, felted fabrics (Crowfoot *et al* 1992, 36–7). Most recorded examples of medieval worsteds are 2/2 twills of the quality described here (ibid. fig.20). During the Tudor and Elizabethan periods, however, lighter and finer worsteds began to appear, often in new weaves, a process which can be seen most clearly in the dated sequence of tailors' offcuts from 15th- to 17th-century Newcastle upon Tyne (Walton 1981, 194–5; Walton 1983, 218, 230). The old

style of heavier worsted, as represented by the Pembroke College pieces, continued to appear during the post-medieval period, but it is less frequently found among collections of tailors' waste or garment parts. It is possible that by the later 16th century, such textiles were regarded as furnishing fabrics and used for bed curtains, bench covers and so on.

Felts

The 15 fragments of felt may be divided into two types, one 1.5mm thick and the other 2mm thick. The thicker of the two is made from a Semi-Fine fleece-type and includes fibre tips, which indicates that it comes from a lamb; the thinner felt is made from a Generalised Medium wool. The Generalised Medium wool is a common medieval type and, in terms of the evolution of the fleece, the predecessor of the Semi-Fine (see above). The two types are often found together in 15th- and 16th-century collections, as this is when the Semi-Fine began to displace the Generalised Medium, but in practical terms they are very much alike and were used for similar purposes. A trace of the red dye, madder, was detected in the thicker of the two felts. Madder is derived from the roots of the plant, *Rubia tinctorum* L, and was the most common dye in the large medieval collection of textiles from London (Walton 1992). It was used for shades ranging from peach, through tan to brick red.

Woven textiles with a felted appearance were commonplace in the 16th century, but true felt, made by compacting fibres with the aid of heat and moisture, was comparatively rare. Felt represents only 0.4% of all 16th-century archaeological finds of wool fabrics (author's unpublished data[3]), and there was only one small fragment of felt among the 490 16th-century textiles from Newcastle upon Tyne (Walton 1981, 200–1). Historical records show that felt making was largely the province of the hat makers (Bowden 1962, 47) and it is therefore highly likely that the Pembroke College fragments come from hats. Felt hats of the later 16th century might be worn plain, or covered in silk and ornamented with hat-bands, feathers and spangles. Stylish hats worn by men and women in Elizabethan portraits, for example, are known to have been worked on a felt base (Arnold 1988, 200–2).

In conclusion, these items have been shown to include strips cut from used fabrics, possibly furnishing fabrics, and worn-out felts which are likely to represent the remains of two hats. They therefore add to the evidence of the other artefacts, for deposition of domestic refuse in the cesspit.

Faunal Remains

Andy Clarke

Bone in the assemblage is on the whole in an excellent state of preservation, a result of the environment provided by the cesspit. This fact has made it possible to identify 72.2 % of the assemblage to species level and retrieve a high degree of data relating to such aspects as age at death and butchery practices. The species present within the assemblage are detailed in Table 1. This demonstrates an almost complete dominance by the major domestic species with, it seems, a preference for sheep. However, this preference does not eclipse the other species and, even though sheep probably formed the mainstay of the food intake, other domestic species made a significant contribution to a varied diet. Almost all of the skeletal elements are present in the assemblage. There is a notable lack of phalanges, no doubt a result of a recovery bias due to the difficult excavation conditions.

Table 1. Number of identifiable specimens per species (NISP).

Species	NISP	% of Total
Cattle	32	7.3
Sheep	98	22.3
Sheep/goat	2	0.4
Horse	9	2.0
Pig	10	2.3
Chicken	5	1.1
Goose	7	1.6
Cow size	68	15.5
Sheep size	51	11.6
Rodent	1	0.2
Fish sp.	22	5.0
Frog sp.	13	3.0
Unidentifiable	122	27.7
Total	440	100

The standard of preservation of the assemblage also made it possible to record a high degree of butchery evidence. As stated above almost all of the skeletal elements are present in the assemblage. This in itself is an indication of primary butchery, with the animals possibly being slaughtered close to, if not on, site. Added to this assumption is the fact that 8.8% of the bones displayed cut marks. The location of these cut marks provides further information on butchery practised at the site. Skull bones are cut across the occipital condyles, cut marks are also present on distal humerii and proximal radii, all of which are stereotypical indications of the dismemberment of a carcass during primary butchery. Added to this, there is also an indication that secondary butchery also occurred on site. This is manifested in cut marks on the pelvis and scapula indicating filleting of meat from these major meat-bearing bones. Also, almost all the vertebrae had been cut through the spinous process. This is a standard butchery practice that was well established by Saxon times and results from a carcass being split in two along the length of the spine (Crabbetree 1989). All the above observations represent classic secondary butchery of a prepared carcass into joints of meat.

It was possible to retrieve a moderate amount of ageing data. Age ranges are shown in Table 2 and it is clear that very young to fully mature animals were being exploited, no doubt producing a variety in cuts of meat. A further aspect of site activity is highlighted by foetal remains of cattle, sheep/goat and pig and juvenile remains of chicken. These bones indicate that, at least to a limited extent, animal husbandry was being practised within the vicinity.

Table 2. Age ranges observed for the major domestic species

Species	Age Range
Cattle	Foetal – <3yrs
Sheep/goat	Foetal to 4–6yrs
Horse	<3yrs
Chicken	Juvenile
Pig	Foetal to subadult

The faunal assemblage has provided a surprising amount of interpretive information considering its size. Information set out in this analysis shows that there was access to a good and varied supply of food. It is clear that the three major domestics, cow, sheep and pig, formed the mainstay of a diet that was supplemented by domestic chicken and geese, which were no doubt also kept for eggs. A small amount of fish bones were also recovered, although not identified to species level. All this is suggestive of an organised economic system involving the breeding, slaughter and butchery of smaller species of domestic animals, and at least the butchery of the larger domesticates.

Plant Remains

Rachel Ballantyne

The main economic plant remains are fruit stones of plum types (*Prunus domestica s.l.*) and dwarf cherry (*Prunus cerasus*). The plum stones fall into two morphological groups: those that are elongate, smooth and similar in cross-section to a primitive plum (*Prunus domestica*), and those which are larger and more flattened like stones of cultivated bullace or damson (*Prunus domestica* ssp. *institia*). There is often a high level of hybridisation between different plum types however (Murphy 1987), so such distinctions are fairly tentative.

Plums are believed to be introduced to Britain, and occur to varying degrees from the Roman period onwards. It is possible that early remains may represent imported fruits, but it does seem that plum types were cultivated in this country by medieval times (Greig 1991). Remains here were probably gathered from planted trees. The dwarf cherry is also an introduced species with a similar history in this country to plums. Nut types are also represented by their waterlogged shell remains. A small amount of hazelnut shell is present. There is also one fragment of walnut shell (*Juglans regia*).

Three other taxa present in small quantities in the sample may also have been deliberately grown. Holly (*Ilex aquifolium*) is often found planted in gardens and hedges despite being a native species. Large seeds of cabbage/mustard (*Brassica/Sinapis* sp.) may well represent a cultivated species, although this is difficult to determine, due to the similarity of the seeds within each genus. Finally there is one seed and tepal comparable to patience dock (*Rumex* c.f. *patientia*). This species was a continental introduction once grown as a pot-herb, and remains naturalised today in a few waste places (Grigson 1955).

A very distinctive range of 'wild' taxa is present within the well. Henbane (*Hyoscyamus niger*) dominates the assemblage with lesser amounts of cotton thistle seeds (*Onopordum acanthium*). Both species are associated with rough or waste ground, especially that which is high in nutrients; Perring *et al* note in their *Flora of Cambridgeshire* (1964) that henbane is particularly associated with farmyards, and Stace (1997) links it to manure of rabbits and cattle. The other highly represented species is stinking mayweed (*Anthemis cotula*), which is usually an arable weed but occurs also on rough ground. It has a very distinctive ecology, and is described by Hanf (1983) as being found 'particularly on fresh to wet, nutrient-rich, humus, water-logged loams and clay soils'. A small number of nettle seeds (*Urtica* spp.), which are often associated with nitrogen-rich soils, are also present.

Many other lesser components of the assemblage also suggest a disturbed environment. There are a range of Dock Family (Polygonaceae) taxa, including knotgrass (*Polygonum arviculare*), small-seeded docks (*Rumex sanguineus/conglomeratus/obstutifolius*) and curled dock (*Rumex crispus*). Also, one or two seeds of prickly sow-thistle (*Sonchus asper*), long-headed poppy (*Papaver dubium*), chickweed (*Stellaria media*), and goosefoots (Chenopodiaceae).

In addition to stinking mayweed and the dock species several other of the taxa present suggest that soils were quite damp. There are five seeds of hairy sedge (*Carex hirta*), two of cottontail grass (*Eriophorum* sp.) and single seeds of common spike-rush (*Eleocharis palustris*) and willowherb (*Epiliobium* sp.).

Some taxa are more characteristic of open grassy areas, such as buttercups (*Ranunculus acris/bulbosus/repens*), greater plantain (*Plantago major*), dandelion (*Taraxacum* sp), daisy (*Bellis perennis*), and common knapweed (*Centaurea nigra*). However, these all occur in very low amounts in comparison to the disturbed/rough ground flora, and there are only a few seeds of grasses present.

In summary it may be suggested that the surrounding area was of disturbed or rough ground that was nutrient-rich, possibly manured, and slightly damp. With the exception of one elder seed (*Sambucus nigra*) and the fruits of planted trees earlier discussed, virtually all plant taxa are small and of open areas including a low number characteristic of grassy places.

Historical evidence suggests that gardens were present in the vicinity of the feature during the later 16th century. In some respects the remains here support this, but they also diverge from this interpretation. As discussed many of the plants suggest an open environment with disturbed, nutrient-rich (possibly manured) soils that were damp – rather like a garden soil. There are remains present which must have derived from cultivated plants, such as plum types and walnut, and other species which might have been planted including holly, cabbage/mustard and patience dock. But there are two potential sources for such remains:

a) debris from cultivated plants growing nearby
b) remains of consumed foods deposited within the

artefactual rubbish that is also present within this context

It is likely that many of these seeds are widely displaced from their area of growth.

Whilst the 'wild' taxa indicate damp garden-like soils, they are also all species found commonly on disturbed wasteland, and most could be regarded as weeds within a garden. Both henbane and stinking mayweed are also noted for the particularly foetid nature of their blooms. All the potentially cultivated species, whatever their source, are far outnumbered in the assemblage by wild seeds. The assemblage from Pembroke College corresponds particularly well to that from waterlogged 16th century garden features at Hill Hall, Essex (Murphy & Scaife, 1991) where large numbers of wild taxa including those of open, disturbed, and damp soils were found. The examined contexts were interpreted as representing a stage of dereliction and backfilling, and this was further supported by domestic debris within the features. At Pembroke College two possible interpretations exist:

a) That the infilling of the feature with domestic debris marks a stage of dereliction for the gardens, in similar fashion to Hill Hall. Wild flora through their associations with nutrient-rich, disturbed soils suggest that the surrounding area had previously been cultivated.
b) The feature was located in an uncultivated but open area of rough ground, possibly to one side of the gardens, where manure had possibly been stored, and/or domestic waste left. The waste may have been deliberately placed into the feature, or could have slumped into it through time. The accumulation of occupation debris would create disturbed, nitrogen-rich soils conducive to the wild flora present here.

Finally, there is a possibility that low amounts of faeces were present within the artefactual remains, although no mineralised seeds were identified, which would indicate a concentration of cess. Fruit stones, such as those of plum types and cherries are most commonly found in waterlogged latrines and cesspits throughout the medieval and post-medieval periods (Greig 1991, Murphy & Scaife 1991), and it seems the stones were usually eaten with the fruit.

Discussion

This deposit dates to the very end of the 16th century, supported by the evidence of the pottery (notably the imports), jetons, and stylistic characteristics of the leather shoes. The date of construction of the clunch-lined pit is probably earlier, possibly early 16th century. The original date for the Old Brewhouse structure is of this period, based upon architectural elements identified during the survey (Hall & Baggs 2000). A well with similar clunch lining was uncovered at Bene't Court, a few hundred metres to the north, during excavations in 1996. This was assigned a comparable date of the early 16th century (Edwards 1996). Based on the date of that example, the cesspit may well have had up to a century of use, being regularly emptied, with the unsavoury contents probably carted away at night to be dumped outside the city (Platt 1976).

Before the changes in property boundaries during the 19th century and construction of Pembroke Library in 1875 the pit was situated within the surrounding yard of the Old Brewhouse building, in turn apparently within the wider grounds of the Bradley Family property fronting Trumpington Street. Loggan's and Custance's maps illustrated in Figure 2 support this evidence. Investigations within the Brewhouse building revealed a sequence of additions and alterations throughout its history (Hall & Baggs 2000). This is echoed in the archaeological record by the truncation of the pit by the northern extension to the building, constructed in the 17th or early 18th century. Earlier floors discovered within the Brewhouse denote a predecessor to this extension, possibly a lean-to or wooden construction tacked on to the northern end. With the exception of the floor, structural traces of this have not been found, more than likely obliterated or masked by later adaptations. Pottery finds immediately sealed by these floors were of the later 16th century, and of similar forms and fabrics to the cesspit group (Hall & Baggs 2000).

It is tempting to see the construction of this extension during the late 16th or early 17th century as the impetus for the closure of the cesspit. Even if this building did not extend as far out as the pit, the proximity of the new working or living quarters may have been just too close for comfort. Prior to this, the pit would have been set discreetly within the northwestern corner, against the boundary with the Pembroke College property. Not only will this position have offered some degree of privacy, but it seems sensible to place a cesspit as far from any living or work quarters as possible. Placing cesspits hard against property boundaries was common practice during the medieval and early post-medieval periods. Since the later 12th century, the problem of polluting one's neighbours property via underground seepage was a recognised concern, leading to a London Assize in 1189 requiring such pits to be situated several feet back from any boundary (Platt 1976). The pit may have been surrounded by wattle panels or housed within a small shed, such as a medieval barrel latrine discovered in Worcester (Greig 1981). The small post hole positioned centrally on the south side may relate to one of these screening panels or possibly the support for a seat or cover.

Environmental evidence adds to our understanding of the immediate environment. The wild taxa such as henbane, stinking mayweed, cotton thistle and nettle, are indicative of open, rough, nutrient rich ground. These are characteristics of a farmyard, or an uncultivated domestic yard, with piles of manure and refuse, and general occupation debris. Fruit stones were also recovered. Species such as plum, damson and cherry could have become incorporated into the deposit via human faeces. However, they may have

originated from within the immediate surroundings. An orchard of some form is suggested by Hamond's map of 1592 (Figure 2). Whatever the depositional process, it is possible such fruit trees were growing within the wider, garden area. This rather unkempt yard environment may represent a period of dereliction, possibly linked to a change in ownership. This would tie in well with the alterations to the Brewhouse structure, and the presence of demolition rubble within the cesspit fill. This will be further addressed with respect to the documentary evidence. Deposition within the cesspit is also brought into question by the environmental evidence. It is suggested that the incorporation of seeds took place over several months, and not during a single backfilling episode. A likely model is that the cesspit was open, if not in use, for a period of time during which these seeds became incorporated within the anaerobic context. A nearby rubbish heap of accumulated domestic waste and building rubble was then dumped in to close the pit.

The excellent preservation which provided such rich environmental data also meant that a diverse range of artefacts survived, evidence for a broad spectrum of activities and crafts. This is not just food waste, combined with accidental pottery breakages. There is evidence for butchery, woodworking, cobbling, probable building maintenance, and maybe even tailoring. An initial theory was that the deposit originated from a shared midden used by a variety of properties in the immediate surrounding area, each performing one or more of the activities evidenced within the assemblage. Alternatively, a proportion of this assemblage represents debris from a workshop in which one or more versatile craftsmen performed a variety of such tasks, possibly within the Brewhouse building itself. Inclusion of items such as bone and wooden handles and the hammer indicate a deliberate clear out of old tools, supporting this workshop theory. The shoes, leather offcuts, some of the wooden artefacts, and some of the textile fragments may well represent debris resulting from general maintenance or objects awaiting repair.

There are elements within the assemblage however, that call this independent, workshop theory into question, particularly the high quality of some of the finds and the faunal remains. The animal bones reveal both primary and secondary butchery taking place on or in the immediate proximity. For example, whole or half carcasses may be being brought in for preparation. This practice is well documented for the Bishops Palace in Ely. A list of household expenses from 1534, indicates the purchase of items such as *'a fat lamb, half a veal, a calves head, quarter of an ox'* (Stewart 1848). A similar practice appears to have occurred at St Radegund's Nunnery, prior to its dissolution and conversion into Jesus College. Recent work has demonstrated that resources were being brought in 'on hoof' (Evans *et al* 1998). This purchase and subsequent butchery of whole or half carcasses was common in large establishments or institutions, whether a religious house, college, or large household such as the Bradley Manor.

Bradley Manor house is first recorded in the later 16th century, although the family is known to have owned property on Trumpington Street since 1540 (Tony Baggs pers comm) The house was rebuilt in 1701 and given over to Peterhouse as the Master's Lodge in 1727 (Willis & Clark 1886). 16th and 17th century cartographic evidence suggests the Brewhouse functioned as some form of outbuilding, set in the corner of the Manor gardens (refer to Figure 2). By the early 19th century, the relationship is confirmed with the brewhouse functioning as the Master's stables. Association of the Brewhouse assemblage with the Manor House is further strengthened by the quality of some of the discarded refuse. The ivory needle case is an item of value and skilfully crafted, as is the wooden spoon and small wooden box. The pottery assemblage includes continental imports as well as standard utilitarian wares. It has also been proposed that some of the textiles may have originated from furniture covers or hangings. These items imply a status in keeping with a large household. As such, they are perhaps less contradictory with the workshop model for the Brewhouse, since such items could have originally derived from the main manorial residence.

Title deeds relating to the transfer of the Manor house ownership, held within the Peterhouse archive, support many of the proposals outlined above. This information contains much of relevance. The two *Messuages* (properties) are referred to in a deed as *'Cottages formerly belonging to the Chantry of Little St. Mary, sale in 1547 to William and Thomas Bradlie'*. It is possible one of these cottages was the Old Brewhouse structure itself. A further deed records the transfer of the property. *'27 Elizabeth (1584/5) Richard Bradlie and Agnes his wife to William Greke and Margaret Bradlie. Two messuages, a garden, a barn, and orchard, and eight acres.'* (Peterhouse archive). Significantly the date of the property transfer, 1584/85, suggests that closure of the cesspit, probable clearance of material from the workshop, and subsequent additions to the Brewhouse may result from a change in ownership.

To conclude, significant and varied information has been obtained from the study of a single, discrete assemblage. Its association with the Brewhouse building appears clear, and in turn this structure's close relationship with the Bradley household seems likely, although further scrutiny of relevant documentary sources might shed more light. Nevertheless, composition of the cesspit assemblage would seem consistent with a manorial workshop, which included other items from the main residence, either as primary or secondary acquisitions. This work demonstrates the importance of integrating information from a variety of historical, archaeological and architectural sources, thus providing a much richer, and in this case coherent narrative.

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Endnotes

1 The name Brewhouse relates to its 19th century function, and not the use of the building as contemporary with the pit assemblage discussed in this paper.
2 Identified by Julia Poole of the Fitzwilliam Museum, Cambridge.
3 'Author's unpublished data' refers to the computerised database held at TRA, York. As well as a complete record of published archaeological textiles, the database includes over a thousand unpublished items collected together during 22 years' consultancy work.

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Seventeenth Century Water-Meadows at Babraham, Cambridgeshire

Christopher Taylor

This paper re-examines the history of the water-meadows constructed in the 1650s by the Bennet family of Babraham. It also describes the social and political background of their creators.

Introduction

The irrigation or 'floating' of water-meadows was a technique that, particularly in Wessex and the West Country where it was most widely used, was the basis of large-scale sheep-farming from the early 17th to the early 20th century. Even today most of the principal river valleys in Dorset, Hampshire and Wiltshire are characterised by the remains of the complex systems whereby the meadows were watered.

The initial flooding was usually carried out in the late autumn or early winter and then often repeated at intervals throughout the winter. This raised the ground temperature, protecting the grass from frost, thus providing a 'bite' for the sheep up to two months earlier than on pasture elsewhere and just when winter fodder was in short supply. The sheep were then grazed on these meadows until the summer pastures were ready. The meadows were then usually flooded again and produced one or more hay crops in June or July. All of this meant that larger flocks of sheep could be over-wintered, lambing advanced, extra hay grown and, as a by-product, more manure produced for the arable land.

The value of irrigating meadows has been stressed by many writers on agriculture and agricultural history from the 17th century onwards (Paxton 1840; Pusey 1849; Wood 1897, 76, 78, 127; Kerridge 1967, 251–67; Thirsk 1967, 181–2). Kerridge even claimed that much of the success of the 17th-century 'Agricultural Revolution' that he identified stemmed from the use of the technique. More recently, Wade-Martins and Williamson (1994, 20) have suggested that the floated water-meadows in England in the 17th century fulfilled the same role as did turnips in East Anglia in the early 18th century.

Detailed modern studies, as well as some of the earlier agricultural writings, suggest that the technique may have originated in Herefordshire in the late 16th century. It soon spread into southern England where it became common in the 17th and early 18th centuries. Then, probably as a result of contemporary agricultural improvements, there was a further expansion in Wessex and south-west England. It occured on a more limited scale in other parts of England and even Scotland (Boswell 1790; Smith 1851; Carrier 1936, 122–4; Kerridge 1953 and 1954; Whitehead 1967; Palliser 1976, 103; Bettey 1977; Bowie 1987; Wade-Martins & Williamson 1994, 22, 33; 1999, 72–5).

There were two principal methods of irrigating meadows. The most complicated and, because of their extensive earthworks, visually the most obvious today, was the *bedwork* system. This involved taking water from a river or stream via a dam and sluice and carrying it along a contour leat or *head main* from which it was fed, through small sluices or *hatches* into a multitude of minor leats or *carriers*. The last were narrow channels cut along the tops of constructed ridges arranged in blocks similar to ridge and furrow. The water overflowed the carriers, ran down the sides of the ridges into narrow drains in the furrows and thence, usually via more carriers, back into the river. The other simpler, and probably earlier, form of irrigation was *catchwork*. Here water was also taken from a river along a contour leat but it was then only allowed to flow from the hatches, either directly back into the river or into one or more smaller parallel leats or *catch drains* where the process was repeated. Bedworks were normally constructed in wide, flat-bottomed valleys, catchworks where the valleys had narrow bottoms and relatively steep sides (Smith 1851; Carrier 1936, 116–25; Curtis 1971; Mingay 1977, 168–70).

The Babraham Background

It has long been known that there were irrigated water-meadows at Babraham. They were first noted by Arthur Young (1797, 177), later by William Smith (1806, 116–17) and then by William Gooch (1811, 258), all of whom appear to have visited them. Yet both Young and Smith, who knew well the workings and advantages of irrigated meadows, were contemptuous of those at Babraham. Young wrote that 'There does not seem to be the least intelligence or knowledge of the husbandry of water'. Smith thought that 'The form

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of the work seems to prove that they were not designed by any person from Wiltshire and that the possessors are totally unacquainted with the management and utility of water meadows'. These early commentators were all agreed on the form of the meadows at Babraham; they were of the *catchwork* type. Both Young and Smith noted the existence of a sluice across the River Cam in Little Abington parish, upstream from Babraham, from where the water was taken, as well as the head main and the *cuts* or hatches along its length, through which the water was run across the meadows. Smith also made an additional observation. 'The various grasses and weeds ... in different stages of growth, and of various shades of green, just enable me to discover that small catch drains had at some time been made, but ... most of them do not appear to be of any service to the meadows'. Vancouver recorded that some 165 acres (68ha) of meadow were being watered at Babraham. One other aspect that these commentators noted, and condemned, was that the Babraham meadows were not used to produce early grass for sheep but only for an improved hay crop. They were thus never irrigated until at least Easter time.

Young added a comment that has caused confusion among historians until recently. He asserted that construction of the Babraham meadows had been carried out by Sir Horatio Palavicino, owner and lord of Babraham from 1589 to 1600 (Stone 1956). This attribution, if correct, would mean that the Babraham meadows were amongst the earliest documented in England and thus of considerable historical importance. A number of modern writers have accepted this claim (Darby 1951, 381; Butcher 1954, 8; Kerridge 1967, 253; Whitehead 1967, 264; Taylor 1973, 175). However, the authors of the account of Babraham parish for the Cambridgeshire VCH (1978, 25), using a set of papers relating to an early 18th-century dispute over the flooding of land in Abington (CRO 619/E 14–24), were able to prove that the Babraham irrigation system had actually been constructed in the 1650s by the Bennet family. The fact that parts of the system had survived were also noted in the VCH and confirmed that it had indeed been of the catchwork type. Although this revised date lessens the significance of the Babraham meadows in a national context, there is still much interest in the personalities involved as well as in the origins, construction and working of the system.

The Bennets of Babraham

In 1632 the manor and estate of Babraham were purchased by two brothers, Richard and Thomas Bennet, from the impecunious Tobias Palavicino, second son of Sir Horatio Palavicino. Tobias had dissipated the family fortune by lavish expenditure which had included the embellishment of the great Elizabethan mansion at Babraham, built in about 1580 by Palavicino's predecessor Robert Taylor (VCH 1978, 21–2).

The Bennets were members of a very typical 17th-century family who rose, via trade, the law and judicious marriages, from yeoman farmers to the aristocracy in three generations. The earliest member that can be traced with certainty is a Thomas Bennet (d 1547), a well-to-do farmer of Clapcot, near Wallingford, Berkshire (*BNQ* 1891, 108, 110; Sherwood 1894, 168; VCH 1923, 548). Bennet had two sons. The eldest, Richard (d 1563), took over his father's lands at Clapcot, and all of his three sons went on to achieve high positions. Two of them, John (d 1627) and William, were lawyers and MPs and John was the father of Richard Bennet (1618–85), later Earl of Arlington and member of Charles II's Cabal (Foster 1891, 106, 108; Hasler 1981, 428–9; DNB 1885). The younger son of Thomas Bennet, another Thomas (d 1623), went to London. He became a wealthy merchant and a member of the Mercers' Company. He married the daughter of another merchant, was successively an alderman (1593) and Sheriff (1594) of London, was knighted in 1603 and was Lord Mayor in 1603–4. He was mindful of his origins and in 1616 founded a charity in Wallingford (Hedges 1881, 326; VCH 1923, 544).

Sir Thomas Bennet had two sons, both of whom also lived in London. But it was the third of his brother Richard's sons, yet one more Thomas (d 1620), who followed his uncle into trade. He was living near Thomas senior in 1589 and was also a member of the Mercers' Company and was Master in 1614. He was an alderman of the City in 1613 and in 1615 became one of the first Governors of the Irish Society, or London Society as it was known in Ireland. This organisation was responsible for the founding of Londonderry and the plantation and development of County Londonderry (Brabrook 1889, 18–19; Hill 1877; Cockayne 1903, 130–1; Beaven 1913, 53; Stanford & Rawlings 1963, 153).

Thomas Bennet junior also lifted his branch of the family into a higher level of society and, in particular, into that part of it with strong Royalist sympathies. His wife was Dorothy May, daughter of Richard May (d 1568) who, like his son in law, had moved from a country estate in Sussex to London trade. He became a member of the Merchant Taylors' Company. Most of Richard May's children rose even higher. His eldest daughter Elizabeth married Sir Baptist Hicks, originally another London mercer but later financial supporter of James I and ultimately Baron Hicks of Ilmington and Viscount Campden (*DNB* 1894; Hicks Beach 1909). Richard May's fourth son was Sir Humphrey May (1573–1630) who rose from a Groom of the Bedchamber in 1604 to Chancellor of the Duchy of Lancaster in 1618 (*DNB* 1894). The significance of these, and later, Royalist connections to Babraham will become clear below.

Thomas Bennet junior had two sons, Richard and Thomas, and it was they, together with their mother in law (they married sisters) who bought Babraham in 1632. How much of their father's wealth lay behind the purchase is not known but it undoubtedly played a part. Few details exist of Richard Bennet. He

married Jane Monk and had one surviving daughter. He was described as 'of London' in 1634 which suggests that he remained there with his father's business (Haward & Chester 1880, 64). He was still alive in 1638. His brother Thomas (1597–1667) was originally a lawyer. In about 1630 he married his sister-in-law Mary Monk, and two years later settled at Babraham.

The Royalist links which his father had established were strengthened. One of his maternal relatives was Thomas May (1595–1650), originally a poet at court, although he later defected to the Parliamentary cause. Another maternal cousin was Adrian May, Groom of the Privy Chamber to Charles I who, in 1650, was confined to his home because of Royalist sympathies. One other cousin was another Thomas May who, as a Captain of Horse, fought for his King in the Civil War (*Cal Stat Pap Dom* 1876, 286; Bannerman 1905, 104–6; *DNB* 1894). A further cousin was Hugh May, later to be a major designer and architect and Comptroller of the Works under Charles II (Colvin 1995, 646). Hugh May played an important role in the story of the Babraham meadows.

One last, indirect, Royalist connection of the Babraham Bennets was noted by William Cole in 1765. Just before demolition of the 16th-century Babraham Hall, all its contents were sold. Among these were Bennet family portraits, some of which, Cole alleged, were by Sir Peter Lely (1618–80) (Palmer 1935, 18). Lely was patronised by Charles I and in 1661 became court painter to Charles II. But he was also a close friend of Thomas Bennet's cousin Hugh May which could partly explain the existence of these paintings, although paintings by Lely were very common (Miller 1975).

What support Thomas Bennet gave to the King during the Civil War is unknown but he was certainly punished for it. In 1651 the Babraham estate was sequestrated by Parliament. In the same year a 'Sir Humphrey Bennet' who was either an unknown relative or a mistake for Sir Thomas was ordered 'to reside at Baberham (sic) and not go above five miles from there' (VCH 1978, 21; *Cal Stat Pap Dom* 1877, 264). It was precisely at this time, perhaps with his movements restricted, that Thomas Bennet began construction of the water-meadows at Babraham. The two events may not be unconnected. In 1660 he was rewarded for his loyalty by being made a baronet by Charles II. On his death in 1667 he was succeeded by his son Sir Levinus Bennet (c 1631–93), also a lawyer, and MP for Cambridgeshire from 1679 to 1693. Sir Levinus married the daughter of yet another London merchant (Cockayne 1903, 130–1). His son, Sir Richard Bennet (1673–1701), had one daughter, who died a minor. Babraham then passed to the five sisters of Sir Levinus.

The Construction of the Babraham Water-Meadows

Although the immediate circumstances of the laying out of the water-meadows may have been the restrictions placed on Thomas Bennet as a result of his political leanings, three other aspects are significant. The first were the general agricultural improvements in Britain in the 17th century, first detailed by Kerridge (1967). Although Kerridge was subsequently, and perhaps rightly, criticised for his extreme thesis (eg Mingay 1969), there is no doubt that there were considerable advances in agriculture at this time and that the spread of irrigated meadows was one of these. Thus Thomas Bennet was doing no more than many other contemporary landowners.

Another factor was that his estate at Babraham was compact and unified. Although Babraham had been a typical multi-manorial parish in medieval times, during the 16th and early 17th centuries almost all of the land was gradually concentrated in the hands of one owner. When Bennet purchased Babraham in 1632 the only parts of the parish that were not his were a small farm belonging to St John's College, Cambridge and some Sawston charity land (VCH 1978, 21–5; Teversham 1947, 176; CRO 124/P 5; CUL Plan of St John's College lands, 1785). The final factor was that a large estate in Great and Little Abington, immediately upstream of Babraham, had been purchased in 1652 by John Bennet, a cousin of Thomas (VCH 1978, 5–8). John Bennet was both interested in, and a supporter of, Thomas Bennet's irrigation scheme and he is recorded as visiting the works while they were under construction (CRO 619/E 20 m17). More importantly, for topographical reasons it was necessary for the sluice that directed the water into the Babraham head main to be in Little Abington parish, on John Bennet's land. The scheme could not have been undertaken without John's agreement (CRO 619/E 14 ,20 m11, 21).

Details of the construction and early history of the meadows are contained in a group of documents relating to a case in Chancery in 1719. This resulted from a dispute over the validity of the original agreement, made in 1659 between Thomas Bennet and his son Levinus and John Bennet of Abington. The agreement was to allow the cousins to exchange small parcels of land in Abington so that Thomas could build the main sluice and upper length of his head main. The reason behind the dispute was the alleged flooding of land at Abington caused by the ponding up of water behind the sluice. The relevant documents include copies of the 1659 agreement, the Lord Chancellor's judgement, briefs, statements, two maps of the head main in Little Abington parish (Fig. 4) and, most valuable for this paper, many depositions by inhabitants of Abington recalling events and personalities of the 1650s (CRO 619/E 14–24).

Useful as these papers are their value is limited by the fact that they are, inevitably, concerned only with that part of the irrigation system within Little Abington parish. Likewise, the depositions are primarily the recalling of events that had occurred some sixty years earlier by people of considerable age and perhaps impaired memory. Certainly some of the depositions contradict others and there is much alleged information on matters which must have been outside the direct knowledge of the deponents. Some of the details sound more like gossip and legend filtered through village society than accurate reporting.

Nevertheless the documents explain much of the background of the irrigation system, detail some of the construction methods and name people involved.

The earliest event recorded is in either 1653 or 1654, when Thomas Bennet decided that his estate might be improved by 'a cutt from the River and setting of a dam or stank across the river with one or more Sluices whereby to water his lands' (CRO 619/E 20 m10). This involved diverting the water of the River Cam by means of a dam across it and carrying the water in a head main along the north side of the valley from whence it was run back across the meadows into the river. This dam had sluice gates in it to control the flow and was usually referred to as just The Sluice. Because of the nature of the Cam valley at Babraham, as already noted, the only place to construct the dam was not in Babraham parish but some distance upstream on the boundary between Great and Little Abington parishes, on land recently purchased by John Bennet (Fig. 1).

John Bennet and his cousin seem to have had an informal agreement whereby the land that Thomas required for the sluice and the head main in Little Abington parish, just over 2 acres 1 rood (c 1ha), was leased while Thomas carried out 'experiments'. Then, when these were successful, John Bennet exchanged the land required for two small pieces of land that Thomas owned in Little Abington (CRO 619/E 18, 20 m11). The subsequent sequence of events is unclear, but it seems that Thomas went ahead with the construction of the sluice and the head main, including the continuation of the latter into Babraham parish as far as the village there (Fig. 2). On the completion of the scheme, probably in 1654, it was used to irrigate the meadows on the north side of the Cam at the south-east end of Babraham parish.

The scheme was evidently successful for five years later Thomas Bennet, then assisted by his son Levinus, decided to extend the system further downstream to water the meadows and pastures in the centre of the parish, beyond the village and to the east of Babraham Hall (Fig. 2). This involved a major new length of head main, the widening and deepening of the existing head main and the heightening of the dam and the raising of the level of the sills of the sluices. In May 1659 just before the work began Thomas made a formal agreement with John Bennet which put the exchange of the pieces of land on a proper legal footing. The agreement also included clarification of matters that had obviously led to difficulties between 1654 and 1659. One of the clauses in the agreement was that Thomas and Levinus accepted that they had to build and keep in repair a bridge over the head main 'for a passage to Bournbridge'. They also undertook to indemnify the inhabitants of Little Abington for 'not repairing the passage or way to Bournbridge'. The Babraham Bennets also agreed to indemnify John Bennet and his heirs for any damage

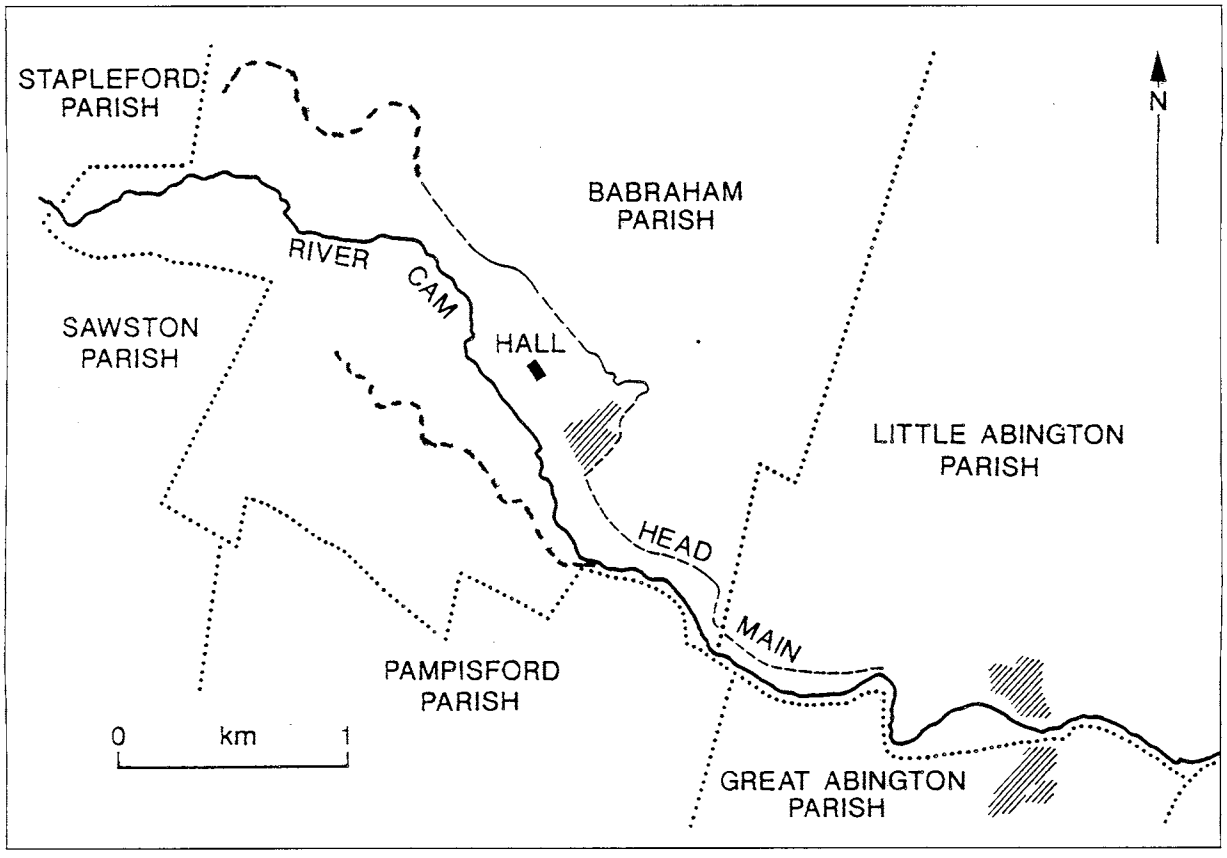

Figure 1. Babraham water-meadows: Location

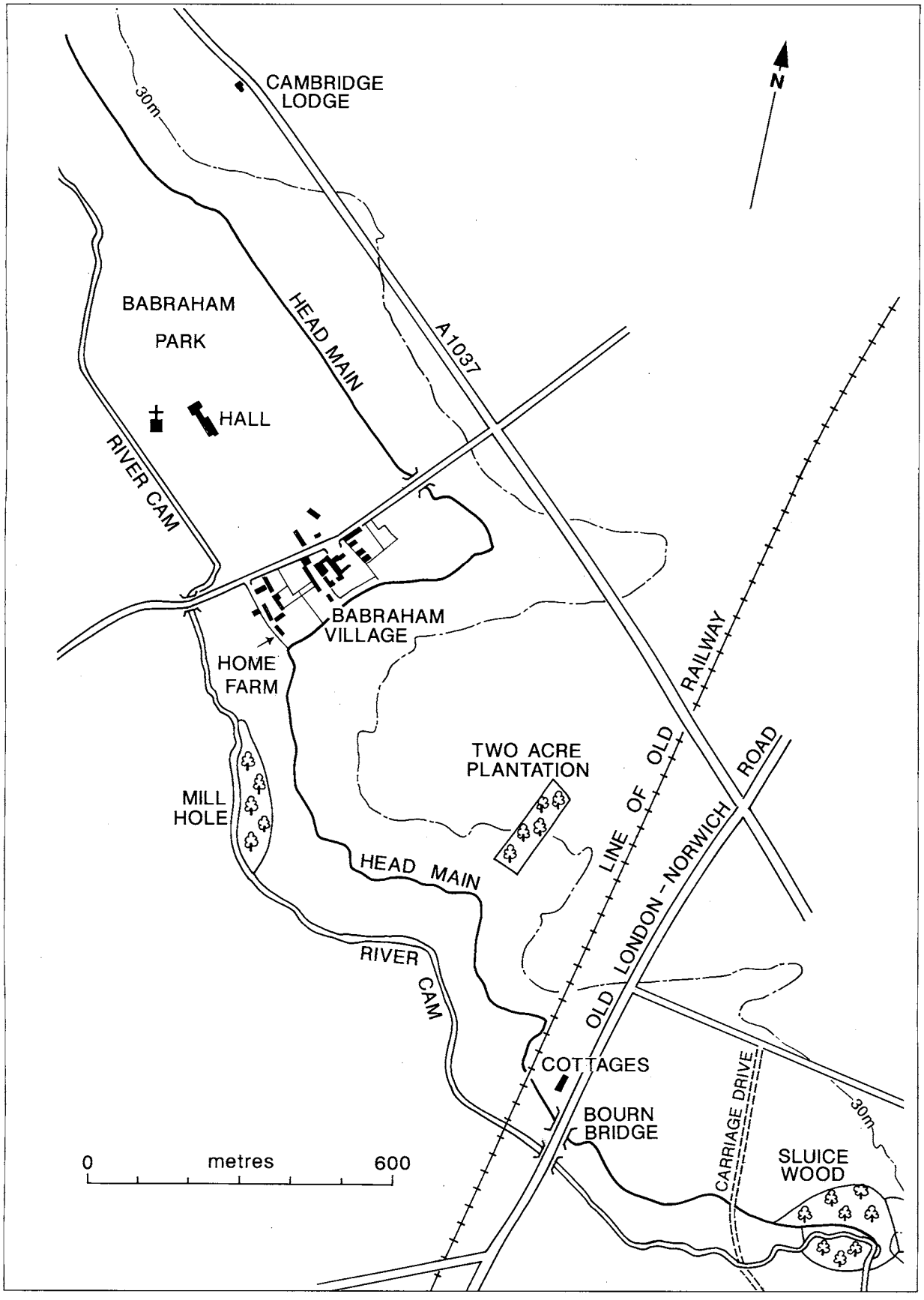

Figure 2. Babraham water-meadows: Plan

or flooding resulting from the alterations to the sluice (CRO 619/E 14–16). The agreement was signed, the sluice rebuilt and the head main deepened and extended downstream as planned.

Some details of the construction work, at least for that part of the scheme in Little Abington parish, are recorded in the Chancery depositions. Because the deponents were recalling events of some sixty years before it is not always possible to be certain whether these related to the first stage of work in 1653–4 or to the 1659 extension. However, one Peter Richards claimed that he saw the head main being dug 'after about 40 rods were cut' and that 'in one part it was so deep that they were forced to make two throws to fast ye soyl out of it'. Richard Sempringham thought that he remembered that it took more than a year to complete the first stage of the head main. Richard Embleton said that in about 1659 there was further work on the sluice which took about six months to complete (CRO 619/E 20 m18, 25). The latter work must have been the raising of the height of the dam and the sluice gate to provide a greater head of water and thus an increased flow for the extended head main.

A Thomas Osler remembered that, on Thomas Bennet's instructions, he had helped to plant a hedge along the outside of the head main to keep cattle 'from coming to each other'. On the other hand William Wright said that he had gone out with his master's cart to collect a load of young willows to plant along the head main. As at the time he was recalling 'the further part of the cut towards Stapleford was not finished', this was probably in 1659. Leonard Westly remembered a cart bridge being built across the head main above Bourn Bridge, probably in 1654, because it was 'to deep for carts to pass'. But Richard Embleton claimed that there was never a cart bridge, only a footbridge near the sluice as indeed is depicted on the 1719 plan (CRO 619/E 18, 19 and 20 m25, m26).

Perhaps more interesting are two glimpses of how the gradient of the head main was achieved. The first, a somewhat pragmatic technique, was described by William Wright. He recalled that before the 'new cutt ... was quite finished they had lett water in to it to see how it would run and what Grounds it watered' (CRO 619/E 20 m25). The second method was recalled by Peter Richards who 'before any sluice had the water' had seen the 'Chief Director' with 'an engine which he called a Level to see how the water would run' (CRO 619/E 20 m18). This apparent use of a surveyor's level is not surprising. Not only was the profession of surveying fast developing in the 17th century, but contemporary drainage works in the nearby fenlands provided a demand for and knowledge of surveying to a much higher level than the Babraham works required (Rathbone 1616; Leybourne 1654; Darby 1956; Chilton 1959; Bendall 1992, 129–38).

One event which a number of the 1719 deponents remembered vividly was the 'Great Feast' that Thomas Bennet provided for all of those involved in the construction work on its completion, perhaps in 1654. In particular they recalled the 'very extraordinary pudding with abundance of silver pence and two pence in it for the better remembering the feast'. One deponent 'saw divers of them and some were King Charles the first and others Oliver or the Commonwealth coins' (CRO 619/E 20 m25).

The Instigators and 'Directors'

The Chancery deponents refer to some of the people involved in setting up and directing construction of the Babraham scheme. As already noted, Thomas Bennet was credited with being the leading instigator, supported later by his son Levinus. However, three other people are named as assisting with the construction work. One was a man called simply Hayling but described by Peter Richards, who claimed that he had seen him at the start of the work in 1653–4, as 'Chief Director' (CRO 619/E 20 m18). It was Hayling whom Richards saw using the level. Nothing is known of Hayling, but presumably he was a drainage engineer. The second person was called Cromwell, also described as a 'director'. Again nothing is known of him and his name is too common in 17th-century Cambridgeshire for him to be identified. Here at Babraham, in October 1654, he is said by one Elizabeth Bennet to have had 'not skill enough for some of the works involved and that another director called May dealt with these' (CRO 619/E 20 m17, 25). This Elizabeth Bennet, in her eighties in 1719, may have been the wife of John Bennet, cousin of the Babraham Bennets, who gave them such support (VCH 1978, 5). If so, Elizabeth Bennet would have been well placed to know of the competence or otherwise of Mr Cromwell.

Far more significant, as recorded in the VCH (1978, 25), is the mention of May. In addition, and more specifically, at the same time James Godwin saw 'Hugh May in or by ...' the head main '... he being Sir Bennet's Kinsman and assisting him in causing it to be made' (CRO 619/E20 m17). Hugh May (1622–84) is well known in a very different context. As noted above, he was Thomas Bennet's maternal uncle's son and a staunch Royalist. After 1660 he became a major architect of the English baroque style and was successively Paymaster of the Works, in charge of the restoration of the royal palaces (1660), Acting Surveyor of the Works (1660), Comptroller of the Works (1668) and architect for the restoration of Windsor Castle (1673). He was a well known figure at the court of Charles II and designed houses for a number of courtly acquaintances. These included Cornbury House, Oxfordshire for the Earl of Clarendon (1663–8), Eltham Lodge, Kent for Sir John Shaw (1664) and Cassiobury, Hertfordshire for the Earl of Essex (1677–80) (Colvin 1995, 646; Williams 1980, 1). However, little is known of May's life before 1660. He claimed that he had worked for George Villiers, second Duke of Buckingham, and he may have fought with him at the Battle of Worcester in 1651. Certainly at that time he was overseeing the transport of Villiers' works of art to safe-keeping in Holland. At this period too he was living in London

with the painter Peter Lely who may also have had connections with Babraham. Lely was a close friend of May and in 1656 he smuggled May into Holland, disguised as his servant, so that he might join the exiled Court (Millar 1975, 14, 28; Colvin 1995, 646). The fact that in 1653–4 May was with his cousin at Babraham, engaged in the somewhat mundane work of constructing an irrigation scheme, is an interesting addition to the background of this architect.

The Later History of the Babraham Irrigation Scheme

The history of the Babraham irrigation after 1659 is little known. Minor details such as the inevitable repairs to the sluice gates, at some time before 1667, are recorded (CRO 619/E 22), but more significant are the facts that lay behind the Chancery proceedings of 1719. The apparent success of the initial scheme of 1653–4 led to the extension of 1659. But this seems to have caused problems. To ensure the proper working of the extended head main, the level of the bottom of the sluice gates had to be heightened. This in turn meant that, unless there was very close supervision, after heavy rain more water would be held up behind the dam and thus land upstream flooded. As the hatches on the sluice were usually locked, Thomas Bennet provided a number of keys so that authorised persons could open the hatches when necessary. However the keys were held only by Bennet's employees and, with the sluice in the next parish some distance from Babraham and with most floods usually occurring when the system was not being worked, delays in opening the hatches were inevitable. As a result floods upstream of the sluice in both Little and Great Abington became increasingly common (CRO 619/E20 m11).

All of this perhaps mattered little while Thomas Bennet and his cousin John were alive. But after John Bennet's death in 1663 the situation changed. John was succeeded by his son, another John (c 1656–1712), and he took a very different attitude to the Abington estate. He was an agricultural improver who began to exploit his land there. He effectively enclosed most of Great Abington by consolidating his demesne land, probably by agreement and exchange (VCH 1978, 12). His land in Little Abington remained mostly intermingled in the open fields, there being perhaps too many large proprietors to allow enclosure to take place. John Bennet also owned extensive old enclosures around Abington Hall which he seems to have tried to landscape. It is by no means clear what he did or attempted to do. In about 1685 he appears to have tried to divert the water of the River Cam from a place some 800 metres upstream of the Bennet sluice into a new channel and thence back into the river below the sluice. He was, however, 'prevailed upon to desist' by his relatives at Babraham. In about 1690 he erected several 'engines' to carry water in underground pipes into a 'Grove' on a hill 'about 4 Poles from Abington Hall'. The grove was probably the small wood still called The Grove just south-east of the Hall. Unfortunately the pipes failed and the scheme was abandoned. The 1719 deponents also mention a 'decoy' which 'Mr Bennet wanted but never built' (CRO 619/E20 m27, 28). Exactly what all of this work was for is uncertain. Landscaping around the Hall seems to be partly the work of John Bennet's successors in the early 18th century (VCH 1978, 6), partly of the later 18th century (perhaps by Repton for a later owner, John Mortlock) (Daniels 1999, 257), but it was mainly of the early 19th century (also for John Mortlock) (cf CRO 124/P 1, 2 and OS 1836). Certainly the River Cam was diverted at some time before 1801, by which time it flowed, as now, in a broad arc in Little Abington parish, well to the north of its former course.

In 1801 the land between the old and new river courses was meadow divided into doles or strips and owned or tenanted by a number of different people (CRO 124/P 2). It was probably this meadow which was flooded by the ponding up of water behind the Bennet's sluice. Trouble between the Bennets of Babraham and those of Abington was therefore inevitable. John Bennet attempted to cut a channel around the south side of the sluice to relieve flooding while his tenants, outraged at the loss of their hay crops on the meadow, at first complained and then resorted to direct action. The latter involved the breaking of the locks on the sluice hatches (CRO 619/E 17, 27, 29). At the same time allegations of damage by John Bennet were also made by the Babraham side of the family. Bennet's attempt to build the decoy was said to have led to the removal of 'all the water from the River for that purpose for three years together'. This was in addition to the 'continual disturbances and interruptions of the sluice' (CRO 619/E 21).

John Bennet's enterprises overstretched him financially. He was bankrupt by 1697 and eventually died in debt and in prison. In 1690 the estate was mortgaged to Thomas Western (d 1707), a wealthy London ironmonger who finally took possession of the estate in 1697. The arrival of the Westerns at Abington did nothing to lessen the conflict over the sluice and consequent flooding. Improvements to the estate and the Hall grounds continued (VCH 1978, 5,6, 12). Like John Bennet before him, Thomas Western attempted to solve the problem of flooding by having a short length of new channel some 50ft (15m) in extent cut from the River Cam just above the sluice, in a curving course, which discharged into the river a little further downstream (CRO 619/E 20, m3). This new channel had its own sluice gate which meant that any upstream flooding could be relieved immediately, but also that the operation of the irrigation scheme would be put in jeopardy. Thomas Western's son, Maximillian, later lowered the sill of his sluice, which further lessened the impact of flooding but made the Bennets' irrigation scheme even more difficult to operate (CRO 619/E 17, 18, 24). Finally, in 1718 Maximillian Western took the dispute to the Court of Chancery where in 1719 it was resolved by a complicated technical agreement concerning the height and operation of the principal sluices. The main point was that the bottom of

the sluice on Western's diversionary cut was to remain lower than the Bennet sluice on the main dam across the river (CRO 619/E 23, 24).

Information regarding the subsequent history of the irrigation scheme is scant. The meadows seem to have been used throughout the 18th and early 19th centuries for the production of hay and, as has already been noted, Arthur Young, William Smith and William Gooch all saw the system working between 1797 and 1813. In 1820 Robert Jones Adeane (d 1823) who then owned Babraham repaired the main sluice and his son, Henry Adeane (d 1847), a renowned agricultural improver, was still involved with it later. The sluice is said to have been repaired again in 1890 (VCH 1978, 26) although the ground evidence suggests a total rebuilding, probably in 1894 (see below). From 1885 all OS maps and plans show the flow of water along the head main as having been reversed. This seems unlikely and may be a cartographic error. Certainly the whole system had been abandoned by the early 20th century, almost certainly because it was uneconomic and because of the declining need for hay in the parish (Butcher 1954, 8; VCH 1978, 26).

Cost and Value of the Babraham Irrigation Scheme

The cost of the construction of the scheme is recorded as £10,000 in the Counsel's brief for the 1719 Chancery proceedings (CRO 619/E 20, m11). This seems an unlikely figure, particularly when compared with contemporary and later costs from elsewhere. Estimates and claims for the expense of other schemes range from £3.6s (£3.30) per acre in Hampshire in the 1670s and £4 to £10 an acre in Wiltshire in the late 17th century to £7 to £8 an acre in Dorset in 1812 (Whitehead 1967, 276; Bettey 1977, 42–3; Bowie 1987, 155). All these figures relate to bedwork systems which, with their extensive earthworks, were much more expensive than the simpler catchwork schemes, as at Babraham. Given that there were somewhere between 165 acres (68 ha) (Vancouver 1794, 56) and 300 acres (125 ha) (Young 1797, 177) of land irrigated at Babraham, the system is unlikely to have cost more than £4,000 at the most and probably under £1,000.

The value of the improvement of the meadows at Babraham by irrigation is also far from clear. The figures given by the 1719 deponents are very varied and probably none of these people were in any position to know the true financial benefit of the scheme. One person said that the value of the meadows had risen to 5s (25p) per acre another that the increase was to 30s (£1.50) per acre (CRO 619/E 20 m18). Again comparison with elsewhere suggests that these figures are also too high. The increase in value brought about by bedwork systems in Wessex from the 17th to the early 19th centuries varies from £2 to £1.25 per acre. But the Babraham catchwork system could never have been as productive as those in southern England, being used only for growing hay. Indeed Young (1797, 177) goes to great lengths to show that, because the water at Babraham flowed directly downslope and not laterally along carriages, the resulting grass growth was very uneven. Nevertheless although the Babraham system may seem to have been somewhat inefficient and unusually operated it was worked, presumably at a reasonable profit, for over 200 years.

Irrigated Meadows in South Cambridgeshire

At present the Babraham scheme is the only fully documented one known in Cambridgeshire. However, elsewhere re-examination of unappreciated documents or the careful investigation of unlikely sites has led to the identification of irrigation schemes in areas hitherto considered devoid of the practice (Wade Martins & Williamson 1994). Cambridgeshire is unlikely to be different, although irrigated meadows were probably always rare. The particular interest in Babraham taken by the early agricultural writers would suggest that this was the case. Young in particular was sure that no similar use of the River Cam had been made either up or downstream of Babraham. Nor did he know of any irrigation in the Granta valley (Young 1797, 177). On the other hand, it is always possible that irrigation systems had existed but had gone out of use and been forgotten by the later 18th century. Certainly one other, undated, example of a catchwork system has been recognised at Swaffham Bulbeck but the published description shows that the discoverer did not then fully understand the catchwork method and was interpreting the remains from first principles (Taylor 1973, 176–7; 2000, 134–6). Sadly these remains have been destroyed.

There is indeed the possibility that another, so far undated, catchwork system once existed on the opposite side of the Cam valley at Babraham. A plan of 1829 of the Babraham Estate shows a very irregular length of ditch extending from a sluice on the River Cam, south-east of Mill Hole Copse (TL 515506), for a distance of some 2km until it terminated in an alder bed south of Ash Grove (TL 503509; Fig 1). Except for the 19th-century foundations of the sluice little remains on the ground. However, Young (1797, 177) described a catchwork system on the western side of the River Cam at Babraham, which he attributed to Horatio Palavicino. It seems likely that this is the system that Young identified. It is either an 18th-century addition to the original 17th-century scheme or contemporary with it. The lack of documentation may result from the fact that it lay entirely within the Babraham estate and did not involve external landowners and therefore litigation. One other possibility is that, in this case, Young was correct and this scheme was indeed Horatio Palavicino's.

Description of the Babraham Water-Meadows (Figs 2–6)

Although largely destroyed, the few remains of the Babraham irrigation scheme clarify the details recorded in the Chancery proceedings and in other sources. The Cam valley at Babraham is cut into the underly-

ing Middle Chalk that outcrops along its sloping sides and which has been eroded into a series of low flat spurs alternating with shallow dry valleys. The lower parts of the main valley are covered by deposits usually termed River Gravels but which are actually a complex mass of glacially derived sands, gravels and silts. The Cam itself flows within a narrow band of alluvium mostly less than 100m wide (Geological Survey 1952; Pollard 1995). The relative narrowness of the valley floor is perhaps one reason why the catchwork system was used at Babraham. Most of the land between the head main on the valley side and the river within Babraham parish is on sloping ground, and thus it would have been impossible to construct and run a bedwork system.

The sluice that allowed the waters of the River Cam to be diverted along the head main lies in Little Abington parish, on the north-eastern edge of Abington Park, within an oval copse known as Sluice Wood (TL 526492; Fig. 3). This wood did not exist in 1801, but it was planted soon afterwards perhaps as part of the landscaping of Abington Park (CRO 124/P 2; OS 1836). But that area of the wood between the head main and the River Cam was not part of the Abington estate and is shown as belonging to the Bennets of Babraham on the 1719 plan (CRO 619/E 18, 19). An old hedge bank, running north to south between the river and the head main, terminates just short of the latter at a wooden gatepost inscribed *CA 1894*, presumably for Charles Adeane (d 1943) who inherited Babraham in 1870 and who may have rebuilt the sluices (VCH 1978, 22). This hedge bank is the western boundary of the land that the Babraham estate owned around the sluice and which was granted to Thomas Bennett by his cousin in 1653 (CRO 619/E 18).

In 1801 a track, the continuation of Church Lane in Little Abington, ran south-south-west past Little Abington church as far as the sluice. On the 1719 plan (Fig. 4) this track is shown as continuing west-south-west. It crossed the head main close to its junction with the river, apparently at a ford, for no bridge is depicted. However, adjacent to this crossing, the plan shows a schematic 'footbridge'. This is doubtless the site of the alleged cart bridge and later footbridge noted by a deponent as having existed in the 1650s (CRO 619/E 20 m26). No trace of either ford or footbridge exists today. The continuation of the track beyond the sluice, running along the south side of the head main, is called the 'Road from Little Abbingdon to Borne Bridge' on the 1719 plan (Fig. 4). Today faint traces of a trackway are still visible in an area of scrubland to the west of Sluice Wood (TL 452492). This track was part of a road along the Cam valley in medieval times. Most of it has long been abandoned.

Of the sluice itself (TL 526492; Fig. 5) little remains, largely because of later alterations. Nevertheless its original form can be reconstructed. The Cam flows

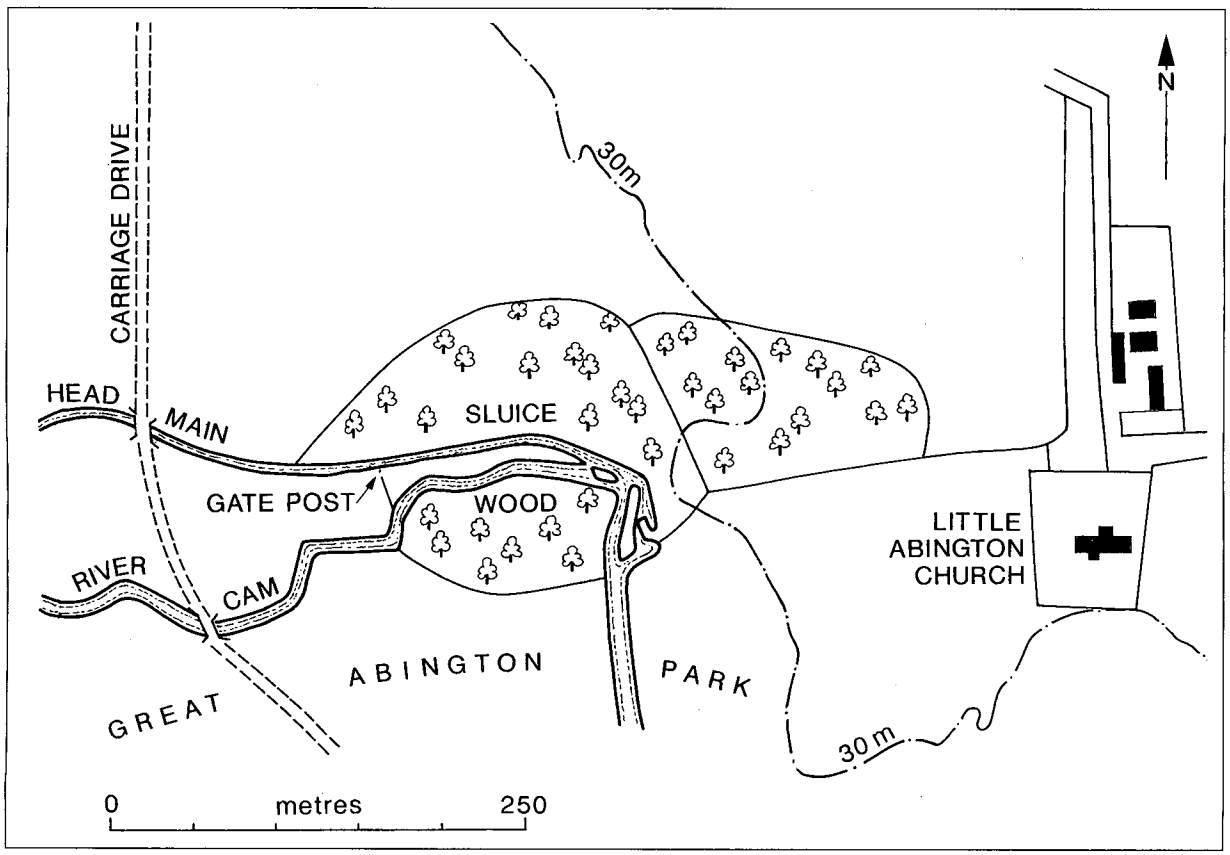

Figure 3. Babraham water-meadows: Area of Sluice Wood

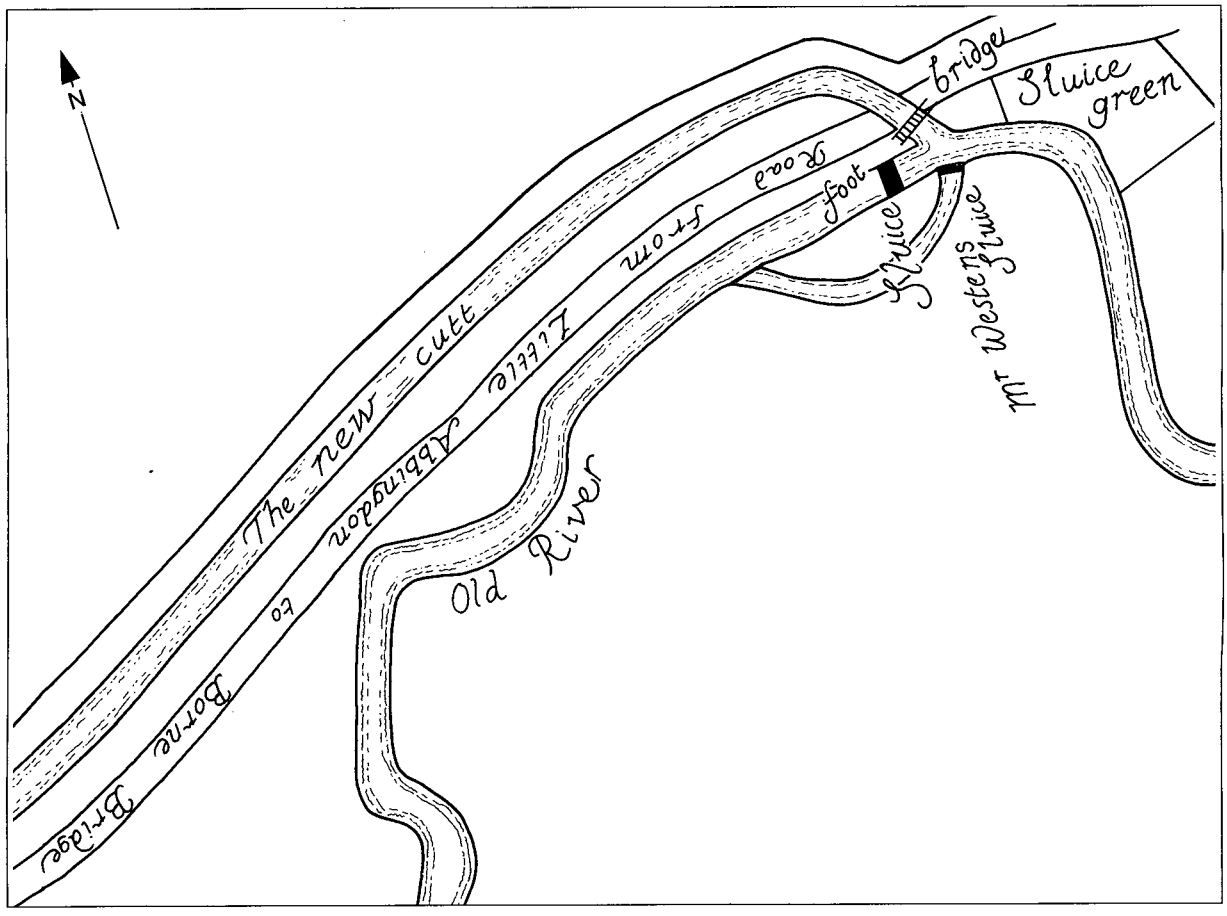

Figure 4. Babraham water-meadows: Sluice Wood, 1719. Based on a plan in the County Record Office, Cambridge, 619/E 18

north across Abington Park and as it enters Sluice Wood it divides into two channels, the western of which has a cast-iron hatch at its northern end. This channel and the hatch are apparently of 19th-century date. The river then turns sharply west and again divides into two channels on either side of an elongated island some 20m long and up to 6m wide. The northern branch is the main channel of the River Cam while the southern branch now flows only in times of flood. At the west end of the north side of the island are the remains of a late 19th-century sluice. These include a concrete sill in the bed of the river, brick retaining walls along the north-west end of the island and along the opposite river bank, brick and concrete rubble downstream of the sill and parts of the winding gear of a hatch in the bed of the river upstream. This is the site of the original sluice of the Bennets, shown here on the 1719 plan (Fig. 4), although the existing remains must belong to the rebuilding of 1894 by Charles Adeane.

Also presumably Adeane's work is the positioning of two stone panels, re-set side by side within the late 19th-century brickwork on the island side of this sluice. Each panel is some 30cm wide and 45cm high with identical inscriptions. These read 'The Bottom or Lowest Point of this Stone is ye height of the Floodgate of this Sluice. 1721'. Each panel was probably originally set on the Bennet and Western sluices respectively. They bear out the instructions specified in the final agreement between the Westerns and the Bennets, that the sluice of the former was to be set three inches lower than that of the latter (CRO 619/E 24). This would have allowed the Westerns to prevent upstream flooding without involving the Bennets.

The channel on the south side of the island is the diversionary cut, perhaps originally made by John Bennet of Abington in the 1680s, but certainly recut or possibly cut by Thomas Western in or soon after 1697 to relieve the alleged flooding upstream. It is now much wider than it was, presumably as a result of erosion. More late 19th-century brickwork at the south-east end of the island and on both sides of another concrete sill lie at the point marked as 'Mr Westerns Sluice' on the 1719 plan (Fig. 4). This too was probably rebuilt by Adeane in the 1890s.

The head main, which carried the water from the Cam as far as the edge of the Babraham estate, survives almost completely intact (Fig. 2). It commences as a shallow channel some 5m across and 1.5m deep cut into the north side of the river immediately above the site of the Bennet sluice, at a height which can be estimated as between 95 and 96 ft (29m) OD (Fig. 5). It

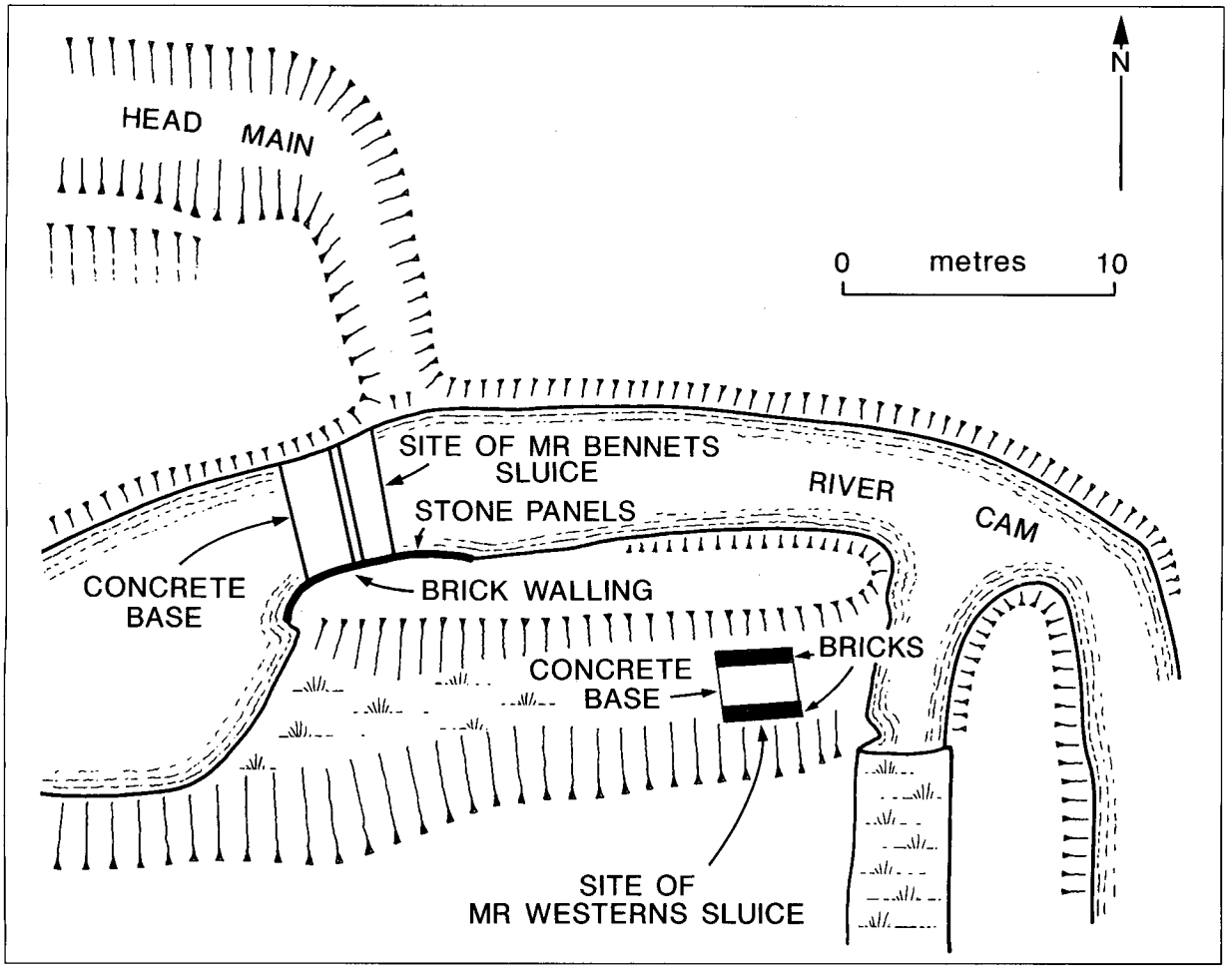

Figure 5. Babraham water-meadows: Plan of sluices

runs north-north-west for some 10m and then turns sharply west and runs for some 650m until it reaches the old London to Norwich road at Bourn Bridge (Fig. 2). The head main consists of a well preserved channel cut into the edge of the river gravel and glacial deposits which here form a low natural break of slope separating them from the river alluvium to the south. The upper edge of this slope has been sharpened by modern cultivation, and also presumably by medieval ploughing. However, it is the recent cultivation that now extends to within 0.5m of the outer edge of the channel and that has presumably destroyed the bank along its north side which was shown on the 1719 plan (Fig. 4). The actual form of the channel is remarkably consistent along its length but its dimensions vary. Just north-west of the sluice the channel, even today, is still some 7m across and 2.5m deep below the northern edge and 1.8m deep below the southern side where there are slight traces of an outer retaining bank 4.5m wide. These massive dimensions recall the details noted by one of the deponents in the Chancery proceedings that the channel here was 'two throws' deep. Further west, towards Bourn Bridge, the head main is much less massive, being some 5m in width, 1.5m deep below the northern edge and 0.5m deep below the spread outer retaining bank. About half way along this section the head main is crossed by the 19th-century so-called Carriage Drive to Abington Hall (Fig. 3). The drive is carried over the head main on a small late 19th-century red brick bridge with a semicircular arch.

At Bourn Bridge the head main passes beneath the old London to Norwich road in a modern concrete culvert with red brick parapets. This culvert was rebuilt in the 1990s to match the equally new bridge across the River Cam 50m to the south (TL 520493). The earlier, similar, culvert for the head main is just visible in the background of a photograph published in 1935 (Palmer 1935, pl III). Beyond, the head main survives in poor condition for 100m as the southern boundary of the Bourn Bridge Cottages gardens. It is here only a shallow ditch 0.5m deep and 3 to 4m wide with a low spread outer bank less than 0.25m high.

At the rear of the Cottages the head main is crossed by a massive embankment of the former Chesterford to Newmarket railway, where it traversed the Cam valley. The line was constructed in 1846–7 and opened in 1848 (Brown 1931). It soon became involved in one of the early railway company wars, was taken over by the Eastern Counties Railway and was closed in 1851.

The crossing of the valley here necessitated not only a bridge across the Cam but a culvert to take the head main. The culvert still exists, near the south-western corner of Bourn Bridge Cottages (TL 519494). It is of white brick, built on the skew, with a semi-circular arch and the tunnel bricks laid on the 'English' or 'helicoidal' system (Simmons and Biddle 1997, 46–7). The outer retaining wall of the culvert on the east side is decorated by three courses of red brick with a red-brick string course above them. Any parapet that may have existed has been removed. The western side of the culvert and the next 200m of the head main were completely destroyed by the construction of the A11/A505 road junction in the 1990s. OS plans show that the head main turned sharply north-north-east after exiting the culvert and ran for 120m roughly parallel to the railway embankment before turning west again. Its original line here was altered somewhat by the construction of the embankment. A plan of 1829 (CUL), to which the line of the railway has subsequently been added, shows the original position of the head main partly beneath the later embankment.

From here the head main ran in a generally north-westerly direction, roughly parallel to and between 100m and 175m north-east of the River Cam, for some 700m to the outskirts of Babraham village (TL 513501; Fig. 2). It was this section, the first to be built, that watered the sloping meadow land between it and the river. Its line, shown on the 1829 plan and on all OS plans until 1999, was some 3.5m above the river (CUL; OS 1885, 1901, 1956, 1999). Immediately south of Two Acre Plantation (TL 517497) it mirrored the course of the Cam and curved into and around the head of the dry valley here to maintain its level.

The whole of this section of the head main has now been completely destroyed by ploughing which had already begun in 1976. At that time an aerial photograph (CUCAP BWS45) showed the head main in the process of being flattened although enough remained to indicate that it then had exactly the same form as the surviving section in Little Abington parish. That is, it consisted of a narrow channel cut into the slope, with a down-slope bank to retain the water. This is confirmed by the less clear but more extensive vertical aerial photographs taken in 1946 (RAF 1946a). These show that the head main was still intact, with specimen trees along its line. None of the hatches through which the water was released down the slope are visible or even their general positions ascertainable. The early OS plan (1885) shows a slight widening of the head main in one place, 120m east of Mill Hole Copse (TL51454980), which is marked and named as a sluice on the 1829 plan.

Vertical aerial photographs taken in 1946 show other features of interest (Fig. 6). At that time in the centre of the section under discussion was one field, between the head main and the River Cam, which was still bounded on the north-west and east by hedges and still permanent pasture (TL 515497). Within this field the photographs show faint traces of slight and narrow ridge and furrow running exactly straight, directly across the slope from north-east to south-west. The ridges, which were no more than 3m wide, lay within the field boundaries that included the head main, and are thus later than the latter. They are of a type normally called *narrow rig* and conventionally dated to the late 18th or early 19th centuries (Bowen 1964, 47; Taylor 2000, 143–4). These ridges cut through at least three somewhat irregular and very slight ditches running across the contours and roughly parallel to the head main and the river. Two of these ditches extend south-eastwards beyond the area of the narrow rig. There are also traces of other ditches running obliquely across the contours. What these ditches were is by no means clear. They must be earlier than the narrow rig but also, probably, later than the head main. Yet, situated as they are on the sloping valley side, it is difficult to assign a function to them unless they are connected with the head main. If indeed they are contemporary with or later than the head main they must date from between the 1650s and the later 18th century or perhaps a little later. In this case they could well have given rise to the 'various grasses and weeds ... of various shades of green' that Smith saw soon after 1800 and which he thought was evidence of small catch drains (Smith 1806, 116–17). The rather irregular pattern of these drains certainly supports Smith's view that they did not 'appear to be of any service to the meadows'. Perhaps these catch drains, if such they were, were a later and somewhat crude addition to the original scheme.

When the head main reached the southern corner of Babraham village, just south-east of Home Farm (TL 513501; Fig. 2), its character and function seem to have changed entirely. So much so that it is likely that it was at this point that the original 1653–4 scheme ended and that the later 1659 extension commenced. The total area watered by this first stage can be estimated with some accuracy as about 30 acres (12ha). Exactly how the head main might have terminated here is unknown. The surplus water may have been returned to the river some 200m away, although there is no trace of any channel. A sluice is marked and named a little to the south on the 1829 plan. The head main may later have fed an animal drinking pond which certainly seems to have existed here by the late 19th century (OS 1885). But any original termination is likely to have been altered or destroyed by the construction of the extended head main. The latter ran in a north-easterly direction from the back of Home Farm along the rear of all of the village properties on the south-east side of the main street. Along this length the head main changed direction very slightly at a number of points where major internal boundaries met the principal rear boundary of the village. This indicates that, wherever the medieval village of Babraham was located, by the mid 17th century the block of properties along this side of the village street was already in existence. There is now no trace of the head main along this line, it having been destroyed by agricultural buildings in the last fifty years but it is depicted on all OS plans and on the 1829 Estate Plan.

From the north-east corner of the village the head main survives as a ditch, albeit only as a field bound-

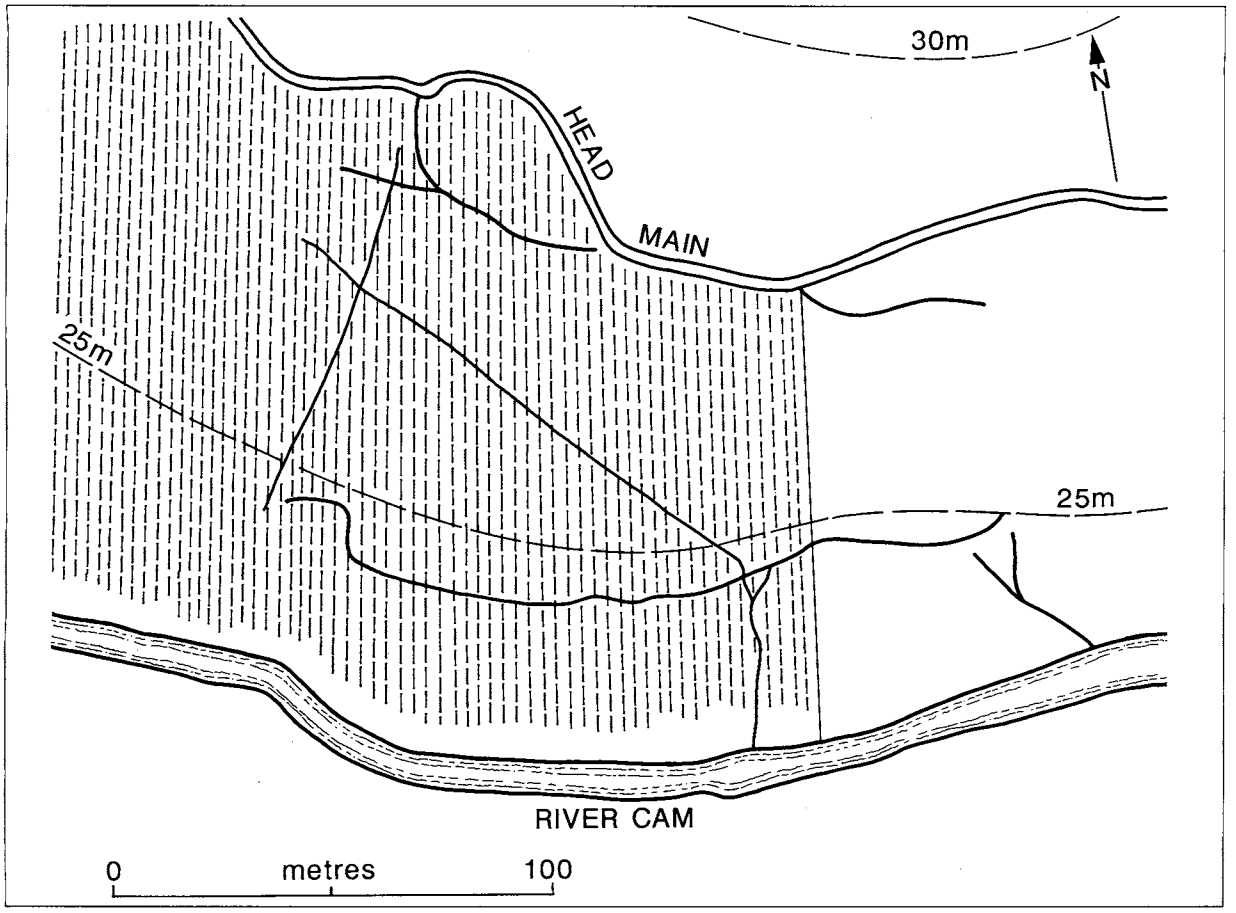

Figure 6. Babraham water-meadows: Plan of catch drains

ary. It turns sharply east-north-east and runs in a broad and somewhat angular arc into and out of a small dry re-entrant valley in order to maintain its level at about 27m (85ft) above OD. Here the head main is a ditch 3m to 4m across and only 0.5m deep at the most. Along this section as well as along the short section to the north-west of the village street, the head main was never used to water meadows. Its function was merely to carry water from the earliest part of the system to the later part to the north-west. The head main passes in a culvert beneath the street, its line marked by a low rise in the road. The culvert appears to be of late 19th-century date although it is now completely filled with rubbish and its constructional details cannot be seen. Both parapets are part of the adjacent 19th-century estate walling of flint panels edged in red brick and with a white brick coping.

Babraham Hall and Park are now the property of the Institute of Animal Physiology which was established here in 1948. Until then the Hall lay towards the southern end of a large landscaped park, the history of which has not been studied. The part south-west of the Cam seems to have been created between 1829 and 1885 by one of the Adeane family (CUL 1829 Plan; OS 1885). The more extensive north-eastern part of the park, through which the head main ran, seems to have been in the process of being laid out in 1785 (CUL Plan of St John's College Lands). Over the years this park has been ploughed over and divided into paddocks, many laboratories and workshops have been erected and a large housing estate for staff built. These developments have led to the almost complete destruction of the head main which once ran across the park in a north-westerly direction. However, its line as depicted on the 1829 plan and on OS plans (CUL; OS 1885–1956), details visible on the 1946 vertical aerial photographs (RAF 1946b), as well as a few surviving fragments, enable the overall form and appearance of this section to be recovered (Fig. 2). Immediately beyond the village street the head main survives in a boundary belt of trees as a ditch 4m across and 0.5m deep for a distance of 50m. In 1785 this section was called New River. Thereafter almost all trace of it has vanished. Originally it turned sharply and then ran for 600m and, at least from the 19th century, terminated on the edge of a small copse to the north-west of the drive between the Hall and Cambridge Lodge (TL 510509). The first part of the head main across the park was very different from the rest; it was ruler-straight and its line had no regard for the local topography. Indeed the centre 200m of this section was cut across a low flat spur projecting south-west between two shallow dry valleys. This meant that it would have been impossible to run water down the hillside

here. Further, to maintain the correct gradient the head main would have needed to been cut very deeply across the spur. The actual depth here is unknown although aerial photographs show a ditch of some size (RAF 1946b). Certainly it must have been at least 2m deep and possibly more. There may originally have been no intention to irrigate the face of the spur here, the object being to carry the water into the adjacent dry valley. However, there is evidence of a probably later attempt to run water down the spur. The 1946 aerial photographs show a broad ditch that came off the head main, ran south-west along the side of the spur and then curved south-east to run across it for about 100m before terminating just short of the eastern drive to the Hall (RAF 1946b; TL 507512). With a suitable hatch on the head main this ditch would have made possible the irrigation of the lower part of the spur.

Beyond the spur the head main continued north-west into the adjacent dry valley. By the 19th century it was crossed by the Cambridge drive to the Hall although there is now no trace of the presumed culvert at the crossing. A linear area of rather disturbed ground marks the former line of the head main east of the drive (TL 508511) but north-west of the drive there is no trace at all, the whole area having been ploughed regularly. The aerial photographs and OS plans show the head main running on a broad curve around the edge of the next rather steeper spur and into the adjacent dry valley, where in the late 19th century it ended on the edge of New Plantation (TL 512505). Here it ran parallel to and roughly 150m up-slope of the River Cam. The 1946 aerial photographs show that the then tree-lined head main was much narrower here than further upstream. They also show traces of another ditch parallel to it and to the river, roughly half-way between them. This may well have been another catch drain. If this section was the total length of the 1659 extension it increased the area irrigated by some 50 acres (20ha), making a total of some 80 acres (33ha) being watered.

However, the 1829 plan shows a ditch continuing the head main and turning sharply north-east. It runs for 1.3km in a broad north and north-west curve into and out of a dry valley, around a further spur and into yet another dry valley. It is depicted as ending at a now unnamed building, called Shepherds Cot in 1829 (TL 49885195). Little survives here of the head main, if such it be, except for a slight drainage ditch 4m across running through New Plantation and, elsewhere, for a hedge ditch of similar proportions. If this ditch was part of the original head main it extends considerably the area that was irrigated from 80 acres (33ha) to about 170 acres (70ha). This figure is very close to the 165 acres (68ha) recorded by Vancouver (1794, 56). This additional section of ditch would also make the total length of the head main some 5km, of which 3.7km was actually used for watering meadows.

Conclusions

This analysis of a small irrigation scheme of the 1650s sheds a little light on one aspect of the history of agriculture in Cambridgeshire and, perhaps, on 17th-century agriculture in general. It has also produced new information on a hitherto little known county family. Inevitably it has raised more questions than it has answered. These questions range from those of minor interest such as the possible existence of the catch drains to one of rather wider importance, the involvement of the architect Hugh May as a 'Director' of the scheme.

Acknowledgements

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Jane Griffin's Journal of a visit to Cambridge in 1811 on the installation of his Highness the Duke of Gloucester, 27 June to 4 July 1811

Harold King

Edited from an original account in the archives of the Scott Polar Research Institute, University of Cambridge (MS248/4) and reproduced by kind permission of the Keeper and Librarian

Jane Griffin (1791–1875), better known as the second wife of the Arctic explorer Sir John Franklin, was the daughter of John Griffin, a prosperous London silk merchant, and his wife Mary, née Guillemard, both of Huguenot stock. Aware of the educational benefits of travel Mr Griffin encouraged Jane and her sisters to accompany him on tours of England, Wales and the continent; the urge for travel was to remain with Jane throughout her life. Her journal accounts of these travels are now in the keeping of the Scott Polar Research Institute one of which, an account of a visit to Cambridge in 1811 (complementing a previous visit to Oxford in 1809) is reproduced here for the first time.

The occasion of the Cambridge visit was the installation of the newly elected Chancellor of the University, William Frederick, Duke of Gloucester, a nephew of George III and the first member of the Royal Family ever to attend an English university, in this instance as a Fellow Commoner of Trinity College. Jane Griffin's account of events is contained in a pocket-sized notebook covering 51 pages of neatly written longhand based on her rough notes. Her main source of general reference was almost certainly JW Wilson's *Memorabilia Cantabrigiae* (London, 1803).

The opening pages describing the journey by hired chaise from Waltham to Cambridge, accompanied by Jane's father and sister Mary, provide a fair example of the author's eye for detail. Her powers of the dramatic are given fair scope when an inn in which the party has taken shelter from a violent thunderstorm is wellnigh demolished. Once settled in the Trinity Street rooms of Joseph Ferard, a family friend, Jane wasted no time in her determination to inspect the colleges and university buildings and to attend as many of the ceremonial events as possible. These centred on the Installation of the Chancellor, namely the Installation Ceremony itself in the Senate House on Saturday 29 June, a commencement sermon on the Sunday, the awarding of degrees on the Monday to be concluded on the Tuesday with awards for prize compositions. Finally on the Wednesday, prior to the departure of the Duke, Trinity College would host a Grand Public Breakfast in Nevile's Court preceded by a balloon ascent from Great Court by the celebrated astronaut, Mr Sadler. These events were to be duly attended and reported by Jane with the exception of the Installation Ceremony, for which she had to fall back on press reports and hearsay.

Jane's inspection of the colleges and university buildings commenced on her first full day in town when, accompanied by Joseph Ferard and some obliging 'young Cantabs', the young ladies were conducted on a tour of 'the beautiful walks at the back of the colleges' taking due note of St John's ('dark & gloomy'), thence proceeding to Trinity 'whose architectural magnitude & splendour stands unrivalled either here or at Oxford'. Since most of her guides appear to have been Trinity men and since the college was hosting the Duke and providing the venue for many of the forthcoming events, Jane's enthusiasm can be understood, her descriptions of this college being fuller than for any other. Reading these accounts one is at once aware of Jane's determination to provide the reader with the maximum of factual information and to show off her knowledge of classical architecture. At King's she approves of Mr Gibbs' 'modern' Fellows building but dismisses Stephen Wright's eastern extension of the Old Schools as 'heavy & clumsy'. She much admires King's College Chapel – 'as perfect & splendid a specimen of Gothic architecture in its latest and most refined era as any in the Kingdom'. Her account of its interior is accompanied by the expectable array of statistics; and was she perhaps thinking of the poet Milton when she writes of the 'painted windows' as shedding 'a sober chastened light throughout the place, congenial with the religious feelings of the spectator'?

During the course of her six days in Cambridge Jane succeeded in visiting all seventeen of the colleges, from Magdalene in the north to Downing in the south. Her account of the latter is perhaps of special interest as building had only recently begun. Two buildings had by this time been completed, both in the classical style and thus meeting with the writer's unconditional approval. Her sanguine hope was that the remaining buildings be built in a corresponding style so that 'Downing College will rank as one of the first in archi-

tectural beauty and magnificence'.

Inevitably Cambridge town does not escape Jane's strictures – 'ill-constructed, the streets being inconveniently narrow & confined & the houses irregular and inelegant'. Clearly little had changed since John Evelyn had written in similar vein in the previous century. Nevertheless Jane traversed the length and breadth of Cambridge's main thoroughfares. She leaves the reader with a fair picture of the marketplace as it then was, embellished by the conduit celebrating the proverbial Hobson, thence continuing by way of the Round Church and over Essex's stone bridge to the site of the former castle, its ruined gatehouse still standing and 'with a pleasing view over the town with the noble view of the colleges'. Of a boat trip to Chesterton Jane writes somewhat lukewarmly, the spire of Chesterton Church being 'the only pleasant object in the whole distance'

Jane's final day in Cambridge must have taxed her energies to the full, with King's College to be inspected before breakfast followed by a brisk survey of the remaining colleges strung along and adjacent to Trumpington Street. All this duly achieved she hastens back to King's to stand in the rain and watch Mr Sadler's much heralded balloon ascent – (he subsequently landed in a field near Stansted, Essex). By now it was time to prepare for Trinity's Grand Ball hosted by the Chancellor. Even in the midst of these festivities Jane manages to absent herself for a brief spell in order to inspect and comment upon the interior of the Wren Library and its furnishings – 'the finest in the University & perhaps in the Kingdom'. This accomplished she returns to join the dancing in Trinity's gardens. And so the evening drew to its close and

Jane Griffin, aged 24.

Jane's party returned to Mr Ferard's rooms. Thus ended, to quote the *Cambridge Chronicle*, 'a celebrity unexampled in the records of this, and we doubt not, of any university in the world'.

Thursday 27 June

We left town on our journey to Cambridge early in the morning of Thursday, the 27th of June. Our first stage was to Waltham Cross where my uncle[1] engaged a chaise & horses to carry us on to Ware.

Leaving Waltham we passed thro' the villages of Turner's Hill, Cheshunt, Wash, Wormley & Broxbourn to Hoddesdon , a small market town seated on the descent of a hill, close to the river Lea. 'The market house is built of timber, supported on arches & pillars & bears the marks of antiquity. Adjoining it is a conduit. Hoddesdon is a chapelry in the parishes of Amwell & Broxbourn. The chapel is an ill looking red brick building. From hence we passed thro' the village of Amwell to Ware, where we were detained some time for horses. It is an ill built, ugly looking town, standing on the western bank of the river Lea, which is navigable from hence to the Thames. The new river head is at this place, & the springs of the Chad which supply it, rise in some meadows opposite to Ware Park, the seat of Thomas Hope Byde Esq, 1 mile to the left of the town. Ware has a very considerable trade in malt, sending it is said a greater supply of that commodity to London than any other market. A great proportion of the buildings in the town are deformed by the awkward looking machines inclining above the chimnies to confine the smoke of the malthouses. The country from Waltham to this place & from hence to Buntingford, the next stage, is well cultivated & pleasant but offers no remarkable features for description. About 2 miles from Ware is the pretty little village of Wade's Mill, seated in a bottom & watered by the small river Rib which is crossed by a brick bridge; 2½ miles further is the village of Collier's End & 1 mile beyond this on the left at some distance from the road is seen a large, handsome building called St John's College for the education of Roman Catholics.

The next object of attention is the pretty little village of Puckeridge 1 mile beyond which on the left we pass Hamsells, the seat of [?] Blake Esq. Buntingford is a small village looking market town, with an ugly red brick chapel built by voluntary contributions from the parishioners. It derives some interest from its having been the native place of the pious & learned Dr Seth Ward, Bishop of Salisbury, who founded here an almshouse for 8 poor men & women; he was also a grateful benefactor to the free school where he received the rudiments of his education. There are 2 inns at Buntingford, and not being able to procure horses at one, we had recourse to the other with success & immediately proceeded to Royston. A little beyond Buntingford on the right we passed Hormead Bury, the seat of T Welch Esqre, & afterwards the pretty little villages of Chipping and Buckland. The pleasing aspect of the country strikingly changes within a few miles of Royston to enclosed dreary downs, bar-

ren of wood & chequered with low naked hedge rows. The town of Royston is seated on the borders of Hertfordshire and Cambridgeshire, at the edge of the wide open plains which extend thro' the Eastern counties. The streets are narrow & the houses in general mean. The church has a clumsy embattled tower at the western extremity.

We met Mr & Mrs Hayley here who were travelling down with their own horses, but were afraid of proceeding immediately to Cambridge on account of the lowering aspect of the sky. We were not however deterred by its portentous gloom from pursuing our last stage, but we had scarcely rode 3 miles before the long threatening cloud burst over our heads in torrents of rain & we had scarcely time to take shelter in a a little public house in the village of Milbourne[2] before it was accompanied by a violent hurricane & a dreadful storm of thunder & lightning which made us tremble to think how narrowly we had escaped an open exposure to their fury. All the raging force of the tempest seemed to concentrate in the spot whence we had fled for shelter, the hurricane was tremendous & the barns adjoining the house were shattered into ruins. A part of the roof of one of the upper rooms fell in & below this numerous wares ranged round the walls of our kitchen tumbled rattling on the ground & the screams & pious deprecations of the terrified landlady mingled with the sympathetic cries of her children produced a complication of distressing sounds which it is difficult to form an idea of. This scene continued with little intermission for about an hour & a half at the end of which time we found the storm sufficiently abated to induce us to venture on completing our frustrated journey. The village was deluged with water which spread into a lake by the cottage that had afforded us shelter presenting us with the prostrate fragments of the barn, a melancholy spectacle of devastation. We passed thro' the villages of Harleston[3] & Trumpington across an unvaried dismal flat, inclosed & well cultivated, but naked & void of the lowest pretentions of beauty. We arrived at Cambridge at Joseph Ferard's[4] rooms in Trinity Street late in the evening & found Mrs Ferard & Margaret there before us.

Friday 28 June

A long & violent storm of rain, thunder & lightning confined us to the house during the morning & we were obliged to have recourse for amusement to our books & looking out of the window which projecting wide into the street afforded a pleasing perspective of the upper part of the Senate House & Square. The ceremonies of the installation had not yet commenced & the Duke had not yet arrived, but the well filled streets & the general bustle of action announced their speedy approach. Mrs Andrew Amos[5] dined with us & in the afternoon the weather cleared up & invited us to a walk. Our young Cantabs, justly weighing the effect of first impressions, conducted us to the pride of their university, the beautiful walks at the back of the colleges on the banks of the Cam, which skirt the whole western side of the town & afford the most advantageous view of the principal public buildings. The first of these in the south is Queen's [sic] College on the brink of the water; near to it is the elegant modern front of King's College with the gothic west end of its beautiful chapel; then is seen the noble palace-looking pile of Clare Hall, which is succeeded by the elegant west front of Trinity College Library, & lastly the dark gloomy walls of St John's receding from the line of the former & washed by the river, close to the range. In front of these are noble meadows & avenues of trees extending to the water which is crossed by numerous elegant bridges & bordered on the opposite bank by corresponding groves & gardens composing a scene of imposing beauty & magnificence.

We passed thro' the courts of Trinity & St. John's which rank the two first of the 17 colleges of the university, & the former in point of architectural magnitude & splendour stands unrivalled either here or at Oxford. It consists of two spacious quadrangles, the first of which is entered from the street thro' a magnificent gateway in a large square tower, having angular turrets at the corners & ornamented within & without with statues, probably of the founders or benefactors of the college. This court is by far the largest being 344 feet in length on the west side, & 325 on the east, 287 broad on the south side & 256 on the north. On the north side is the chapel with a handsome tower & gateway adjoining; the modern built lodge of the master & the hall are on the west, & a lofty tower & gateway called the Queen's tower on the south. The entrance from the street is on the east.

TRINITY COLLEGE

HENRY 8TH

These buildings occupy nearly one half of this grand quadrangle, in the centre of which is a conduit under a beautiful octagonal building supported by pillars. The south end of the west side of the court has been rebuilt in a modern style different from that of the other sides of the court. We looked into the hall which is a large handsome room upwards of 100ft long, 40 broad & 50 high with 2 bow windows of great depth at the upper end. It is adorned with the portraits of the benefactors & masters of the college, beneath which on one side of the room are the busts of the most celebrated poets, orators & philosophers of the ancients & on the opposite side of the moderns. The ceiling is ornamented with massy frame work in oak.

Thro' a passage to the left of this room we entered the 2d court which was built by Dr Thomas Nevile, Dean of Canterbury & master of this college & hence called Nevile's Court. It is 228ft in length on the south side & 223 on the north, 132ft in breadth on the east side & 148 on the west. The east side is formed chiefly by the hall, & the west is occupied by the magnificent front of the library. Under this building is a piazza, with a row of Doric pillars dividing it in the centre, & there is a cloister on the north & south sides. The area in the middle is laid out in a large grass plot. The east front of the library looking into the court is ornamented on the top with 4 fine statues, representing Divinity, Law, Physic & Mathematics, executed by Mr Caius Gabriel Cibber, father of Colley Cibber, the Poet Laureat. The upper part of the arches of the piazza is filled up, & on the west side are 3 gates of wrought iron, opening to the lawn & the river, which is crossed by an elegant cycloidal bridge of 3 arches, designed & executed by Mr James Essex FSA.[6] On the opposite side is a meadow, surrounded by a regularly clipt hedgerow, & on the north & south sides are handsome avenues of elm, limes & horse chestnut trees. Trinity College was founded by King Henry the 8th on the site of 2 colleges & a hostel in 1546. St John's College received its name from the dissolved priory of St John's, on the site of which it is built. It was founded in pursuance of the will of Margaret wife of Edmund Tudor Earl of Richmond & mother of Henry the 7th in 1509. It is a dark-looking gloomy pile of building and consists of three courts lying between the High Street & the river to the north of Trinity. The first quadrangle is entered from the street by a magnificent gate & tower adorned with 4 turrets. On the north side of this court is the chapel; the south side has been rebuilt with stone in a handsome manner. The 2d & middle court is the largest & the 3d which is entered by a handsome portico is the smallest. It has a cloister on the west side & the library on the north. This court is on the brink of the river over which is an old bridge of 3 arches, leading to a fine avenue of lofty elms, on the opposite side, at the upper end of which is the grove or fellows garden.

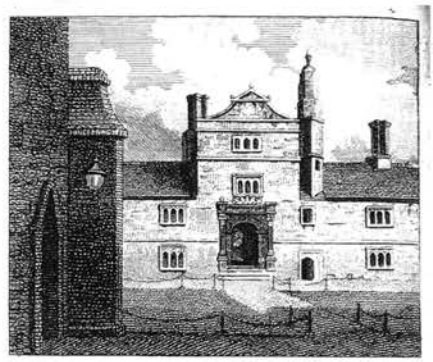
ST JOHNS COLLEGE

MARGARET COUNTESS of RICHMOND

We returned to Trinity street in time to see the entrance of the Duke of Gloucester, who arrived in a coach & six about 7 in the evening & passed thro' Trinity street amidst the acclamations of the crowd to Trinity lodge, where he was received by Dr Mansel Bishop of Bristol, the Master. Soon after a deputation from the Senate waited on his Highness, consisting of the Vice-Chancellor, Dr Douglas, the head of Bene't college, with 2 esquire bedells, his attendants, 2 proctors & 2 representatives of each of the 3 faculties, Divinity, Law & Physic. Mr Leith,[7] a commoner of Trinity, drank tea with us & accompanied us in our evening's walk when we took a cursory survey of the town, & a few of the colleges. The town is extremely ill constructed, the streets being inconveniently narrow & confined & the houses irregular & inelegant. They are built chiefly of red brick, but the new buildings, of which there is a considerable number, particularly in the lower part of St. Andrew's street, are built of coarse white brick which has a better effect. Several of the colleges likewise are constructed of a dark, dirty, age tinted brick, & few of them present that wide magnificence of front which throws so striking an air of grandeur in the spacious streets of Oxford. There is indeed no part of Cambridge which can claim any pretensions to beauty except the western outskirt of the town which I have already mentioned, & the Senate House square, which is formed by some of the finest buildings of the university, but is still too small & irregular to be entitled to much admiration.

The figure of the town approaches to an oval, being broadest in the middle & diminishing toward each extremity. The two principal streets are St Andrew's or Bridge street & Trumpington or Trinity street which run nearly thro' the whole length of the town from north to south & encompass a variety of smaller

streets & lanes. The north end of Trinity street, which is usually called St John's lane, falls into Bridge street opposite St Sepulchre or the Round Church. The market place is an oblong square, at one end of which is the town & county hall, a white brick building standing upon arches faced with stone. A stone conduit stands in front. The water is brought to it by an aquaduct & supplies the centre of the town. This useful work was the benefaction of the celebrated Hobson,[8] the carrier, whose name is immortalized by a familiar proverb which had its origin in an unyeilding[sic] singularity which he exhibited in the practice of a branch of his profession. We went into Caius or Gonville college situated to the south of Trinity & north of the Senate House. It consists of 3 neat quadrangles faced with stone & has 3 gates [of] honor & with distinctive appellations. The first is called the gate of humility, the 2d in the middle of the college, by which two of the courts communicate, is called by an inscription on one side the gate of virtue & on the other the gate of wisdom, & on the last or back gate towards the schools, is denominated the gate of honor. This college obtained the name of Gonville, rector of Torrington & Rushworth in Norfolk who obtained a charter for its incorporation from Edward the 3d in 1348. Above 200 years after in 1557, John Caius MD added a new court to this college & erected three gates, endowing it also with valuable lands. It is now commonly known by his name.



CAIUS COLLEGE

JOHN CAIUS M.D

As we passed thro' Sidney street & Jesus street east of the town, we cursorily looked into the respective colleges from which they derive their names. Sidney Sussex college consists of 2 brick quadrangles, & has very pleasant gardens. It was founded in 1590 by the dowager of Thomas Radcliffe, Earl of Sussex, who ordered that her college should be called after her own name, the college of Lady Francis Sidney Sussex. It was erected on the spot where formerly the monastery of Grey Friars built by Edwd. the 1st had flourished. Jesus college is at the eastern extremity of the town in the road to Newmarket surrounded by groves & meadows. The principal front looks towards the south to the road & is approached by a handsome gateway. The courts are built of brick and have an air of great quiet & solitude. The first is enclosed with buildings on 3 sides, the west side lying open to the fields from which it is separated by a low parapet & iron palisade. The church is built in the conventual form with transepts and a square tower rising from their intersection with the nave. This college was originally a convent of Benedictine nuns founded in honor of the Blessed Virgin Mary & St. Rhadegund & endowed with the lands adjoining by Malcolm the 4th, King of Scotland & Earl of Huntingdon & Cambridge, which nunnery falling into decay, was by licence of Henry the 7th, dissolved & a college built on the site by John Alcock, Bishop of Ely in 1490. It was to be styled the college of the Blessed Virgin Mary, St John the Evangelist & the virgin St Rhadegund, & commonly called Jesus College from the conventual church, now the chapel which was dedicated at first to the name of Jesus. In a large marshy meadow adjoining Jesus

SIDNEY SUSSEX COLLEGE

FRANCES SIDNEY COUNTESS of SUSSEX

JESUS COLLEGE

John Alcock, Bishop of Ely

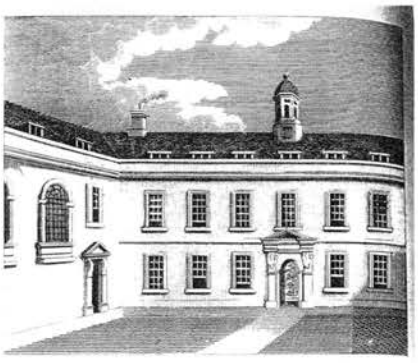
Coll., an annual [fair] was at this time being held. It is vulgarly called Pot Fair & is in general well attended, but there was now but a very scanty exhibition of company. We met Mr. Crichton[9] here & his brother Nathaniel. The former is a pensioner or commoner of Trinity & studying for the bar. Having not seen him for several years I found a considerable alteration both in his person & manners. He had lost that bashful reserve which distinguished him when a boy, & now to his natural qualities of good sense & good temper was joined a spirit & sincerity which exhibited them to better advantage. In returning to our lodgings we passed by the Senate House square where a concert was being performed, & the building was encompassed by a crowd of people.

Saturday 29 June

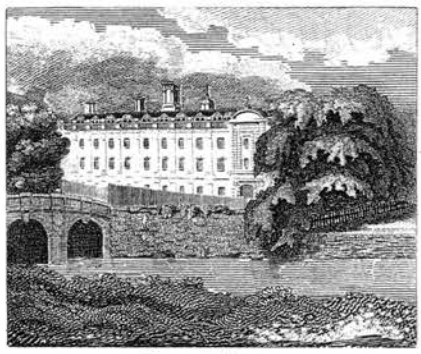
Saturday the 29th was the day of the Installation of the Duke of Gloucester as Chancellor of the University in the Senate House. It was not in our power to gain admission to see the ceremony as we were not sufficiently acquainted with any of the members of the Senate who alone had tickets to induce us to attempt procuring them. The members of the Senate consist of all graduat[e]s above & including masters of arts. Tho' disappointed we however found no little amusement in looking at the bustle & crowd in our narrow street which led to the Senate House & in watching the carriages filled with splendidly dressed ladies which rolled in rapid succession beneath us. About 12 o'clock a deputation consisting of 6 doctors, 2 of each faculty, 6 regents & 6 non-regents passed thro' Trinity street to Trinity lodge and soon returned in the train of his Highness to the Senate House. The crowd huzzared as the Duke walked along, the ladies waved their handkerchiefs from the windows & his Highness replied to their congratulations by gracious bows & smiles. In the procession we remarked Sir Sidney Smith, Mr W Smith MP, Sir John Cox Hippesley, Mr Silvester, Recorder of London, Sir John Perring, Alderman Annesley, Sir Eyre Coote, Dr Mansell, Bishop of Bristol Dr Bathurst, Bishop of Norwich, & Dr Bennet, Bishop of Cloyne.

From the newspaper paragraphs[10] the correctness of which was established by the testimony of Joseph & others who as undergraduates had seats in the Senate House I have extracted the following account of the ceremony of the Installation. At the steps of the Senate House the Duke was met by Dr Douglas, the Vice Chancellor, who walked up the Senate House at his Highness's left hand, when they ascended to the chair of state, His Highness standing on the left hand of the chair & the Vice Chancellor on the right. A band of music in the gallery at the lower end of the room struck up the coronation anthem immediately on the Duke's entrance into the house. This being ended the V C made a speech in English & then presented His Highness the book of statutes & the patent of office, the latter of which was read aloud by the Senior Proctor, the Revd J Aspland of Pembroke. After this the Vice-Chancellor taking His Highness's right hand in his own, the Senior Proctor administered the oath; His Highness then was seated by the V C in the chair of state & thereby installed. After a pause the Public Orator delivered a Latin oration after which the Chancellor rose from his seat & taking off his cap, replied in an English speech to the Vice Chancellor & Public Orator, the company standing while he was speaking. Having concluded & sat down the rest of the company sat down likewise & listened to the Installation ode composed by Professor Hague[11] which was performed in the music gallery by a large band. This being concluded the assembly was closed and the grand procession marched from the Senate House to Trinity College in the following order:

Fellow Commoners preceded by Yeoman Bedells, Bachelors of Physic, Bachelors of Law, Inceptors (MA), Regents, Non Regents, Bachelors of Divinity, Registrary-Librarians, Taxors, Proctors, Professors, Incepting Doctors of Physic, Incepting Doctors of Law, Incepting[12] Doctors of Divinity, Public Orator, Non-Gremial Doctors in each faculty without robes, Gremial[13] Doctors of Physic, Law & Divinity in robes, Noblemen in habits, Commissary, High Steward, Vice Chancellor, Chancellor preceded by 3 esquire bedells & attended by noblemen, bishops etc. A grand dinner was given this day by the Chancellor in the cloisters of Nevile's Court, Trinity College at which Joseph was present. Nathaniel Crichton dined with us & in the afternoon we walked down to the river at the backs of the colleges. We looked into the courts of Trinity Hall



TRINITY HALL.



CLARE HALL

will^m Bateman. Bishop of Norwich

ELIZ^TH DE CLARE COUNTESS of ULSTER

& Clare Hall, the first of which is a small college faced with stone within & without. The entrance is in Trinity Lane a little to the north of Clare Hall. It was founded in 1351 by Wm Bateman, Bishop of Norwich.

Clare Hall consists of one noble quadrangle, adorned with 2 handsome porticos & gates. The west front towards the river is very handsome. It is divided into 2 regular orders of pilasters, the lower or grand floor being of the Truscan order and that above which includes 2 stories, of the Ionic, the whole surmounted with an entablature & balustrade. The Chapel is a neat elegant building of the Corinthian order on the right hand as you enter the gates. A handsome stone bridge crosses the river at the back of this college communicating with a fine vista, beyond which is a lawn surrounded by lofty elms. Clare Hall was originally founded by Richd. Badew or Badow of Great Badow near Chelmsford in Essex, Chancellor of the University in 1320. It was destroyed by fire 16 years afterwards & rebuilt & endowed by the bounty of the Lady Elizabeth, 3rd sister and coheiress of Gilbert, Earl of Clare, wife of John de Burgh Lord of Connaught in Ireland, in the year 1347, & henceforward the college was denominated Clare Hall. There is no difference between a hall & a college in Cambridge. It was begun to be rebuilt in 1638.

We rested on the bridge to listen to the distant music & the shouts of great applause which came from the festive tables in Nevile's Court, & on our return home found that Joseph had escaped from the company & was impatiently waiting to take us into the court that we might see the declining splendor of the fête. With some difficulty we gained admittance thro' the crowd, but Margaret terrified with the pressure fainted as soon as we had entered the cloisters. At night we resorted to the same place to a fête given by the Chancellor. His Highness's band played in an illuminated pavilion erected in the centre of the grass & the crowded company paraded in the cloisters. On the banks of the river were some grand fireworks the beauty of which was a little diminished by a drizzling rain which fell during the evening. I walked with Mr Crichton & Mr Andrew Amos.[14] Mr Leith & Nathaniel Crichton came with the rest of our party. The crowd separated us all from each other & we could not effect a meeting till it was time to return home.

Sunday 30 June

We went to Great St Mary's the University church, when the Chancellor & University attended to hear a sermon. It is a handsome building & stands on the east side of the Senate House Square opposite the schools. The body of the building is 75 ft. long, the chancel 45 ft. & the breadth of the church 68. It has 2 broad side aisles. The Chancellor, Vice Chancellor, heads of colleges, noblemen & doctors sit in a handsome gallery between the nave & the chancel; the body of the nave is appropriated to masters of arts, fellow commoners & strangers & in the gallery along the side aisles sit the Bachelors & Under-graduates. Towards the middle of the nave is the pulpit & at the

west end is the organ in a handsome gallery. On the Duke's entrance in to the church, a large band of musicians played the overture to the occasional oratorio of Handel in the organ gallery which was enlarged & brought forward to accomodate them. This being ended a sermon was preached by the Rev. Dr Illingworth of Pembroke which consisted almost entirely of declamatory invective against the Methodists after which it being Commencement Sunday Dr Illingworth read a long & tedious list of the benefactors to the University. This was succeeded by a long anthem written by FA Rawdon & composed by GH Polegreen-Bridgtower as an exercise for his bachelor's degree in music. The usual concluding prayer after the sermon followed, & the blessing was delivered by Dr Milner, President of Queen's [sic], who sat on the right hand of the Chancellor in the gallery.

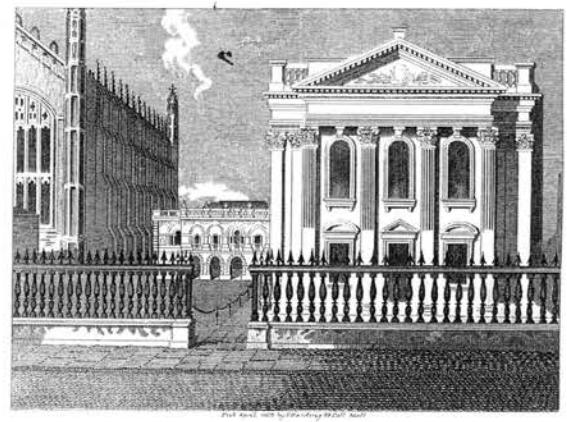
St Mary's Church was erected by contribution & is said to have been above 100 years before it was completed. It was begun in 1478, built without the steeple in 1519. The Duke on his return thro' Trinity street, looked up to our window & courteously took off his cap, a compliment which being the only one we observed him to bestow in this way & uncalled for on our side by any attractive wavings of gloves or handkerchiefs, we were willing to consider a signal & flattering mark of his gallantry. Mr Amos called in & staid a short time with us. He had come down to this theatre of splendor & gaiety with an elderly gentleman of his acquaintance, but tho' he moved in the impelling tide of the multitude as we had observed from our window it was with the abstracted air of a man unconscious of its impulse. We dined with Mr Crichton at his apartments where we met Mr Andrew Amos & Mr Leith. In the afternoon we attended divine service at Trinity College Chapel. It is a simple & elegant modern building, 204 ft in length including the ante-chapel, & 33ft, 8 inches broad within being rather disproportionately long. The height is 43ft, 7 inches. It is divided from the ante-chapel by the organ gallery between which on each side of the entrance are seats for the master &c, & extending along the walls on each side are 2 rows of stalls, besides benches for the undergraduates. The pavement is of black & white marble. The walls are wainscoated & ornamented with fluted pilasters, between which are coats of arms, foliage &c. The altar is under an arch or portico, surmounted by a richly wrought pediment and supported on each side by 4 fluted columns of the Composite order in oak. Within the arch is a painting by West[15] representing St Michael driving the rebellious angels from heaven. It was put up at the expence of Dr John Hinchcliffe, Bishop of Peterborough & master of the college.

On the walls on each side of the altar are 2 old paintings representing the figures of our Saviour & St John the Baptist on one side, & the Virgin Mary & Elizabeth, the mother of John on the other in perspective niches. In the ante-chapel is an exquisitely beautiful statue by Roubiliac[16] of Sir Isaac Newton. The intensity of thought & eager brightness of his countenance seem to express the mental act of pursuing one of his second original conceptions, his left foot is advanced & in his right hand he holds a prism. The drapery is admirable. This monument was erected at the expence of Dr Smith, Master of the College in 1755. The Chancellor after the service of the chapel, walked with the Bishop of Bristol in the cloister of Nevile's Court & was followed by a multitude of people of which we contributed to form a part.

Monday 1 July

We went between 11 & 12 o'clock to the Senate House where the Chancellor presided to confer degrees. It stands in the centre of Trumpington street & forms the north side of a small quadrangle as the Schools & the Public Library to the West. On the south side of the square is part of King's College Chapel & on the East St Mary's Church separated by the street. The Senate House is a handsome edifice of Corinthian order built of Portland stone & adorned with pilasters between a double row of windows with a balustrade surrounding the top. In the centre of the south & principal front is a pediment supported by 4 fluted columns, & at the east end a similar one which is the usual entrance into the building. The magnificent room within is 101 ft. long, 12 broad & 32 high. It has a flat stuccoed ceiling profusely wrought & the lower part of the walls is wainscoated. At the west end the wainscotting is framed in a little bow with fluted columns supporting a pediment & a little gallery on each side. Below this on steps covered with crimson carpeting is the state chair of the Chancellor & on the left one for the High Steward. A small gallery is carried along the walls on each side of the room. On each side of the entrance at the east end is a statue – that on the right is an emblematic figure of Glory, an Italian statue by Barrata[17] presented to the University by Peter Burrell Esq., and that on the left a figure of the Duke of Somerset by Rysbrack.[18] In the middle of the north side is a statue of George the 1st by Rysbrack & on the south side a corresponding one of George the 2d by Wilton.[19]

The lower part of these statues was now concealed



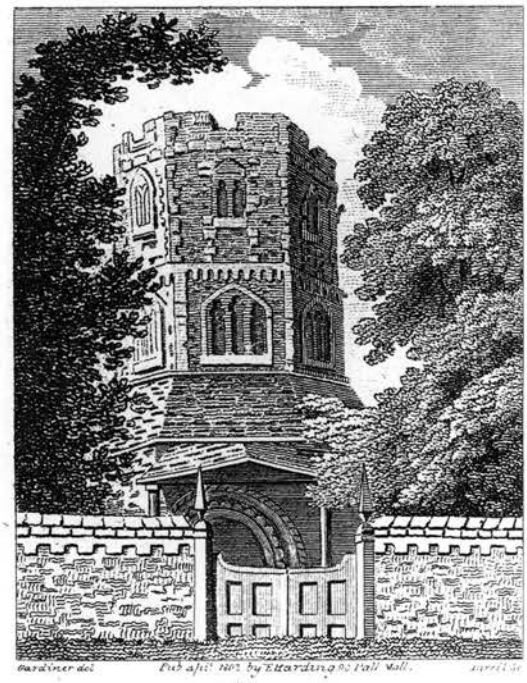
VIEW of the SENATE HOUSE, PUBLIC LIBRARY & KINGS COLLEGE CHAPEL

The Senate House

by little rostra raised for the occasion & the side walls & lower end of the room were hid with scaffolding. The area below was filled with benches leaving only a narrow passage in the middle. The upper end was divided by a low partition & occupied by noblemen, doctors, heads of houses &c in their robes, & ladies of distinction, who being all magnificently dressed, formed a brilliant constellation of gaiety & splendor. Sir Sydney Smith as he walked up the room to this spot was saluted with loud huzzas & the Duke who arrived about ½ an hour after, met with a similar greeting. Some delay took place after His Highness was seated in his official chair on account of the diplomas not having properly styled the graduats[sic] for honorary degrees, & a long & tedious discussion took place which was conducted in low whispers round a table covered with papers between the Chancellor, Proctors, Orator &c. At length a string of noblemen came forward to receive their degrees & the Public Orator, Mr Tatham MA of St John's, delivered a Latin oration in praise of each.

The noblemen advanced to the entrance of the partition where the Orator was standing, according to the order of their rank, & when each had received his quota of panegyric, was ushered within the division & took his station standing in a range on each side of the Duke. They presented themselves in the following rotation – Marquis of Lansdowne, Marquis of Hartington, Earl of Bristol, Earl of Hardwicke, High Steward, Lord Carysfort, Lord George Cavendish, Lord John Townshend, Lord Henniker, Lord Erskine,[20] 2 sons of Lord Dundas, Honble. Mr Cavendish, Honble.David Erskine, Mr Penn, Sir Eyre Coote – Doctors ad Eundem[21] – Bishop of Norwich, Sir Sydney Smith & Sir James Crawford. To each of these noblemen & gentlemen the Public Orator paid an appropriate compliment in Latin & the applause of the assembly was proportional to the popularity of its object In Lord Erskine's panegyrics the Orator descanted on his attachment to the trial by jury & a thunder of applause vibrated thro' the assembly. Lord Erskine seemed to imagine this to be the climax of his eulogy & was advancing to take his station within the hall, when the Public Orator gently detained him, & telling him that he had not yet finished his declamation, resumed his rhetorical flourishes. Sir Eyre Coot[22] was received with considerable marks of favor & the short but comprehensive eulogy on Sir Sydney Smith[23] was interrupted & followed by reiterated bursts of applause.

Having taken the oaths & advanced by turn to the foot of the throne, the Chancellor took their hands & conferred on them the honorary degrees of Doctors & then whispered something in the ear of each & dismissed them with a shake of the hand. About 20 other gentlemen followed who received the degrees of master of arts which they were entitled to at this time as members of the University. We left the house some time before these ceremonies were concluded & employed an hour or two in continuing our survey of the town. Margaret & Mary[24] had quitted it some time before to go with Mr Crichton & Mr Leith to a public



St Sepulchre or the Round Church

breakfast given by the University in the gardens of Sidney college[sic]; the Chancellor honoured it with his presence when the formalities at the Senate House were concluded.

We walked up Trinity street to the point where this & Bridge street meet, which is remarkable only as being the situation of the Sepulchre church, a curious little old building of a perfectly circular form. It is said originally to have beeen a Jewish synagogue, but according to the Cambridge guide is more likely to have been built in the reign of Henry the 1st, a few years after the order of the Knights Templar was instituted, & given to the Templars by some of their relations or friends who were in the crusade when that order was in the low state of poverty which preceded its immense opulence. St Sepulchre is the oldest church of the form in England. Proceeding up Bridge Street we crossed a handsome bridge over the Cam which after washing the west side of the town, turns to water the northern also, & came to St. Mary Magdalene college, the only one that stands on the northwest side of the river in that part of the town called the Castle End. It is a small & mean looking college consisting of 2 courts, the first of which is the largest. On the north side of the court is the chapel & master's lodge & on the east the hall. A passage on the right of the hall leads into the 2d little court on the east side of which is a stone building supported on round arches forming a cloister; in the centre of the building are the words Bibliotheca Pepysiana. There is a wing on each side containing the apartment of the fellows, & at the back is a pleasant garden bounded by the river on the South side & ornamented with a terrace walk & green on the North. This college was founded by Edward Stafford, Duke of Buckingham in the year 1519 on the

MAGDALEN COLLEGE

EDWD STAFFORD DUKE of BUCKINGHAM.

site of the priory of St. Giles's, by the name of Buckingham college, & it seems to have been unfinished at the time of the attainder & death of this nobleman & must have been forfeited to the crown since in the year 1542, Henry the 8th made a grant of it to Lord Audley, Baron Walden & Lord Chancellor of England, & the society was incorporated by the name of the master & fellows of Magdalen College in the fair University of Cambridge.

Magdalen street leads to the Castle at the north western extremity of the town. Nothing remains of this castle except a square tower of very large dimensions with an arched entrance towards the street blocked up. Mr Grose[25] in his antiquities says it was built by William the Conqueror in the 1st year of his reign for the purpose of awing his rebellious subjects. At a little distance from the building is a large artificial mound, probably the site of the keep, tho' no vestige of it remains. The summit of this elevation commands a pleasing view of the town with the noble view of the colleges, the windings of the Cam & the champaign level on all sides beyond. Near the castle is a handsome county gaol, created in 1804. Mr Crichton & his brother drank tea with us, & in the evening my father, sister, Joseph & I went to a grand miscellaneous concert at the Senate House. The music was under the direction of Professor Hague of Trinity Hall. The principal singers were Braham,[26] Catalani,[27] Mr Ashe,[28] & Bellamy;[29] & Mr Lindley[30] was the first instrumental performer. The Chancellor entered the house amidst the loud huzzas of the crowded assembly & as soon as he was seated God save the King was called for, & sung by the first voices in the music gallery *with* much energy & feeling. The Duke retired at the beginning of the second act in order to sup with the Master & Fellows of Peter House, & just at this moment Braham came forward with his second song & not perceiving what was going forward below, mistook the cheers which the Duke received on his exit as expressions of favor towards himself, which he acknowledged by repeated bows. It was not till His Highness had nearly gained the door & still louder huzzas & the waving of hats arrested the attention of poor Braham, that he discovered his mortifying mistake. His performance concluded with Rule Britannia which was demanded with enthusiasm by the patriotic assembly.

Tuesday 2 July

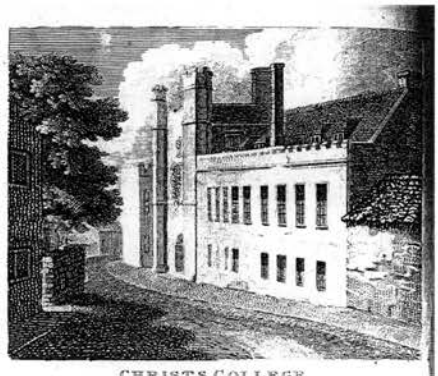
The Chancellor again went to the Senate House to preside at the creation of degrees & bestow the awards of the prize compositions. He sat on the throne as before, with the Vice Chancellor on his right hand & the High Steward on his left. The gallery was filled with undergraduats[sic], bachelor of arts & ladies who occupied the front row; the area was crowded with members of the Senate & their visitors & the upper inclosed part was occupied as on the preceding day. I was not in the house at the commencement of the ceremonies but was informed of what passed there by some of the party who went before. Masters of Arts were first created after which Dr Ramsden, Deputy Regius Professor of Divinity in the room[31] of Dr Watson Bishop of Llandaff, charged 4 doctors of Divinity in a Latin oration in which he alluded to the late bill of Lord Sidmouth[32] & protested against an injudicious interference with the Dissenters, on whose talents & integrity he bestowed great commendation. Dr Jowett of Trinity Hall, Regius Professor of Civil Law, next charged 2 doctors of Civil Law in a speech of some length etc & afterwards Dr Hague presented Mr Jay for his Doctor's degree in Music.

Many ludicrous ceremonies attended these initiations, such as putting a matrimonial ring on the fingers, kissing the cheeks etc which excited much amusement among the spectators & even the self-collected[sic] dignity of the Chancellor was not entirely proof against some risible emotion. The conferring of degrees was succeeded by the recitation of the prize compositions which were delivered from the little rostra erected before the statues of the Kings. The first was a Latin essay by Mr Edward Alderson of Caius, comparing the merits of the Ancients & Moderns in Dialogue, which gained the first of the prizes of fifteen guineas, given by the representatives of the University to the Senior Bachelors. This composition was received with great applause, & followed by another on the same subject from Mr Edward Smedley of Trinity. These two young men were then escorted to Chancellor by the Senior Bedell & received from his hands with a whispered compliment, a check for the amount of of their prizes. The next reciter was Mr RC

Blomfield of Trinity, one of the Chancellor's Medalists for the last year, who delivered a declamatory pangyric in Latin on the preceding Chancellor of the University, followed by a general compliment to Alma Mater & particularly to the present Chancellor. His manner was energetic & the composition obtained considerable applause. Mr Blomfield was followed by Mr Bailey[33] of Trinity, who recited a Greek ode in imitation of Sappho[34] & 2 Latin epigrams, one after the manner of Anthologia,[35] & the other of Martial. The ode was 'In obitam Illustrissima Principissa Amelia'[36] This and a succeeding ode in imitation of Horace ' Proeliam cum Gallio in Busaci Montibus commissum'[37] received gold medals worth 5 guineas each, being Sir William Browne's prizes for the present year. The last mentioned ode in imitation of Horace was recited by Mr Waddington, a scholar of Trinity, for his cousin, the son of my Father's friend, the Revd G Waddington. This young man is entered at Trinity, but not residing, & had too much timidity to deliver his composition himself.

After leaving the Senate House we employed an hour or two in examining a few of the colleges in the South Eastern part of the town. The first to which attention was directed was Christ Church [sic] opposite to St Andrew's Church in the street of the same name. It is a pretty looking college faced with stone, & is entered from the street by a handsome tower & gateway, which opens into a large modern quadrangle, on the north side of which is the Hall, a pretty room with 6 windows, one of which at the upper end is a bow. The lower sides of the room are wainscoated & painted green, the upper end is ornamented with the picture of an old lady kneeling at her devotions with some carved arms above. The portrait represents the Lady Margaret, Countess of Richmond & Derby, & mother of Henry the 7th who founded this college in the year 1505, on the site of a monastery called God's House. Henry the 6th, having founded this religious house, is also commemorated as a founder. Thro' a passage on the east side of the quadrangle we enter a kind of garden court, in which is a handsome & uniform pile of stone building, & behind this is a meadow, ornamented with a row of lime trees in the middle & surrounded by a wall.

To the south of Christ Church in the same street is Emmanuel College, a handsome stone building consisting of one spacious modern quadrangle. The west side towards the street presents an elegant regular front of the Ionic order, with a pediment & pillars in the centre. Within on this side is a handsome arcade, & on the east side opposite is a cloister of 13 arches with a gallery above which appears of earlier architecture than the rest of the court. The south side of the quadrangle is formed by a uniform range of apartments, adorned with a balustrade & parapet at top, & opposite to it on the north side are the hall, combination room & master's lodge. The hall is a neat room with a rich fretwork ceiling & wainscoated walls. There are two large corresponding bow windows at the upper end of the room, & over the screen at the lower end is a music gallery. In the middle of the clois-



CHRISTS COLLEGE

MARGARET COUNTESS of RICHMOND

EMANUEL COLLEGE

SIR WALTER MILDMAY

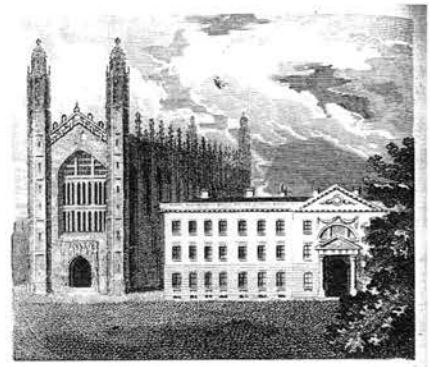
ter in the east side is the entrance into the chapel, which including a small antechapel is 84 feet long, 30 broad & 27 high. It is a gloomy room with dirty wainscoating & shabby stalls. The pavement is of black & white marble, the ceiling is stuccoed & the windows plain. At the east end is a pediment of oak supported by fluted gilt pillars, with a painting over the altar by Ammiconi[38] of the prodigal son. There is an organ with a little gallery on each side. In a small room on the right hand of entrance into the chapel, is the skeleton of a man in a glass case, said to have been a fellow commoner of this college who was hanged for the murder of his father's servant.

A range of brick building fronting a meadow behind this eastern side of the quadrangle extends in a parallel line with the chapel to the South. Emmanuel College was founded by Sir Walter Mildmay of Chelmsford in Essex, Chancellor of the Duchy of Lancaster & of the Exchequer, upon the site of a Dominican convent of Black Friars. He obtained a charter of incorporation from Queen Elizabeth in 1584. We surveyed this college while the Duke was visiting it in his circuit of all the colleges of the University, & followed him to Downing, a little way out of the town near the entrance from London. This college is now building in pursuance of the will of Sir George Downing, Bart. of Gamlingay Park in the county of Cambridge, who died in 1749 & ordained the application of his estates in default of heirs from his nearest relatives, to the founding & endowing a college in this University. It was incorporated by charter in 1800. The architect employed in the erection of this new college is Mr Wilkins[39] of the town, & the architecture is an ornamented Ionic.

There are at present but two detached houses completed which are constructed of white brick with handsome stone fronts. The smallest is inhabited by the Professor of Medicine, Sir Busick Harwood who is at present the only resident member. The other which is intended for the head of the college, is a large noble building with 6 fluted columns raised on steps forming the west front & 4 columns the South. If the rest of the buildings of this college are constructed in a style corresponding with these two, Downing College will rank as one of the first in architectural beauty & magnificence in the University. There are about 20 acres of land belonging to it which remain for the present in an undressed & neglected state. In the afternoon we walked down to a little willowy island in the Cam below Jesus College where we took 2 boats & rowed down the river to Chesterton, a village on its banks about 2 miles distant. Nathaniel Crichton, my sister & I were rowed by Joseph & Mr Amos, & Mr Crichton took the skulls[sic] of the other boat in which were my Father, Mrs Ferard & Margaret. The banks of the river are flat bordered with willows & rushes & the spire of Chesterton Church rising above the trees on the left as you approach the village is the only pleasing object in the whole distance. A naked flat on the right between Cambridge & Chesterton is the place where Stourbridge fair is held within the jurisdiction of the University. The Cam is not navigable above Cambridge. It rises in Hertfordshire & after washing the classic walls of this consecrated seat of the Muses, passes on towards Ely, above which it meets the Ouse & loses its distinctive name in a union with this river which from hence pursues its course to Lynn where it falls into the ocean.

Wednesday 3 July

Before breakfast we visited King's College. It is situated south of Clare Hall on the banks of the river & consists of several detached buildings. The old court is situated on the north side of the chapel between the Public Schools & ClareHall. The new building fronting the river forms the west side of an area which has the chapel on the North & a brick building on the East.[40]This modern building is 236 ft. long, 46 broad & near 50 high, & was built by Mr Gibbs[41] of fine Portland stone. It has 3 stories in height & in the centre of the second one is a high Doric arch or portico leading from the court at the back to the lawn & river in front. There is a handsome bridge over the river & a fine vista of elms on the opposite side. The chapel of this college is as perfect & splendid a specimen of Gothic architecture in its latest & most refined era as any in the Kingdom. It is a regular building, 316 ft. long, with 12 large beautiful windows on each side between equidistant buttresses which terminate at top in beautiful knotted pinnacles rising 11 ft. above the rich open-work parapet that surmounts the walls. The 5 buttresses on each side nearest the west end are orna-



KINGS COLLEGE

HENRY 6TH

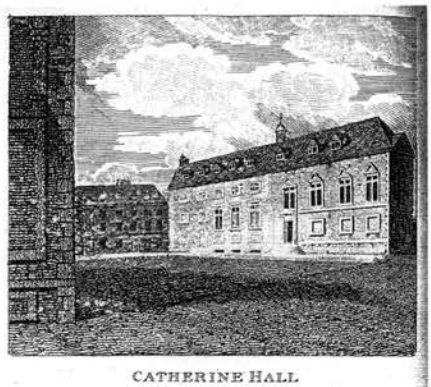
mented with roses, crowns & portcullises, the rest are plain. Below the large windows are 9 smaller, projecting in a low wing from the base of the upper & occupying the spaces between the buttresses. They begin under the 2d window from the east end & terminate under the 9th towards the West. Under the 11th large window on each side toward this end is a highly ornamented entrance. In the centre of the east & west ends is a fine arched gateway with a canopied niche on each side, & from each of the four angles of the building arises an elegant slender octagonal turret to the height of 140 1½ ft, the upper part of which from the level of the open-work parapet of the walls, is very richly ornamented. The breadth of the east and west ends is 84 ft. & the height from the ground to the top of the battlements of the walls 90. The length of the interior of the chapel from east to west is 291 ft., the breadth 45½ & the height 78.

On entering the chapel, the eye passes thro' the long-drawn perspective of the noble building, arrested only by the screen or rood-loft of the choir to the great east window whose richly stained panes form a noble termination & in conjunction with the other painted windows of the chapel, shed a sober, chastened light throughout the place congenial with the religious feeling of the spectator. The west window alone is left plain to give light to the chapel. The other 25 are all painted, & the ornamental walls & vaulted roof of the chapel frequently receive the partial & softened reflection of their many-coloured rays. The upper division of the windows represents the history of the Old Testament, & the lower part the various events of our Saviour's life. They have the usual indistinctness & confusion of this branch of the arts, but the colors are strong & vivid.

There are 2 roofs to this chapel between which a man may walk upright. The upper one is of timber covered with lead, the inner roof is on stone & arched. It has no pillars to support, being upheld by the turrets & buttresses of the walls alone. It is of exquisite workmanship in the most elegant & florid style of Gothic. The intersecting ribs which mark its fan or palmtree sculpture are united in the centre with large pendant projections, fixed at equal distances & adorned alternately with roses and portcullises. Each of these perpendicularly hanging stones is a tun in weight & 3 ft in thickness. The clustered ribs of the antechapel which run up between the windows are ornamented with various scattered pieces of carved work, such as the flower de luce & large roses & portcullises surmounted by regal crowns & canopied niches. In the centre of one of the roses on the West side towards the South is a small figure of the Virgin Mary. About the middle of the building a curiously carved wooden screen divides the ante-chapel from the choir. It was erected in 1534 when Anne Boleyn was Queen to Henry the 8th & in a pannel[sic] nearest the wall on the right, are the arms of this ill-fated Queen, impaled with those of her royal husband. On one of the pannels on the same side is a curious piece of sculpture representing the casting down [of] the rebellious angels from heaven, & in the pannel nearest the choir door on the left are the arms & supporters of Henry the 8th, executed with great beauty. The other parts of this curious screen are ornamented with grotesque heads & figures, elegant fancy scrolls &c. A handsome organ with 2 rows of gilt pipes rests upon the screen, in the centre of which are finely carved folding doors leading into the choir. They were erected in the reign of James the 1st & are ornamented with the sculptured arms of that monarch. The stalls of which there are two rows on each side [of] the choir are beautifully carved in wood. The back part of the upper row consists of 34 pannels in 15 of which on each side are the arms of all the kings of England from Henry the 5th to James the 1st, the arms of the 2 universities of Cambridge & Oxford & of the 2 colleges King's & Eton. The supporters of the arms advance from the pannels in full proportion. On the right & left of the entrance into the choir are Provost's and Vice Provost's stalls. At the back of the Provost's are sculptured St George & the Dragon. A part of the walls on the north & south sides has been disfigured with oak wainscoating adorned with Corinthian pilasters, but the eastern extremity has fallen under the classic hand of Mr Wyatt[42] who has harmonized its character with that of the rest of the building.

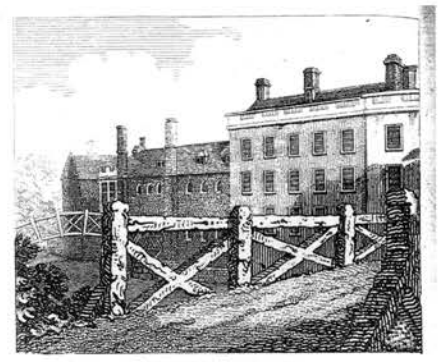
Over the altar is a painting presented to the college by the Earl of Carlisle, formerly of this college. It was purchased by his Lordship in his travels as the work of Danl. da Volterra.[43] The subject is the taking down from the Cross. On the north and south side of the chapel are nine little rooms or chantries, some of which on the south side are used as libraries. In one is a marble monument to the memory of the Marquis of Blandford, eldest son of the great Duke of Marlborough, who died of the smallpox. King's College was founded & endowed by Henry the 6th in 1441. Henry the 7th & 8th completed the building of the chapel. After breakfast we visited the Public Library & completed a hasty examination of the remainder of the colleges.

The Schools & Public Library[44] form the West side of the Senate House Square. The building is low & the arcade in front is heavy & clumsy. It is constructed of stone & the top is ornamented with urns. The ground floor of this structure is occupied by the schools, & the Public Library is above them, surrounding a small court. At the SE corner of the building is a geometrical staircase leading up to the library from a small vestibule filled with ancient & chiefly mutilated statues & monuments many of which were brought from Greece by the present Dr Clarke of Jesus. We were conducted thro' the library in so hurried & negligent a manner that we could not examine any things worthy of observation. In a cabinet we were shewn the ancient Papyrae engraved with a stylus, some Chinese playing cards, coins, medals, &c, in other parts of the room, an uncased mummy falling to decay by its exposure to the air, a head of Charles the 12th[45] cast immediately after his death with the impression of the ball in his forehead &c. Among the most curious contents of the library are the first editions of the Greek & Latin classics, & the greatest part of the works of



CATHERINE HALL

ROB.T WOODLARK S.T.P



QUEENS COLLEGE

MARGARET WIFE of HENRY 6.TH

William Caxton, the first printer in England, a very ancient manuscript of the Gospels & Acts of the Apostles on vellum in Greek & Latin capitals, given to the the University by Theodore Beza,[46] some fine Eastern manuscripts &c., none of which we saw. A great part of this public library consisting of 30,000 volumes, was given to the University by George the 1st who purchased it from the executors of Dr Moore, Bishop of Ely.

The colleges we had now to visit were situated chiefly in Trumpington St. The first we entered was Catharine Hall, east of Queen's[sic] College. The western front opposite this college has a covered arch or portico, & the eastern is open to Trumpington street, from which it is divided by handsome iron palisades & an area planted with tall and handsome elms. This college was founded in 1475 by Robert Woodlark, STP[47] Chancellor of the University in the reign of Edward the 4th. It consists of a large quadrangle on the north side of which are the chapel & hall. Queen's college is situated on the river west of Catharine's Hall & South of King's. It is comprised of 2 quadrangles, besides a pile of building near the garden. The first court is of brick & the 2d is surrounded by little cloisters, at the back of which are extensive groves & gardens, adorned with rows of elms. They are situated on both sides of the river & connected by two wooden bridges. We looked into the hall of this college which stands on the eastern side of the first court. It is a good room with green wainscoated wall & adorned at the upper end with 3 portraits; that in the centre is Lady Elizabeth de Gray, wife of Edwd. the 4th, on one side is the learned Desiderius Erasmus of Rotterdam, & on the other Henry the 6th. Margaret, daughter of René, Duke of Anjou, titular King of Sicily & Jerusalem & wife of Henry 6th King of England, founded this college in 1448. Queen Elizabeth, wife of Edwd. the 4th, was so considerable a benefactor as to be annually commemorated as a second founder.

Pembroke College is on the eastern side of Trumpington street. It consists of 2 courts nearly of equal size, divided by the hall. The chapel is a handsome modern building erected from a design by Sir Christopher Wren. The college was founded by Mary de St Paul, wife of Andomare de Valencia, Earl of Pembroke, in the year 1343. St Peter's College or Peter House is on the western side of Trumpington street, nearly opposite Pembroke, being the first we observe on entering from London. It consists of 2 courts, tho' the first open to the street can hardly be deemed deserving of that name. The chapel with a little cloister on each side is on the west side of this front, & the north & south sides are formed by the projecting extremities of this line of buildings which form the parallel side of the larger court behind. The chapel has an altar piece of Norway oak & a painted window above, representing our Saviour's crucifixion between the two thieves. The ceiling is of oak, ornamented with gilding. The master's lodge is a large brick & stone building on the east side of Trumpington street facing the college gates. This college, the most ancient in the University was founded by Hugh de Balsam[48] sub-

prior of Ely & afterwards bishop of the see in the year 1257 [sic]. The church of St. Mary the Less adjoining St Peter's College , stands upon the site of St Peter's Church whence the college took its name.

At the southern extremity of the town on the eastern side of Trumpington street, is a plain modern brick building, called Addenbrooke hospital, from the name of the founder Dr John Addenbrooke, fellow of Catharine Hall. It was opened in 1766, & has since been supported by voluntary contributions. Benedict or Bene't college, also denominated Collegium Corporis Christi & Beatae Mariae Virginis is situated near St. Benedict's church, which is appropriated to it, in a little street of the same name leading out of Trinity street to the East. It consists principally of 1 quadrangle of neat stone buildings, supported by numerous buttresses. This college was founded in 1350 by 2 religious societies or guilds in the town of Cambridge, called Corpus Christi, or the Blessed Virgin Mary, which united under the protection of Henry, Duke of Lancaster, surnamed Torto Collo,[49] who obtained a license from Edward the 3rd to convert these houses into a college.

We hastened from this college to see the balloon which Mr Sadler was to ascend in from the great court of Trinity, where crowds of people had been assembling during the morning. We chose our station on the lawn before King's College where we shivered in a cold drizzling rain above an hour & a half waiting its appearance. The Duke of Gloucester ascended the turret of the great gate of Trinity at 2 o'clock, & in about ½ an hour afterwards the shouts of the spectators announced the disengagement of the aerial vehicle from the ground. It rose gradually, & crossing the south side of Trinity court, passed over Clare Hall where it first met our sight, to the west end of King's College Chapel, whence it proceeded to rise steadily in a southern direction piercing the thin clouds that floated in the sky, till it was gradually enveloped in their folds & hid from our sight. It was visible between 2 & 3 minutes. We then hurried home to dress for a grand public Breakfast given by the Undergraduates of Trinity College in Nevile's Court. They had subscribed 3 guineas each for 4 tickets & 1200 were issued.

The tables were placed under the cloisters in the north, south & west sides, & were covered with meats, ices, fruits &c, arranged & adorned with considerable taste. After rising from the benches, we found the doors of the Library were thrown open, & retired for a few minutes to see this magnificent room which is by far the finest in the University & perhaps in the Kingdom. It is acended by a handsome staircase from a little hall or vestibule in which is a small but valuable collection of ancient Roman monuments, the gift of Sir John Cotton of Stratton. There is also an ancient marble with a long inscription from Sigeum,[50] bequeathed to the college by Edwd Wortley Montague Esqre, & sent here by his daughter the Countess of Bute, with a sum of money to purchase a bust of her father. The steps of the staircase are of black & white marble, similar to the flooring of the library & the

PEMBROKE HALL

MARY COUNTESS of PEMBROKE

ST PETERS COLLEGE

HUGH DE BALSHAM BISHOP of ELY

wainscoating is of cedar. The library is 200 ft long, 40 broad & 30 high. The roof is flat & quite plain & the walls are ornamented with pilasters of the composite order. There are 24 classes or book-cases on each side, ornamented with beautiful wreaths of flowers, little angels heads in lime wood, executed by Gibbons. On the top of the classes on one side [of] the room are ranged some fine busts of the ancient philosophers, poets &c. & on the other of the English moderns. Over the folding doors which open into the room are 3 full length portraits, & there are 3 corresponding ones at the opposite end. They represent the Duke of Albermarle, son to Genl. Monk, who was so instrumental in promoting the Restoration, Dr Gale, Dean of York, Mr Gale, Sir Henry Packering, Dr Nevile who built the court of this college which bears his name, & Dr Abraham Cowley, the poet. At each end of the room are 2 beautiful busts on marble pedestals of Ray,[51] Willoughby, Bacon & Newton, executed I believe by Roubiliac. At the south end of the room is a painted window, executed by Mr Pecket[52] of York from the design by Signor Cipriani[53] which does but little credit to his taste and judjment [sic]. The disregard of the unities in its composition is flagrant. His present Majesty is represented seated on a throne under a canopy attended & advised by the British Minerva, & is in the act of presenting a laurel chaplet to Sir Isaac Newton, a member of this college, who is brought forward by the Genius of the place, while the Lord Chancellor Bacon, another distinguished member of this society, is seated in a corner below with a pen & scroll, apparently registring [sic] the event. This painting cost 500£ & was the gift of Dr Robert Smith, Master of, & a great benefactor of this college. At each end of the room are two little recesses or niches in the book cases, in one of which on the right hand of the door as you enter, is a copy of the original Magna Charta, & in the other on the left the skeleton of a man & a monkey. In the niche at the opposite end of the room are small antique figures of Esculapius, & a brick covered with hieroglyphics which was found with 3 others among the ruins of ancient Babylon & presented to the college by Col John Malcolm. The building of this library was projected by Dr Isaac Barrow,[54] who collected the subscriptions for it amounting to 20000£. Sir Christopher Wren was the architect.

The weather cleared up in the evening & the festivities of the table were followed by a dance between the avenue of lime trees, chalked with the Chancellor's & University's Arms & intersected by a cord which divided the dancers into 4 sets. My sisters & Margaret danced in the same set with the Miss Mansels,[55] the Bishop's daughters who attracted all the young noblemen about them. They are young & of graceful figure but rather diminutive in height & with little pretension to beauty. The Duke's band & that of the 2d Royal Somerset Militia played on the walks & the lawn. The south of the avenue was ornamented with marquees in which were distributed tea, coffee & ices.

The Duke walked round several times & when he approached the platforms, the lively jig of the country dances was suddenly exchanged for God save the King, an interruption which was not congenial with the exhilerated spirits of the dancers, & the shout of welcome & respect which had hitherto unanimously hailed His Highness's appearance was now mingled with the hiss of irritability & the murmur of impatience. This little ebullition of selfish feeling was however soon overruled, & His Highness's last appearance before the company previous to his quitting the University was saluted with loud & unmixed applause. He left Cambridge about 6 o'clock & in about 2 hours after another burst of noisy acclamations announced the approach of Mr Sadler who had just been dragged in his chaise thro' the town by the mirthful populace. He had ended his aerial excursion in a field near Stanstead in Essex, 23 miles from Cambridge. I danced one dance with Mr Waddington the young man who had recited his cousin's ode in the Senate House the preceding day, & towards the close of the evening we were joined by his brother, & returned with Mr Crichton & Nathaniel to Joseph's rooms. Mr Loft, a pensioner of Caius was of the party & staid to supper after Crichtons & Waddingtons had taken their leave. The Trinity entertainment crowned the whole festivities of the Installation, & the following morning, we bade adieu to Cambridge & set off to my uncle's at Waltham to be present at the anniversary dinner.

'FINIS"

Endnotes

1 John Guillemard, brother of the late Mrs Griffin.
2 Present-day Melbourn.
3 Present-day Harston.
4 Son of John Ferard London merchant and friend of John Griffin. His wife and daughter Margaret had accompanied the Griffins on their visit to Oxford in 1809.
5 Presumably mother of Andrew Amos (see note 14).
6 James Essex (1722–84 English architect active in Cambridge.
7 Possibly James.
8 Thomas Hobson (?–1631). A prosperous carrier between Cambridge and London. His custom of hiring out horses on the understanding that the hirer took the next ready for work, regardless of condition, gave rise to the well-known adage 'Hobson's choice or none'.
9 Arthur Crichton. Aged 20 and recently admitted to Lincoln's Inn, he died prematurely in 1825. There is no record of his brother in the university records.
10 Presumably the issues of the *Cambridge Chronicle* for June–July 1811 which contain full reports of the Installation proceedings, concerts, and other events.
11 Charles Hague (1769–1821). Elected Professor of Music in 1799. His 'Ode at the Installation of the Duke of Gloucester', with words by William Smythe, was his last large scale composition.
12 *Inceptor*. A student commencing a course of study.
13 *Gremial*. A resident member of the university.
14 A pensioner of Trinity. son of James Amos, a London merchant. Subsequently he was to become first Professor of

Law at University College, London and afterwards Downing Professor of the Laws of England
15 Benjamin West (1738–1820). Painter of historical, religious and mythological subjects.
16 Louis-François Roubiliac (1738–1820). Important late Baroque sculptor working in 18th century England.
17 Giovanni Baratta (1670–1762). His statue 'Academic glory' is now in the Fitzwilliam Museum.
18 John Michael Rysbrack (1693?–1770). One of the principal sculptors working in England during this period.
19 Joseph Wilton (1772–1803). Royal Academician and sculptor to George lll.
20 Thomas Erskine, 1st Baron (1750–1823). A former alumnus of Trinity and for a short period Lord Chancellor of England. He was an eloquent supporter of Liberals.
21 Doctors with the same degree from another university.
22 Sir Eyre Coote (1762–1823). An army man, at one time Governor of Jamaica. Ill health forced him to resign and he subsequently became increasingly ecccentric.
23 Sydney Smith (1771–1845). There is no evidence that he was knighted. A Canon of St. Paul's and a leading preacher of his day. His wit and argumentative powers contributed greatly to changing public opinion on the question of Catholic emancipation.
24 Mary Griffin, one of Jane Griffin's two sisters.
25 Francis Grose. *'The antiquities of England & Wales.'* 4 vols. London, 1773–76
26 John Braham (1774–1850). English tenor and composer. Singer of patriotic songs.
27 Angelica Catalani (1780–1849). Italian soprano whose bravura performances were said to bring audiences to their feet.
28 Andrew Ashe (1759–1838). Irish flautist.
29 Richard Bellamy (?–1813). English bass or possibly his son Thomas Bellamy (1770–1843) also a singer.
30 Robert Lindley (?–?) Well-known cellist.
31 ie in the place of.
32 Henry Addington, 1st Viscount Sidmouth (1757–1844). A zealous churchman. In 1811 he brought in a bill requiring all dissenting ministers to be licensed and restraining unlicensed preachers. There was a considerable outcry against it and the bill was thrown out of Lords on its second reading.
33 James Bailey. Classical scholar. Head Master of the Perse School 1826–36.
34 Classical Greek poetess (610–580 BC).
35 A collection of classical Greek epigrams, songs, epitaphs etc.
36 On the death in 1810 of Princess Amelia, youngest child of George III.
37 Celebrating Wellington's defeat of Napoleon's General Masséna at the Battle of Busaco, Portugal, 27 September 1810.
38 Jacopo Ammiconi (1675–1752). Italian artist.
39 William Wilkins (1778–1839). Architect whose buildings in the Greek and Gothic style are to be seen in a number of Cambridge colleges.
40 The building of Wilkins' screen fronting King's College (1824–28) involved the demolition of some existing buildings of which this was presumably one.
41 James Gibbs (1682–1754). Architect, also responsible for the Senate House but best known for St Martin's-in-the Fields, London.
42 James Wyatt (1746–1813). Architect fashionable for his classical designs.
43 His full name was Giovanni Rossetti (fl.1568) a native of Volterra, Italy. He specialised in altar pieces among which his 'Descent from the Cross 'is best known'.
44 ie the University Library.
45 Presumably Charles XII of Sweden (1682–1718) killed in a war against Norway on 30 November 1718.
46 Theodore Beza (1519–1605). French theologian. In 1581 he donated to Cambridge University the celebrated *Codex Bezae* (D), a 5th century manuscript containing texts of the Gospels and Acts.
47 Sacrae Theologiae Professor (Professor of Sacred Theology) denoting degree of Doctor of Divinity.
48 Bishop Hugh of Balsham founded the college in 1380.
49 Literally 'twisted neck'.
50 Ancient Greek city in the vicinity of Troy.
51 John Ray (1627–1705) naturalist, predecessor to Linnaeus. He was accompanied on a number of his botanical expeditions by a fellow botanist from Trinity Francis Willughby (Willoughby).
52 Also spelled Peckitt.
53 Giovanni Battista Cipriani (1727–85). The first exponent in England of Neoclassicism playing an important part in directing 18th century English academic taste.
54 Isaac Barrow (1630–1677). Master of Trinity, eminent mathematician and classical scholar. He was succeeded in the Lucasian professorship in 1699 by his former pupil Isaac Newton.
55 Their father, Bishop Mansel, Master of Trinity, was widowed in 1803. According to GM Trevelyan, in his history of the college, Mansel's aim in later life was 'to make the Lodge a pleasant centre of hospitality whence he could marry off a bevy of pretty daughters who adored their venerable papa'. [*Trinity College; an historical sketch.* Cambridge, 1972, p.83.

The prints reproduced in the text are taken from Joseph Wilson's *Memorabilia Cantabrigiae.* London, 1803

Reviews

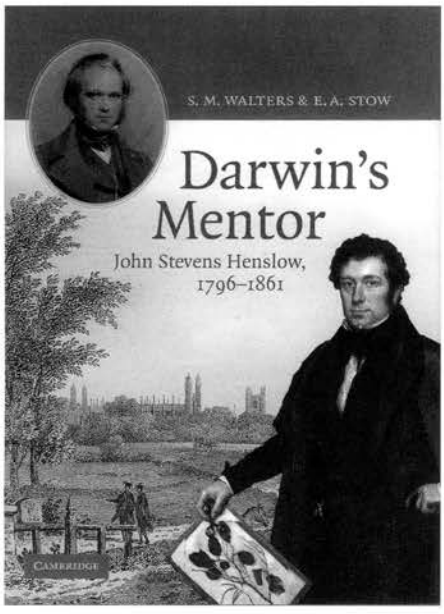
Alison Taylor, Peter Warner

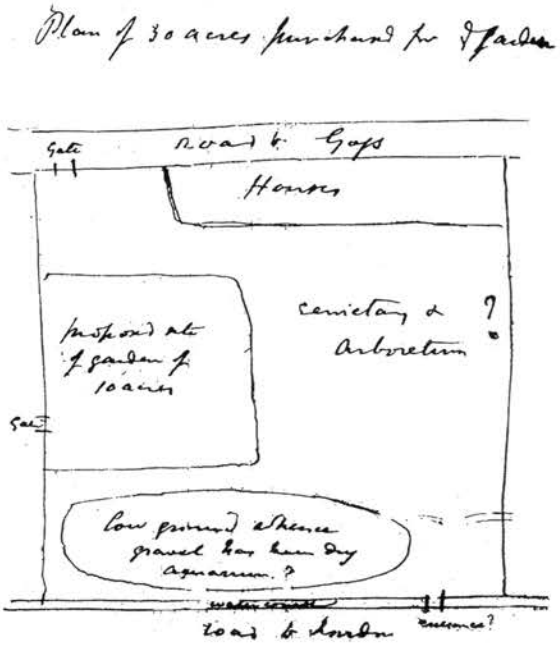
Darwin's Mentor: John Stephen Henslow, 1796-1861
SM Walters and EA Stow 2001
Cambridge University Press 338pp £40

In his day it was Henslow who was the great man, Darwin was 'the man who walked with Henslow'. Yet his scientific work in botany was good rather than great, and it is as an all-rounder (researcher, writer, teacher, philanthropist, pastor and good parent) that he was fondly remembered in so many spheres. He was also successful in getting things done; Cambridge Botanic Gardens are just one of his creations.

Starting by dragging home specimens said to be as large as his infant self his family accepted him as a future botanist long before he came to St John's in 1814 to study mathematics. Students then had access to any scientific courses they wanted to attend, and Henslow made good use of this, though it was Adam Sedgwick, perhaps because of his exciting geological field trips, who won greatest loyalty, and Henslow was soon making his own expeditions and discoveries.

The new science of botany soon claimed him, and from 1818 he was collecting every plant in the





Henslow's sketch plan of the New Botanic Garden from Darwin's Mentor.

Cambridge area and creating the University Herbarium. His records and specimens can still be used to plot land changes, such as the extinction of the boggy landscape of Shelford Common

Darwin always recognised Henslow as his formative influence, through teaching and his Friday soirees, but most of all their botanising expeditions. All on foot, there is an epic quality to quite casual trips. On 24 August 1824 for example they walked to Gamlingay, had a whole day recording 27 plant species that are now mostly extinct, and then walked back to Cambridge. Records and specimens from this jaunt are still of great value today. In later days Henslow was to make enemies even of old friends such as Sedgwick because of his support for Darwin, despite great differences in their religious views. He must have used formidable committee skills when, as Chair at the Oxford meeting that debated *The Origin of Species* he kept control over speakers with some of the

strongest views of their day.

Apart from holding chairs in botany and in mineralogy Henslow's interests were occasionally antiquarian. He was involved in the Bartlow excavations (and did the plant identifications there) and it was he who recorded and illustrated a similar Roman barrow at Rougham in Suffolk.

Henslow's specimen of box leaves from a Romano-British burial site from Darwin's Mentor.

His rectorship of Hitcham, Suffolk eventually took precedence over his Cambridge work, and the family lived in the village from 1839. Henslow took his parish duties extremely seriously, though the mismatch with this totally rural parish must have been extraordinary. He evidently made little allowance for intellectual difference: he ran horticultural shows where flowers in posies must be 'named and classed', children who could barely read were expected to know the right Latin names for parts of plants, and he preached unintelligibly. However, he also set up a village school and was a kind benefactor.

Apart from sponsorship of Darwin perhaps his greatest impact came from his discovery and publication of the fertilising powers of coprolites, deriving from his interests in geology and in improving his parishioners crop yields. Other achievements included the foundation of Ipswich Museum and an influential role in setting up University College, London.

Max Walters and Anne Stow have done a valuable service in bringing back to life a gifted and charming man, the sort that the ramshackle university of the early nineteenth century could occasionally produce despite itself, a man who quietly influenced both thinkers and doers in a multitude of ways.

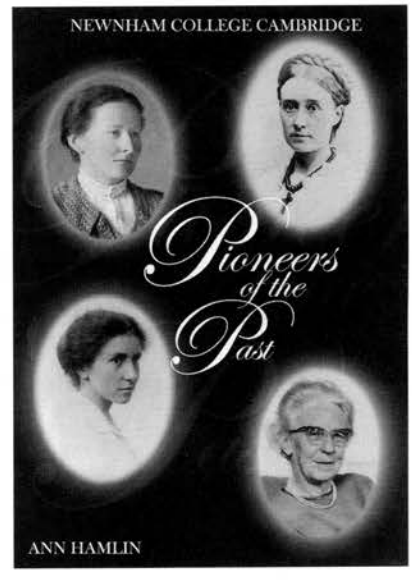
Alison Taylor

Pioneers of the Past
Ann Hamlin 2001
Newnham College Cambridge 66pp £4.95

This small book, produced in aid of Newnham College library fund, is another celebration of past Cambridge scholars, this time all women, all connected with Newnham and all leading figures in archaeology or history. There are fifteen of them (an impressive tally, especially as they have to be dead to qualify here), all significant figures, and it is a shame they have not yet justified a larger work. Nevertheless this is a fascinating introduction for anyone interested in early historical studies for, in the best Cambridge tradition, their powerful influences spread through every continent.

The sheer scholasticism represented here demonstrates a tremendous contribution to antiquarian studies in the first half of the twentieth century. We have Ella Armitage, whose *Early Norman Castles of England*, published in 1912, first defined mottes as Norman, and whose use of written sources for castle studies makes her a useful reference today. She was also conscientious in fieldwork, visiting most castles throughout Britain and Ireland in the days when travel must have made this dreadfully difficult. This is very modest however compared to Gertrude Thompson, a prodigious explorer who demonstrated the indigenous origins of Zimbabwe in 1929 and lived to update her work from later discoveries in 1971, and to Dorothy Garrod, whose foreign expeditions included the Palaeolithic caves of Mount Carmel and other excavations of international fame. Other works that I for one go back to are Norah Chadwick's many books on Celtic history, Joan Liversidge on domestic aspects of Roman Britain, and Dorothy Whitelock's *The beginnings of English Society*, still valuable after fifty years

In the male-dominated Cambridge of these years (women could not be fully members of the University or be awarded degrees until 1948) women's scholastic achievements were unlikely to translate into high aca-



demic office, but in fact some of them did remarkably well here too. Dorothy Garrod became the first Oxbridge professor in 1939, with the Disney Chair of Archaeology, and it was she who gained full Tripos status for Archaeology and Anthropology. Jocelyn Toynbee was professor of Classical Archaeology and a renowned writer on Roman art and religion (like most of these early scholars she took interdisciplinary work for granted and had no trouble in combining art, archaeology, classical texts and religious studies) and Dorothy Whitelock was professor of Anglo-Saxon, the acknowledged leading Anglo-Saxon scholar of her generation.

Jacquetta Hawkes stands out as a rather wilder character in both private and public life. Her contributions were on a wide public stage: as archaeological advisor to the Festival of Britain and archaeological correspondent for the Observer and Sunday Times for example. Some of her books are positively post-modern in their spiritual rather than scientific approach (though vastly better written than most of our contemporary offerings).

Some even contributed to the work of Cambridge Antiquarian Society. Mary Bateson became our first woman member of Council, in the early 1890s, and the well-loved Joan Liversidge was Secretary (and mainstay) of CAS for 25 years.

Alison Taylor

JOAN LIVERSIDGE

Dedicated teacher and contributor to Roman archaeology (1914-84)

Joan Eileen Annie Liversidge was born in London on 22 May 1914, an only child. Her family came originally from Yorkshire and, in common with several others in this booklet, its background was in cloth manufacture. Her father was killed in the 1914-18 war so she was brought up by her mother and was mainly privately educated. She suffered from poor health as a child and was never robust, but she entered Newnham in 1934 to study Music. After Part I she changed to Archaeology, graduating in 1938.

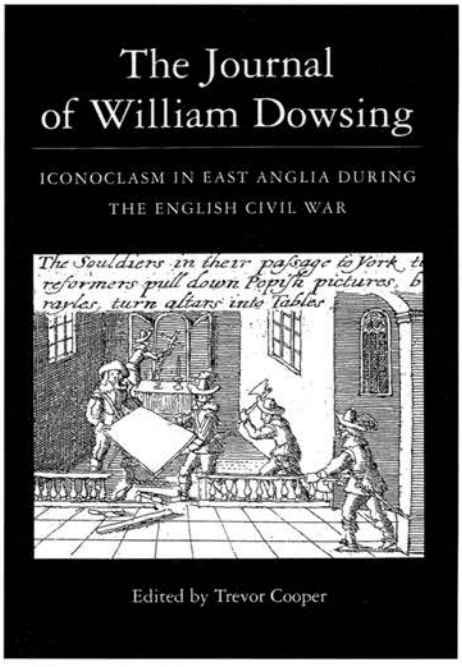
I am uncertain of all the detail of the next ten years, but at this time she settled with her mother in Cambridge. Her mother greatly supported her work until Mrs Liversidge's later years, when Joan cared for her. Both were involved in war work, including the WVS and air-raid wardening. She spent the year 1941-2 at Newnham and, with the encouragement of Jocelyn Toynbee, she identified her research topic and must have been gathering material for it, as in 1949 she was awarded a M Litt degree for a survey of Roman villas. This provided the basis for what became her specialist study for the rest of her life - the interior

Part of the entry for Joan Liversedge from Pioneers of the Past.

The Journal of William Dowsing: Iconoclasm in East Anglia during the English Civil War
Edited by Trevor Cooper 2001
Published by the Ecclesiological Society and Boydell Press. £50 hardback ISBN 0 85115 833 1 website: www.williamdowsing.org

This beautifully presented book contains not just the journal of the famous 17th-century iconoclast himself, but an important collection of papers and detailed notes on different aspect of his life and times. It works on several levels: first, as a definitive reference book, a vital tool for anyone studying the period of the Civil War; second, as a key source for the history of religious reform in England and the impact of the Civil War on the local community, and finally, as a primary source for those working on ecclesiastical history in East Anglia. It is a work which many historians and non-historians alike will enjoy either by reading, or simply by repeated delving. It should not be banished to the reference shelf of a library, but used and delighted in like one of the other great journals, by a Samuel Pepys or a Parson Woodforde.

The book is divided into three parts: first there are essays and commentaries on Dowsing by Professor John Morrill and John Blatchly, followed by chapters on the counties of Suffolk, Cambridgeshire and East Anglia by Robert Walker, Trevor Cooper and Dr Sadler. Secondly, the central part of the book is taken up with the journal itself and detailed commentaries. The third part is made up of 16 appendices, comprehensive notes, bibliography and index. This structure works well and I had no difficulty finding my way around; indeed I enjoyed browsing endlessly through the detail, exemplified with excellent photographs and carefully researched commentaries on almost every line in the journal. The writers have sought confirmation from church wardens' accounts,



diaries, letters and other contemporary sources, which have been expertly woven into the text. It is this richness of detail that will fascinate the modern reader.

Dowsing was 'Provost Marshal' for the Eastern Association, responsible for prosecuting and punishing wayward soldiers. We would nowadays regard him as a religious fanatic, but he blended seamlessly into the Parliamentary cause; it would be dangerous to think that he was in any sense out of step with his contemporaries on the radical wing of the Puritan movement. Born at Laxfield, Suffolk, in 1597 from a very ordinary middle ranking yeoman farming family, he drew support from family and friends mostly with similar farming backgrounds. His deputies were more often than not related to him by marriage, or were known to him through the local Suffolk farming community. It was to his home area that he returned in December 1643, with a commission from the Second Earl of Manchester, to search for and root out the evils of idolatry in the Eastern Association. This he did with a passionate sense of self-righteousness. Blatchley sees Dowsings' iconoclasm as: 'the outworking of a deeply rooted faith and piety, providing strength in times of trouble as well as of triumph.'

The Bible was his principal source of learning and inspiration; he had an unerring ability to find a quotation from it to suit almost any occasion and to substantiate and defend his every act of destruction. Some readers might feel a sense of revulsion at a figure popularly branded as a Philistine, but at the same time we can identify with someone in search of intellectual purity, determined to cleanse his beloved church of all idolatry, regardless of the mayhem and destruction in its wake. It is his fastidiousness that somehow countermands the Philistine image. His books and journals survive, because they were given to Ipswich Town Library in 1725. They reveal, in the words of John Morrill, 'a sincere and godly man.' In Appendix 3, John Blatchly discusses Dowsing's collection of Parliamentary sermons where he carefully noted the date of purchase and the day when he first read each one. Fastidiousness and religious fanaticism clearly go hand in hand; with such detail we can almost get inside the mind of this iconoclast.

Dowsing may have visited over 250 parish churches, but only 6% have surviving contemporary records, even so the hours of research needed to complete this book beggars belief. The three authors searched the records of seven counties in order to compile Appendix 8 on 'Parish Records'; sometimes to extract just a line or two from a church warden's account book. There is no pretence that such an exercise is wholly comprehensive, indeed, Appendix 16 lists twenty-one key unanswered questions to which readers are invited to contribute answers via the internet. This is a new approach for a history reference book of this type and one which will no doubt be copied by other authors. It is not a gimmick; this is a serious way in which people with detailed local knowledge of their parish churches and who have access to private archives can add to an existing body of knowledge m a key area of British history. The appendices also include Parliamentary Ordinances, surveys of stained glass, monumental brasses and even forgeries of Dowsing's texts: one exposed by M R James in 1906 has no known author, but the other was fabricated by a founder member of the Norfolk Archaeological Society; it is an exercise in antiquarian elephant traps! This is a truly fascinating book, comprehensive in its depth of detail, encapsulating an important body of knowledge, and the outcome of many years of research on the part of its distinguished authors. Yet it also has a lightness of touch, which brings this colourful period and its contemporaries vividly to life. There are so many examples that it is difficult in a short review to do them justice, but two will suffice. Some instances reveal the man himself, such as Dowsing's confrontation with the Fellows of Pembroke College on the issue of reading sermons, when he declared: "I told them, if reading was preaching, my child preaches as well as they, and they stared one on another without answere." Others reveal the trauma of the time and the fear generated by religious intolerance. The story is told of the vicar of Uggeshall who hid 200 gold pieces in a pot in a child's grave near the high altar only to have them discovered when his sequistrators, local men we are told, levelled the east end of the church. Such stories are endorsed by the immediate impact of carefully photographed chisel marks, battered images and defaced inscriptions described with archaeological precision. It is a book to be savoured and enjoyed on many different levels for years to come.

Peter Warner

Fieldwork in Cambridgeshire 2001

Helen Lewis

The work outlined below has been conducted for a variety of reasons, including development control derived projects, emergency recording and research. All reports cited are available in the County Sites and Monuments Record, Cambridge for public consultation.

Abbreviations:

AFU	Cambridgeshire County Council Archaeological Field Unit
APS	Aerial Photographic Services
ASC	Archaeological Services and Consultancy
BUFAU	Birmingham University Field Archaeology Unit
CAFG	Cambridge Archaeological Field Group
CAO	Cambridgeshire County Council Archaeology Office
CAU	Cambridge Archaeological Unit
CGMS	CGMS Consulting
CUAA	Cambridge University Archaeology & Anthropology
GSB	GSB Prospection
HAT	Hertfordshire Archaeological Trust
HDAG	Haverhill and District Archaeological Group
HN	The Heritage Network
JSAC	John Samuels Archaeological Consultants
LAS	Lindsey Archaeological Services
NA	Network Archaeology
NAU	Norfolk Archaeology Unit
NHA	Northamptonshire Archaeology
OAT	Oxford ArchaeoTechnics
PCAC	Peterborough Cathedral Archaeological Consultant
PD	Philip Dixon
RSPB	Royal Society for the Protection of Birds
SR	Samuel Rose
US	University of Sheffield Department of Archaeology & Prehistory
WA	Wessex Archaeology

Alconbury, Alconbury Airfield Stage 2
TL 2100 7700 (AFU Report A182)
S Macaulay and R Casa Hatton
Evaluation trenching revealed ditches and postholes. Late Iron Age ditches representing a large possible enclosure, a small subrectangular enclosure, and a possible co-axial field system were discovered. A linear ditch may relate to a late Iron Age or early Roman period enclosure.

Bottisham, Bell Road
TL 5401 6040 (HN Report 124)
H Ashworth and S Bray
Shallow linear features were recorded during evaluation. No dating evidence was recovered.

Bourn, Cambourne New Settlement, South Caxton Bypass
TL 306 575 (WA Report 45976.09)
WA (no named author)
Fragmentary remains of a possible Roman road were found, probably part of Ermine Street, at the junction of the proposed bypass and the A1198.

Bourn, Cambourne New Settlement, Jeavons Lane, land adjacent to
TL 324 598, 324 597, 318 593 (WA Report 45976.08)
WA (no named author)
Evaluation produced evidence on either side of Monkfield Drive for late prehistoric and Romano-British activity. Further investigation revealed late prehistoric boundaries and waterholes, D-shaped enclosures overlain by a rectilinear pattern, and Roman pits and graves.

Bury, Holy Cross Church Hall
TL 2875 8375 (HAT Report 920)
D Hounsell
Evaluation revealed ditches and pits that possibly date between the early medieval and post-medieval periods. There was no evidence for burials despite the proximity of the current churchyard.

Caldecote, Highfields
TL 3529 5858 (AFU Report 200)
S Kenney
Evaluation showed that medieval furrows continued into the area, and revealed a possible Iron Age roundhouse as well as an Iron Age/early Roman system of parallel ditches.

Cambridge, Apollo Way (land off), Kings Hedges Church Centre
TL 4534 6147 (HAT Report 879)
RV Gardner and A Pearson
Evaluation revealed Romano-British ditches, possibly related to occupation or agricultural activity alongside Akeman Street Roman road. Most of the dated material found is from the 2nd to 4th centuries AD.

Cambridge, Castle Street 68, land adjoining
TL 4444 5930 (HAT Report 904)
NA Crank and J Murray
Roman quarry pits and a ditch were found during evaluation. Except for a possible part of the medieval castle ditch, the majority of the features found date to the 19th to 20th centuries.

Cambridge, Chesterton High Street, Former Yorkshire Grey Public House
TL 466 601 (CAU Reports 434 & 457)
D Mackay
Evaluation revealed undated features, early and later medieval features, and the remains of a post-medieval cellar or foundation. A possible Bronze Age pit and ditch were also found. Further investigation found activity dating from the prehistoric period through to the modern public house, including 11th to 13th century property boundaries, land divisions, pits and remains from the establishment of the street front.

Cambridge, Chesterton High Street/Union Lane Phase 2, Wheatsheaf Public House
TL 4628 5991 (CAU Report 441)
N Armour
Excavations uncovered evidence of late medieval gravel extraction along with Saxon land divisions and 11th to 12th century property boundaries.

Cambridge, Hauxton Road, Plant Breeding International
TL 4425 5427 (AFU Report 190)
M Hinman
An investigation found Neolithic pits, a possible roundhouse, postholes and enclosure ditches, along with undated pits and ditches. The evidence recovered suggests settlement from the late Bronze Age through the Iron Age.

Cambridge, High Cross, West Cambridge Site
TL 43119 59060 (CAU Report 422)
P Whittaker
An early Romano-British settlement area and a middle to later Iron Age site were revealed in the course of evaluation. Residual prehistoric material was also found, suggesting limited Bronze Age activity in the area.

Cambridge, Hills Road, Old Cattle Market
TL 46156 56814 (CAU Report 437)
D Mackay and A Dickens
Evaluation trenching revealed undated features, some possibly related to gravel extraction.

Cambridge, Huntingdon Road, Fitzwilliam College
TL 4392 5945 (NAU Report 573)
D Adams and K Penn
A large feature, potentially a quarry with possible later use as an ornamental lake appears to date from post-medieval times, as does most artefactual evidence, except for a small quantity of residual medieval pottery.

Cambridge, Long Road, Downing College Sports Field
TL 4625 5535 (CAU Report 452; APS Report 2001/08; OAT Report 2410801/DCC/CAU)
N Armour for CAU; C Bacilieri and R Palmer for APS; AE Johnson for OAT
Evaluation confirmed aerial photographic and geophysical data, revealing late Iron Age to early Romano-British occupation enclosures and features.

Cambridge, Madingley Road, West Cambridge 3, Marconi Access Route and Future Nanotech Fabrication Building
TL 4312 5906 (CAU Reports 440 and 453)
G Lucas & N Armour
Assessment and excavation found that the Romano-British remains of adjacent sites did not continue into this area. An Iron Age ditch and pit were discovered, and it was found that medieval ridge and furrow occurring across the site had been infilled in the post-medieval period.

Cambridge, Magdalene College, Chesterton Road Development Site
TL 44721 59228 (CAU Report 416)
R Regan
An assessment revealed 14th/15th century quarry pits, evidence of possible historic quarrying or landscaping, and residual Roman material.

Cambridge, Market Square, Electricity Service Trench
TL 4488 5848 (CAU Report 458)
M Alexander
Deposits appear to date to the 18th century, possibly related to town house cellars and demolition.

Cambridge, Neptune Close Service Run
TL 4536 6146 (Report forthcoming)
J Parsons and A Thomas for CAO
Investigation revealed a Roman ditch, confirming aerial photographic evidence of possible settlement.

Cambridge, Newmarket Road, Former Allotment Site
TL 4847 5931 (AFU Report 198/2)
R Casa Hatton
Evaluation trenching revealed Roman domestic settlement features, a chalk quarry pit, and evidence of nearby industrial activities, along with undated features. A field boundary or droveway had late Saxon pottery in its ditch fills.

Cambridge, St Bene'ts Church
TL 4485 5828 (AFU Report A189)

SN Kemp
Recording during floor removal in the south aisle revealed mortared floors dating before Victorian renovations, but probably post-14th century. A robber trench defining the former southern wall to the south aisle is probably Victorian, apparently representing the previous southern extent of the church.

Cambridge, St Peters Street 18 and 18a
TL 44492 59090 (CAU Report 466)
A Dickens
Roman pits and gullies or ditches were found, overlain by early medieval features, including large pits and/or a well.

Cambridge, Union Lane, Former Chesterton Hospital
TL 46055 59931 (CAU Report 454)
D Mackay
Evaluation uncovered undated features, as well as late medieval or post-medieval boundary ditches.

Cambridge, Union Lane, Former Chesterton Hospital Site 2
TL 46055 59931 (CAU Report 438)
N Armour
Occupation remains dating to the 13th to 14th centuries AD were uncovered along the alignment of Union Lane.

Cambridge, Union Lane, Former Chesterton Hospital Site 3
TL 459 598 (CAU Report 460)
C Hatherley
Post-medieval quarry pits and garden features were found by trenching.

Diddington, Little Paxton Quarry, Field 7 (West)
TL 2005 6615 (BUFAU Report 219.20)
R Burrows and A Jones
Field walking results suggested a low level of use of the landscape during the Neolithic and Bronze Age. A rectilinear enclosure and possibly contemporary field system produced early Roman and some Iron Age pottery.

Doddington, Ingle's Lane 6, land south-east of
TL 404 905 (APS Report 168)
APS (no named author)
Aerial photographic study showed ploughed-out ridge and furrow and cropmarks of possible linear ditched features in the surrounding area.

Duxford, Hinxton Road, Former Techne Site
TL 4810 4585 (AFU Report 197)
J Abrams
Evaluation found a Bronze Age ditch, late prehistoric or Anglo-Saxon pits and postholes, a possible roundhouse, and an inhumation cemetery that may date to the Saxon period.

Earith, Colne Fen Site VIII, Camp Ground
TL 3775 8825 (CAU Report 430)
R Regan
Evaluation of an area of cropmarks revealed interlinked rectangular enclosures and droveways, with the core of the complex surrounded by a double ditch. The sites span the mid-2nd to 4th centuries AD, with a decline in the 5th century.

Earith, Colne Fen Site VII, The Holme
TL 765 385 (CAU Report 436)
R Regan
Trial trenching revealed a major ditched enclosure with smaller paddock systems radiating from it. There was a series of large pits, as well as a burnt stone pit and an urned cremation. Most pottery was post-Deverel Rimbury (late Bronze Age).

Elsworth, Fardell's Lane, land at
TL 3164 6381 (HAT Reports 735 and 828)
A Seddon, A Pearson and J Murray
Evaluation revealed ditches dating to the medieval period. A single late Bronze Age/early Iron Age posthole was identified. Residual struck flint was found in many medieval deposits. Further investigation uncovered early medieval field boundaries. Residual middle Saxon and prehistoric artefacts were recovered.

Ely, Old Choir School Yard
TL 5416 8031 (PD Report – no number given)
E Willett and M Gadsby
A 19th century brick drainage channel was found during evaluation, along with a floor level of bricks and residual artefacts and bones.

Ely, West Fen Road, Cornwell Field
TL 526 807 (CAU Report 413)
R Regan
Excavations revealed several phases of activity from the 1st century BC through the 6th century AD and later. Most material found was late Saxon/medieval, and suggests shifting settlement in the area. A post-excavation assessment has been produced, describing remains dating from the Iron Age to post-medieval periods.

Fordham, Fordham to Burwell road, land south of
TL 619 696 - TL 621 696 (CAFG Report)
CAFG (no named author)
Fieldwalking east of the railway recorded a small scatter of struck and burnt flint, suggesting Neolithic and/or Bronze Age activity. Brick and post-medieval pottery were also recorded.

Fordham, Fordham Bypass
TL 56200 269050/TL 561850 270400/TL 561800 270200/ TL562100 269700 (AFU Report A165)
A Connor
Scatters of burnt and struck flint were found through fieldwalking, and possible prehistoric pottery was also collected.

Fordham, Hillside Meadow 12, land adjacent to

TL 6321 7057 (AFU Report A192)
R Casa Hatton
Evaluation revealed remains of probable Saxon date, consisting of a boundary ditch, postholes and gullies. This was followed by a levelling phase with agricultural use, cut into by a more recent ditch and pit.

Fordham, Mill Lane 69
TL 6311 7047 (AFU Report B83)
A Hatton
Evaluation revealed two ditches and the lowest course of a clunch wall. Medieval pottery in one ditch fill may relate to a nearby settlement.

Fordham, Moor Farm
TL 630 723 (AFU Report 196)
J Abrams
Monitoring for assessment the impact of arable farming on the site revealed prehistoric ditches, probably Bronze Age in date. Archaeological remains were seen to be damaged by arable farming practices on this site.

Fulbourn, Fulbourn Manor Estate
TL 520 560-TL 542 559 (AFU Report 193)
T Malim
An archaeological survey concluded during 2001 identified several new sites and findspots, dating from the Mesolithic to post-medieval periods. Evidence was found for a long-term settlement focus near Shardelowes Well, and the junction between the Street Way prehistoric and Roman road and the northern end of the Fleam Dyke was recorded. In this area a possible Roman villa was found, along with evidence of Iron Age and Anglo-Saxon activity. The focus of settlement appears to have shifted further west during medieval times. Three moated sites identified have been related to the sites of Colvilles, Shardelowes and Dunmowes Manors. The concentration of these moats along with a mill and earthworks suggests this might represent a shifted medieval village. An ornate timber-frame gable end was recorded in the Old Manor, and it appears the Park was created in the late 16th to mid-18th centuries.

Godmanchester, London Road 20-28, land to rear of
TL 2473 7013 (AFU Report No. 201)
J Abrams
Evaluation trenching identified two Roman rubbish pits with fills that included fish scales and bones, cereals and pottery. A number of post-medieval quarry pits were also found.

Grantchester, Barton Road, Queens' College Sports Ground, land adjacent to
TL 4250 5700 (CAU Report 470)
D Mackay
An area of small-scale early and late Iron Age settlement, and the remains of probable late Iron Age and Roman field systems, were discovered through evaluation trenching.

Harston, All Saints Church
TL 4180 5097 (Report forthcoming)
Q Carroll, T Reynolds and J Parsons for CAO
Probing revealed the foundations of the old chancel underneath and stretching beyond the current chancel.

Hilton, Scotts Close
TL 2900 6635 (HAT Report 980)
L O'Brien and NA Crank
An evaluation recorded ditches, postholes and a spread of burnt material. Most features dated to the late Roman period, but a number contained late Saxon/early medieval pottery.

Huntingdon, Hartford, Church Lane, All Saints Church
TL 2557 7256 (HAT Report 775)
L Prosser and P Boyer
An evaluation found several burials below the existing churchyard, and a brick vault probably dating to the 19th century.

Huntingdon, Hinchingbrooke, Cromwell Park Primary School
TL 223 722 (HAT Report 973)
NA Crank
Excavation exposed a prehistoric ditch and a series of post-medieval plough furrows.

Huntingdon, High Street 146, the Samuel Pepys
TL 24137 71598 (HAT Report 827)
A Pearson
Remnants of a 19th century brick building and other post-medieval remains were revealed during evaluation.

Huntingdon, Hinchingbrooke Hospital
TL 2250 7220 (CAU Report 472)
N Armour
Trenching uncovered medieval ridge and furrow field divisions, three undated ditches, and post-medieval landscaping.

Ickleton, Back Lane, Priory Farm
TL 4911 4353 (HAT Report 807)
L Prosser and J Murray
A single pit with significant amounts of Neolithic worked flint and pottery was found, along with a undated features.

Isleham, Hall Barn Road, land between 47 and 59
TL 6392 7384 (AFU Report B84)
S Kenney
Evaluation revealed a single pit of prehistoric date.

Landbeach, Car Dyke Farm
TL 477 662 (AFU Report 196)
J Abrams
Monitoring for assessment of arable farming impact revealed remains of the agger of the Akeman Street Roman road and an associated ditch with 4th century Roman pottery. Reversion to grassland was found to

have protected the site, although a lowering of the water table was also reported.

Landbeach, Limes Farm
TL 482 645 (AFU Report 196)
J Abrams
Monitoring for assessment of arable farming impact revealed one Iron Age pit. It appears that continuing arable cultivation at the site has not significantly damaged archaeological remains.

Leverington, Ringer's Lane, Fen Croft
TF 4429 3108 (AFU Report B85)
A Hatton
An evaluation revealed three undated ditches.

Little Shelford, Hauxton Road 63
TL 4469 5166 (HAT Report 979)
S Ralph and J Murray
Evaluation recorded a number of features relating to 19th century railway development and 20th century horticulture. Two undated ditches were also discovered.

Littleport, Camel Road 17
TL 5663 8724 (AFU Report A183)
S Kenney
An evaluation revealed a large channel with Roman pottery dating to the 2nd to 4th centuries in its fills. It is uncertain whether the channel is a stream or a canal, but it may be related to Roman activity found just to the south.

Littleport, the Hythe
TL 5700 8695 (HAT Report 881)
J Last and N Crank
Trenching recovered 4th century Roman materials and a levelling deposit containing 2nd century pottery. Evidence for Roman salt making was also found, along with a small amount of medieval pottery.

March, Elwyn Road, land off
TL 4190 9666 (AFU Report A187)
R Casa Hatton
Evaluation revealed late medieval /post-medieval ditches and a possible Iron Age pit. The ditches may represent drains or property boundaries. 19th century landscaping was recorded.

March, Northern Office
TL 4151 9770 (AFU Report A179)
R Casa Hatton and S Macaulay
Trenching found 19th and 20th century remains, along with undated, possibly prehistoric, features including parallel ditches and ditched enclosures.

March, West End, land rear of the White Horse Public House
TL 4125 9690 (HAT Report 970)
R Gardner and L Prosser
Evaluation recorded the post-medieval remains of a small ditch, a brick culvert and field drains. There was also a pit with a sherd from a Bellarmine jug in its backfill.

Mepal, Block Fen 'B' (Pearson Land)
TL 433 834 (BUFAU Report 851)
L Jones
Trial trenching revealed that the site was close to the fen edge of an island in the Bronze Age, and possible field boundary ditches not seen in geophysical or aerial photographic data were uncovered. These may represent the continuation of a system seen at Block Fen 'A' and a previously investigated part of Block Fen 'B'. Ditches and groups of postholes were found with late Neolithic/early Bronze Age pottery, along with a residual Mesolithic artefact. Post-medieval drainage or boundary features were also recorded.

Milton, All Saints Church
TL 4802 6288 (HAT Report 899)
L Prosser and C Hattersley
A watching brief during floor level reduction in the nave and aisles recorded 18th and 19th century burial remains, ledger stones, vaults and evidence of earlier renovation.

Over, Over Barrow 1.20 Training Excavation
TL 3720 7190 (CUAA summary report)
C French
Excavation at the barrow revealed a charcoal spread, cremation deposits and two postholes. Magnetic susceptibility survey found three areas of possible in situ burning on the old ground surface. The sequence uncovered to date is that of a primary cremation pit under a small turf and gravel mound, and then later burials covered by a large round barrow with a ring-ditch, with later revetment construction. Secondary cremation burials were found in the large mound and the berm. Later remains include a line of elongated possible gravel quarrying pits or a ditch, and a wooden fence-line.

Pidley, Warboys Road, Church End Farm, site adjacent to
TL 3270 7819 (AFU Report B91)
R Casa Hatton
Evaluation identified a cobbled surface of possible late medieval/early post-medieval date, possibly part of a trackway.

St Ives, Oliver Road
TL 3150 7125 (NHA Report – no number given)
J Prentice
Trenching revealed a complex of pitting dating from the medieval period to the 19th century.

St Neots, Eaton Socon, Bell Lane, Priors Gate
TL 168 581 (WA Report 49013)
WA (no named author)
Excavation found Romano-British settlement remains, including ring gullies, pits, enclosures and land divisions. A square building was also recorded, along with a large rectangular enclosure with evidence of

quarrying, linear features and a large well/pit. Later ridge and furrow remains were also recognised.

St Neots, Eynesbury, Barford Road, Tesco Extension
TL 1824 5832 (WA Report 49271.01)
T Gent
Excavation recorded two postholes of possible Iron Age date plus a number of natural features, including possible Neolithic tree-throws.

St Neots, Market Square 30, land to rear of
TL 1823 6020 (HAT Report 928)
RV Gardner
Evaluation revealed post-medieval remains, including a free standing jetty and a set of steps, a large well and ground-raising deposits along the Hen Brook.

St Neots, South Street 15/17
TL 1832 6017 (BUFAU Report 838)
H Martin
Remains of 13th to 14th century buildings were revealed adjacent to the street frontage through evaluation. Medieval floors overlying earlier levelling deposits were also found. Later brick structures were seen to have superseded the medieval stone buildings.

Sawston, Borough Hill hillfort
TL 4718 4947 (CAU Report 450)
R Mortimer for CAU
Test pitting shows that Mesolithic/Early Neolithic and Bronze Age deposits survive beneath the hillfort banks. Iron Age activity was recorded across the site, and features of Romano-British and later dates were also discovered.

Sawston, Borough Hill, Spicers Estate
TL 4712 4984 (JSAC Report 685/01/07)
J Samuels
Evaluation trenching revealed undated ditches, a palaeoenvironmentally-rich infilled river channel, a series of enclosures and a medieval ditch system.

Soham, Fordham Road 49 & 49a
TL 6006 7246 (HAT Report 854)
J Murray and D Hounsell
Trial trenching uncovered mostly 2nd century remains including enclosure ditches, gullies and pits.

Soham, Fordham Road Allotments
TL 6025 7250 (AFU Report A188)
A Connor
Evaluation revealed ditched enclosures, pits and traces of a structure of late Bronze Age/early Iron Age date. Extensive Roman activity included additional ditched enclosures, a metalled surface and pits.

Steeple Morden, Steeple Morden Primary School
TL 2856 4255 (AFU Report A185)
S Kenney
Two undated ditches were found during evaluation trenching, one of which was overlain by a post-medieval deposit. This ditch was associated with a posthole and two parallel gullies.

Stilton, Oak Road 19-21, land to rear of
TL 1647 8931 (HAT Report 851)
A Pearson and J Murray
A ditch and small pit of high medieval date were recorded along with post-medieval features, including a limestone wall foundation.

The Stukeleys, Alconbury Airfield Stage 2
See entry under 'Alconbury'.

Sutton, High Street and Painters Lane, land off
TL 4395 7870 (AFU Report B89)
A Hatton
Evaluation revealed evidence for post-medieval quarrying. No residual earlier material was discovered.

Sutton, Red Lion Lane
TL 4438 7865 (AFU Report 206)
A Hatton
Features dating from early medieval to post-medieval times were found, including postholes, ditches, foundation trenches, rubbish pits, a platform, a well and a possible kiln. Most activity appears to have taken place between AD 1150-1350, with a decline in use of the site after the latter date.

Swaffham Prior, Gallows Hill
TL 580 643 (AFU Report 196)
J Abrams
Monitoring for assessment of arable farming impact uncovered several Romano-British to Anglo-Saxon period features, and confirmed the location and date of the enclosure ditch in this part of the Roman temple complex. Several possible graves were also revealed. Archaeological remains at this site were seen to be protected by the reversion to grassland.

Swavesey, Priory House
TL 3618 6938 (AFU Report A193)
S Cooper and S Kenney
An evaluation revealed undated and post-medieval pits, a Victorian wall, a bank associated with priory earthworks, and two ditches. One of these produced a medieval architectural fragment, and the other suggests the continuation of a previously known enclosure.

Swavesey, Taylor's Lane 24
TL 3592 6893 (CAU Report 415)
P Whittaker
Evidence was found of medieval settlement, from pre-12th century through to the 13th/14th centuries, reflecting the expansion of Swavesey during this period. Prehistoric activity was suggested by finds of a few worked flints.

Thriplow, Heathfield, near Duxford Airfield
TL 454 460 (HAT Report 875)
J Last

Archaeological investigation recorded a flint scatter site which included Mesolithic flaked axes, as well as Neolithic pottery and a few prehistoric features.

Waterbeach, Denny Industrial Centre, Parkersteel Site
TL 4075 7010 (AFU Report A167 'errata report')
No named author
A watching brief recorded a possible edge of the Car Dyke canal, supporting earlier suggestions that the canal follows the route of the A10 and Beech Ditch. An undated possible pit was also found.

Whittlesey, Bradley Fen
TL 237 976 (Report forthcoming)
M Knight for CAU
Continuing investigations revealed watering holes, burnt mounds, field system boundaries, roundhouses and four-poster structures, as well as showing metalwork distributions in an area at the old fen edge. Later Neolithic metalled surfaces with flint scatters and animal remains were exposed; these appear to relate to the large watering holes found. Burnt mounds were found to overlie these surfaces, and to cover clusters of pits, wells, postholes, 'troughs' and hollows filled with burnt stone. Finds from these features included wooden artefacts, such as log ladders, inverted tree stumps and an ard share. Other interesting finds include a pit with a large cache of butchered cattle bones and a human skull fragment, and a deep well with remains of a wooden lining (including a piece of a log boat). Single 'pristine' spears were found between the burnt mounds, and a hoard of twenty damaged weapons, dated to c. 1200 BC, was found on a small but significant mound of surviving buried soil surrounded by metalling. The three burnt mounds were partitioned by boundaries, and separated from the settlement area upslope by a large boundary ditch. The field system appears to have been established before this late Bronze Age-early Iron Age settlement was constructed. Some features also contained middle Iron Age pottery. Fragmentary and complete human skeletons were found, including the remains of one person thrown face down in a partially infilled well.

Whittlesey, Stonald Road, land off
TL2655 9766 (AFU Report B93)
R Casa-Hatton
Evaluation recorded an undated posthole, some post-medieval furrows and remains dating to the Victorian era.

Willingham, Rampton Road, land off, Phase 2
TL 4075 7010 (HAT Report 831)
D Hounsell and J Murray
Cut features comprising pits and ditches of post-medieval date were found during an evaluation. Residual Iron Age and Roman pottery was also discovered.

Wimblington, Stonea Camp
TL 448 930 (AFU Report 196)
J Abrams
Monitoring for assessment of arable farming impact revealed that the site has been protected through reversion to grass.

Woodhurst, Church Street, Harradine's Farm
TL 3151 7601 & TL 3153 7607 (AFU Report A184; BUFAU Report 812)
S Kenney for AFU; J Williams for BUFAU
Evaluation revealed pits, ditches and gullies from a variety of periods spanning the Iron Age to post-medieval ages, including a possible Roman inhumation and a gully that could represent an Iron Age roundhouse. Further excavation revealed Roman, early to middle Saxon, medieval and late medieval/post-medieval features. Roman settlement (2nd to 4th century) was characterised by two enclosures, ditches, gullies, pits and three inhumations. It is thought that the inhumations were disturbed in medieval times and were later reburied. The Saxon remains were a series of possible quarry pits. medieval remains comprised of a series of intercutting pits, three of which contained human and animal bone.

The following investigations also contributed to our understanding of the historic landscape:

Cambridge, Browns Recreation Ground
TL 4640 6075 (Report forthcoming)
A Thomas for CAO

Cambridge, Godesdone Road 22
TL 4644 5900 (ASC Report ASC/CGR01/3)
D Fell

Cambridge, Homerton Street
TL 460 567 (CAU Report 448)
D Mackay

Cambridge, Howes Close
TL 4315 6055 (AFU Report B81)
R Casa Hatton

Cambridge, Huntingdon Road 64-66, land to the rear of
TL 4411 5962 (ASC Report ASC/M/CHR01/2)
J Hunn and N King

Caxton, Cambourne New Settlement, Greater Cambourne Church and High Street
TL 3230 5950 (WA Report 45976.05)
WA (no named author)

Chatteris, St Martin's Road
TL 3978 8600 (JSAC Report 660/00/003 & GSB Report 2000/57)
JSAC and GSB (no named authors)

Chatteris, St Martin's Road 15, land northwest of
TL 3964 8605 (HAT Report 808)
L Prosser and P Boyer for HAT

Earith, High Street 90
TL 3825 7478 (AFU Report B82)
S Kenney for AFU

Ely, Angel Drove Business Park Extension
TL 538 788 (HAT Report 934)
D Hounsell and J Murray

Ickleton, Cambridge to Matching Green gas pipeline
TL 486 447 (NA Report – no number given)
NA (no named author)

Ickleton, The Stackyard
TL 4915 4325 (HAT Report 987)
L O'Brien and D Hounsell

Impington, Lone Tree Avenue 9-21
TL 4414 6183 (AFU Report B87)
R Casa Hatton

Little Wilbraham, High Street 61
TL 5408 5839 (CAO Site Visit Report)
K Gdaniec

Littleport, Wisbech Road 133-135
TL 5565 8730 (HN Report 119)
H Ashworth and S Bray

Manea, Williams Way 64, land adjacent to
TL 4760 8943 (HAT Report 1018)
L O'Brien, N. A Crank and M Sutherland

March, Elm Road, land south of Dagless way
TL 4186 9833 (HAT Report 927)
J Last and J Murray for HAT

Parson Drove, Fen Road, Swan Bridge Farm
TF 3676 0840 (AFU Report B86)
R Casa Hatton

Snailwell, The Old Cattle Yard
TL 6425 6768 (HAT Report 933)
D Hounsell and J Murray

Somersham, Knobbs Farm, Lafarge-Redland Quarry Development Phases 2 and 3
TL 365 790 (CAU Report 445)
C Hatherley

Warboys, Church of St Mary Magdalene
TL 3027 7986 (PCAC Report)
DF Mackreth

Witcham, Witcham Church
TL 4650 8005 (US undergraduate project report)
C Evans

Desk Top Assessments were carried out on the following sites:

Bottisham, Bell Road
TL 5401 6040 (HN Report 124)
H Ashworth and S Bray

Cambridge, Castle Street 68, site adjoining
TL 4444 5930 (HAT Report 853)
J Murray

Cambridge, Chesterton High Street, Former Yorkshire Grey Public House
TL 466 601 (CGMS Report RB/2646)
R Bourn

Cambridge, Godesdone Road 22
TL 4644 5900 (ASC Report ASC:CGR01/2)
N King

Cambridge, Long Road, Downing Sports Field
TL 4625 5535 (CAU Report 418)
A Hall

Cambridge, Newmarket Road, Allotment Site
TL 4847 5931 (AFU Report A181)
R Casa Hatton

Cambridge, Newmarket Road, Eastern Court
TL 4640 5888 (CAU Report 442)
A Dickens

Cambridge, St Barnabas Road, Mantles Garage Site
TL 546 257 (CAU Report 427)
M Alexander

Cambridge, Sidgwick Site, University of Cambridge
TL 4423 5803 (CAU Report 421)
A Hall

Doddington, Ingles Lane 6, land south-east of
TL 4019 9064 (HAT Report 852)
A Pearson

Ely, Angel Drove, Ely Business Park Extension
TL 538 788 (HAT Report 887)
L Prosser

Farcet, Cross Street/Main Street, land at
TL 2062 9445 (HAT Report 935)
R Gardner and J Murray

Grantchester, Barton Road, Queens' College Sports Ground, land adjacent to
TL 4250 5700 (CAU Report 451)
NI Redfern

Hilton, Scotts Close
TL 2900 6635 (HAT Report 980)
L O'Brien and N Crank

Huntingdon, Ullswater
TL 2324 7219 (SR Report – no number given)
M Dawson

Ickleton, Cambridge to Matching Green gas pipeline

TL 486 447 (NA Report – no number given)
NA (no named author)

Isleham, Hall Barn Road, land between 47 and 59
TL 6395 7385 (AFU Report A178)
R Casa Hatton

Kimbolton, Thrapston Road
TL 09855 67987 (HAT Report 959)
CDGibson

Leverington, Ringer's Lane, Fen Croft
TL 4429 1100 (AFU Report A181)
S Cooper

Little Paxton, the Island Site
See entry under 'St Neots'

Manea, Williams Way 64, land adjacent to
TL 4760 8943 (HAT Report 1018)
L O'Brien, N Crank and M Sutherland

March, Elm Road, land to the south of Dagless Way
TL 4186 9833 (Report No. 927)
J Last and J Murray for HAT

Papworth Everard, Papworth Everard Bypass
TL290 620 -278 627 and TL 278 627 - 282 637 (AFU Report A195)
R Casa Hatton

Ramsey, New Road, land at
TL 2880 8510 (HAT Report 864)
J Last

St Ives, Oliver Street
TL 315 715 (SR Report – no number given)
M Dawson

St Neots, The Island Site
TL 18509 61735 (NHA Report – no number given)
T Hallam

Snailwell, The Old Cattle Yard
TL 6425 6768 (HAT Report 873)
J Last

Soham, Fordham Road 49 & 49a
TL 6006 7246 (HAT Report 854)
J Murray and D Hounsell

Soham, Fordham Road, Former Allotments
TL 6025 7250 (AFU Report A180)
R Casa-Hatton

Water Newton, Mill Lane
TL 1095 9725 (LAS Report 492)
A Tann

Whittlesey, Showfields site
TL 276 980 (CAU Report 414)
A Hall

Woodhurst, Church Street, Harradine's Farm
TL 3151 7601 (AFU Report A177)
D Walls

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Summaries of papers presented at the Spring Conference
9 March 2001, Lady Mitchell Hall, Cambridge

Ely – archaeology, architecture, and historical perspectives

Ely and its place in the history of Western Monasticm.

Philip Dixon

The earliest monks are to be found in the deserts of Egypt and Syria, ascetics from the impurities of daily life, and later increasingly escaping, as refugees from a world which was collapsing. In the west, the initial piecemeal and ad hoc arrangements for religious communities were codified and systematised by St Benedict and his followers, and by the later part of the first millennium the largest number of religious houses followed the Benedictine rule. When Ely was initially founded, this process was in its infancy, and Aetheldreda's monastery is likely to have been an irregular collection of churches and living accommodation, like the contemporary site excavated at Jarrow. After the Viking destruction the monastery was refounded during the great renewal of religious houses led by St Dunstan. At this time the new and regularly ordered monasteries which were characteristic of the Carolingian renaissance were fashionable. It is likely that the new buildings at Ely formed a cloister with dormitory and refectory laid out around it, south of the church, in the style of the Norman monastery, part of which still survives.

Who were the monks of Ely?

Joan Greatrex

Only a few biographical details of a small number of the monks of Ely cathedral priory have been preserved among the medieval muniments. It is possible, however, to compensate, at least partially, for this unfortunate loss by focusing on the monks' names. The reason for this is that most of the monks between 1109 and 1539 were known by their baptismal name followed by the name of the village where they had previously lived; this usually took the place of their family or surname. Thus, we have William de Wisbech and so on. It must be said, however, that this kind of onomastic analysis is to be used with caution, for medieval families could and did move from one location to another and in some cases were known in their new setting by the name of their earlier domicile.

With a map of Cambridgeshire and the adjoining counties as an aid in locating the toponyms, the term used to describe surnames derived from place names, we observe that the majority of monks appear to have been of local or regional origin. In a few instances we are supplied with both the parental name (patronym) and the toponym, for example, Robert Horold de Isleham, one of five monks who probably came from the village of that name. East Anglian towns and villages differ from those in the Midlands in that they are often, like Isleham, unique and therefore present less difficulty in identification.

At least twenty-four monks, between 1109 and 1539, bore the toponym Ely: a surprisingly high percentage from a small urban centre especially when we contrast it with the figure of only fifteen monks named Norwich at Norwich cathedral priory where both monastery and town were substantially larger. Is there an explanation for this divergence or is it mere chance?

In a few cases, most noticeably among the Ely priors, it is possible to go one step beyond identifying the probable family home base to filling in a few details of the social status of their kinsmen. Prior William de Whittlesey (c.1510-15) for example whose patronym, Folyot, almost certainly indicates his connection with the family of that name who were prominent landowners in Whittlesey. Preliminary research suggests that although men from more humble backgrounds formed the majority in the cathedral's monastic community in the late middle ages the monks continued, until the Dissolution, to choose priors whose family connections were with the landed gentry.

Saxon and early medieval evidence from Ely

Alison Dickens, Mary Alexander, Richard Mortimer
Cambridge Archaeological Unit: University of Cambridge

The paper fell into three parts. The first was an examination of the nature of Saxon archaeology. Early

Saxon settlements are difficult to find in the archaeological record, and consideration was given to what the evidence might look like in the ground. From this one can appreciate how the small excavations often dug in towns will not necessarily find evidence on the scale seen on rural sites. There was a brief summary of the main pottery types likely to be encountered in these early sites – particularly Maxey, Ipswich, Thetford and St Neots Wares. The influence of modern planning legislation was then looked at (principally Planning Policy Guidance Note 16 – PPG16) and the subsequent increase in the opportunities for field investigation. A brief overview of Ely sites dug under PPG16 in the last 10 years was made, leading on to more detailed consideration of the evidence from some of those sites dug by the CAU.

Two views of evidence from Ely were offered, the first from the City centre. How does the location of the medieval city articulate with known evidence for Saxon activity within the city environs? Middle and late Saxon evidence from excavations next to the Lady Chapel and the south side of the Cathedral suggest high status occupation. In the light of this evidence, the location of the pre-Conquest monastic foundation beneath the Cathedral seems increasingly likely. Elsewhere in the city, current knowledge suggests dispersed rural activity, although closely spaced ditches with middle Saxon occupation evidence recently found at Jewson's Yard, Broad Street hint at the possibility of other nucleii of activity beneath the city.

Secondly, evidence from the edge of Ely was considered. Excavations along West Fen Road have revealed settlements from the Iron Age onwards. Most, however, belong to the Saxon and early medieval periods. The Middle Saxon settlement (starting in the 7th century) covered a large area with evidence extending beyond the confines of the excavated site. Settlement continued through to the Conquest and beyond with clear decline only from the 13th century – a time when the town around the Cathedral appears to expand. Following consideration of the site itself map and aerial photography, evidence was used to suggest a model of extensive but widespread settlement extending towards the City and to the west towards the Fen. Modern regular field divisions and trackways may be relict evidence of a planned land-use pattern dating to the medieval period.

Medieval pottery production, marketing and the growth of urban forms and functions: evidence from Ely
Paul Spoerry

Ely ware is the generic name for a quartz sand and calcareous tempered group of utilitarian pottery fabrics, manufactured from perhaps 1150 until the 15th century. The form and decorational characteristics of Ely ware are couched in both late Saxon Thetford ware traditions and display features seen in other eastern English post-Conquest sandy wares.

The three most common vessel types of the period, jars (often cooking pots), bowls and jugs dominate the Ely ware assemblage, with extensive stabbing and slashing of jug handles, both rod-sectioned and strap, and on the rims of deep, often wide-angled bowls being characteristic. Most vessels show evidence of turntable finishing on otherwise hand-formed bodies. A late medieval fabric was finer and more often wheel-made.

Study by Alan Vince of the petrology and chemical make-up of Ely ware suggests most vessels were made in Ely, but a few probably came from elsewhere. Initial evidence might suggest a second source in the Huntingdonshire Fenland for this material. These studies have also shown that 'Grimston Software', excavated and described at Kings Lynn in the 1960s is in fact Ely ware.

The Ely pottery industry appears have been confined to the economic heart of the medieval 'lower' town close to the waterfront. It was a wide-based urban industry spanning several centuries and likely to have included more than one pottery at any given time.

Why here? Post-Conquest medieval Ely was a new regional centre on an upward economic curve. The presence and patronage of the Abbey and Cathedral in moving the river closer to the existing settlement and setting up the new 'lower' town was of paramount importance. This lower town has all the hallmarks of a medieval craft or industrial suburb, but proximity to the new river, and the new short-cut to Lynn, meant that it had potential to develop.

It was to Lynn that much of the Ely ware that was produced in the 12th to 13th centuries appears to have been transported. Study of the distribution of the ware suggesting it was confined to the southern Fenland and Fen edge, and major settlements directly accessible through the main southern Fenland waterways. The role of pottery supply to the town of Ely itself should not be overlooked, however, it was the revision of the river systems by the Abbey authorities that was the key to the success of the town and pottery industry.

Ely Cathedral: some new thoughts on the building chronology of the eastern arm
John Maddison

Following a summary of the known archaeology of the Norman choir, evidence was put forward to demonstrate the survival of the Norman aisle walls below and within those of Bishop Hotham's three 14th-century western bays; an external base chamfer of the Norman work being clearly visible on the north side and detectable on the south. An internal mast in the southwest bay – sometimes thought to be 14th-century – was shown to be Norman by its survival above the 14th-century vault. The fragmentary remnant of a pointed vault in the tribune of the same bay implied an early modification of the Norman south aisle. It also suggested that the difference (approximately 1 metre) between the tribune floor level in the

present east arm and that of the nave and transept tribunes might pre-date the work of Bishop Northwold. An overlooked chevron-decorated wall bench in the aisle below was either supporting evidence of the early modification of the Norman south aisle or possibly an 18th-century reuse of a moulding from the demolished pulpitum.

In Bishop Northwold's presbytery (1234-52) revisions in detail, indicative of the design process, were contrasted with the essentially even progress of its construction. This magnificent building powerfully influenced the masons who built the three western bays of the surviving Norman choir for Bishop Hotham in 1324-37. Three principal building phases of Hotham's work were shown in colour-coded photogrammetric drawings.

The later medieval alteration of Northwold's presbytery was shown to commence in the tribunes with the rebuilding of his failed upper buttresses and with the introduction of new windows. It was proposed that a secondary alteration of the north tribune in two bays next to the medieval high altar could be connected with a previously misunderstood document of 1357/8. This interpretation would mean that the primary remodelling of Northwold's tribunes was extant by then.

The introduction of new windows into the presbytery aisles was shown to begin with five identical designs recorded as the donation of Bishop Barnet (1366-73). Bishop Gray (1454-78) and others contributed further windows but all, like Barnett, reproduced the earlier tracery of Bishop Hotham, in the interest of architectural unity and in defiance of contemporary fashion.

Some of these issues are discussed in a chapter on the Gothic work at Ely in the forthcoming book of essays on the history of the cathedral edited by Peter Meadows and Nigel Ramsay.

The Norman Cathedral at Ely
E C Fernie

After his appointment as abbot in 1081 or 1082, Simeon, prior of Winchester, began to build a completely new church at Ely. Following Simeon's death in 1093 there was an interegnum under William II until the appointment of Abbot Richard in 1100, who continued the work until the east arm was ready for the translation of the body of St Etheldreda in 1106. In 1109 the abbey became a cathedral. Dendrochronological evidence indicates that construction had reached the west transepts by the 1120s, and Bishop Ridel (1173–89) is recorded as having completed the new work.

The east end of Simeon's church is located by the pair of shafts surviving between the two phases of later Gothic work in the east arm. The high altar stood in the bay beyond the shafts and the shrines in the bay beyond that, in the apse known from excavations.

In the transepts, there is evidence for an aisle supporting a platform at the end of each arm. The alternation of pier and column differs in the north arm from the south, presumably to solve a problem of supporting the corners of the platform. Simeon's work is clearly identifiable in the main arcades of both arms by its volute capitals and plain unmoulded arches. The break in construction of 1093 runs like a gash across the building from the northeast corner of the north arm to the northwest corner of the south. The work of after 1100 west of the break and in the storeys above it, is characterised by cushion capitals and moulded arches.

The nave elevation continues that of the transepts, with a strong stress on the vertical produced by the relationship between width and height and by the shafts running up the nave faces of the supports. Ely is unique among Norman buildings in England in having a main wall which is thicker at clerestory level than in the storeys below. This 'oversailing' permits a wide wall passage to be carried on slender piers. The carved doorways in the south wall of the aisle belong with the building of the nave and hence were up by the late 1120s. Their style is related to the contemporary painting in the vault of a bay in the south aisle. The west transepts are by far the most richly decorated parts of the building, chiefly because it was the latest part to be constructed.

The design of the church is based on that of Winchester, one of a group of the largest buildings of the age which approach the scale of the Early Christian churches of Rome such as St Peter's.

Index
Jane Carr

Illustrations are indicated by numbers in *italics* or by *illus* where figures are scattered throughout the text.

Abbreviations

AFU	Archaeological Field Unit, Cambridgeshire County Council
Ant.	*Antiquity*
Antiq. J.	*Antiquarians Journal*
Arch. J.	*Archaeological Journal*
BAR	British Archaeological Reports
BUFAU	Birmingham University Field Archaeology Unit
CAU	Cambridge Archaeological Unit
CBA	Council for British Archaeology
CCC Rpt	Cambridgeshire County Council Report by the Archaeological Field Unit
CRO	County Record Office, Cambridge
CUCAP	Cambridge University Committee for Aerial Photography
CUL	Cambridge University Library
CUP	Cambridge University Press
EAA	East Anglian Archaeology
HMSO	Her Majesty's Stationery Office
HRO	County Record Office, Huntingdon
NMR	National Monuments Record, Swindon
OAT	Oxford ArchaeoTechnics
OUP	Oxford University Press
PCAS	Proceedings of the Cambridge Antiquarian Society
PPS	Proceedings of the Prehistoric Society
PRO	Public Record Office
RCHME	Royal Commission on Historic Monuments (England)
SMR	Cambridgeshire Sites and Monuments Record
VCH	Victoria County History

THE CONDUIT

Local History and Archaeology Organisations, Societies and Events

In June 2002 the County Council announced that it no longer wished to support production of Conduit, and so CAS took the rapid decision that the cheapest and simplest alternative was to publish the programmes of our affiliated societies within the Proceedings. We will review the situation next year, but in fact we think this may work rather well.

CAMBRIDGE ANTIQUARIAN SOCIETY

President Tony Kirby
Treasurer Cyril Pritchett
Secretary Elizabeth Allen, 99 Cambridge Road, Girton CB3 0PN; 01223 502974
Registrar (Membership) Don Fage, 178 Fishpool Street, St Albans AL3 4SB; 01727 847562

Cambridge Antiquarian Society was founded in 1840, to bring recent work in local history and archaeology to the general public. Ordinary membership costs £12.50 per year, families and affiliated societies £15.00, and entitles members to free access to our varied range of lectures, reduced fees for our two annual conferences, and the Proceedings, as well as access to a specialist archaeology library. Membership can be taken out at any time; subscriptions fall due on 1st January 2003. Please do keep us abreast of recent work in local history and archaeology. Members of the Society are welcome to bring guests, and junior members of the University are welcome at all meetings. If you would like more information about the Society, please contact the Secretary or Registrar who will be very pleased to hear from you.

PROGRAMME FOR 2002/3

Our programme of monthly lectures is held in the friendly atmosphere of the Runcie Lecture Theatre in the Divinity Faculty building, Sidgwick site (near Lady Mitchell Hall). Lectures, except for the conferences and joint meeting with the Cambridge Local History Society. There is plentiful free car parking. Lectures begin at 6.00 pm and last for about an hour, with the opportunity for questions and discussion afterwards.

7 Oct	Prof. David Hinton *Anglo-Saxon Smiths and Myths*
4 Nov	Dr Sue Bridgford *'Heroes and Villains': examining the role of the sword-bearer in Late Bronze Age Britain*
23 Nov	Conference: *Recent Archaeological Work in Cambridgeshire* (details will be circulated)
2 Dec	Ann Cole *Place-names and Landscape – the Cambridge region* (with Cambridgeshire Local History Society)
7 Dec	David Cozens *The Cromwell Family* (joint meeting with Cambridgeshire Local History Society at St John's Community Hall, Hills Road, Cambridge; at 2.00 for 2.15)
13 Jan	Alison Taylor *Roman Burial: the normal and the strange*
3 Feb	Dr John Lee *The economy of late medieval Cambridge and its region*
8 Mar	Day conference: *Cambridgeshire, Land of Plenty* (at Lady Mitchell Hall, Cambridge, details to be circulated)
10 Mar	5.45 pm Annual General Meeting Prof. Martin Biddle *Nonsuch Palace – excavations and history*
7 Apr	Dr Adam Menuge *'Speaking volumes': Oxburgh Hall, Norfolk, and the fabric of late fifteenth century gentry life*

12 May Prof. David Mattingly *'From mystery to history': the Garamantes of the Libyan Sahara*
A report on a five-year project investigating a vanished civilisation contemporary with the Roman empire.)

2 Jun Tim Malim *Sacred landscapes, pilgrimage and prehistory*

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BUCKDEN LOCAL HISTORY SOCIETY

Chairman Robin Gibson 01480 811558
Vice-Chairman Clive Thompson 01480 811050
Secretary Les Button 01480 811323
Treasurer Eric Nash 01487 710 317

The Society aims to promote the study and knowledge of local history in the very widest sense, primarily by means of talks on all manner of topics in any way connected with the subject and will be pleased to promote individual or group research into local history projects. Meetings usually on the first Wednesday of each month (no meeting in August) in the Conference Room at Buckden Towers. Subscription: £10 per year.

PROGRAMME FOR 2002/2003

4 Sept Joan Walton *Angels and Devils in Medieval Carving*

2 Oct John Adams *History of Wine & Beer Making in England* (Joint meeting with Friends of Buckden Towers, Buckden Wine & Beer Makers, & Buckden Gardeners' Club)

6 Nov John Slack *Kimbolton Midland Railway*

4 Dec Bill Wittering *History of Postcards*

8 Jan John Drake *Historic Gardens of Cambridgeshire*

5 Feb Peter Ibbett *Census Revelations!*

5 Mar Mike Storey *History of the Parish Clerk*

2 Apr Peter Clayton *Octavia Hill*

7 May to be announced

4 Jun Annual General Meeting

20 Jul Visit to Octavia Hill Birthplace Museum, Wisbech

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CAMBRIDGE CATHOLIC HISTORY GROUP

Co-ordinator Christopher Jackson, 3 Lansdowne Road, Cambridge CB3 0EU; 01223 353260

Meetings are held at The Rectory, Hills Road, Cambridge CB2 1JR.
After six years' activity, this Group has virtually completed its purpose of researching and publishing a history of the Catholic community in Cambridgeshire. The completed text of *Catholics in Cambridge*, comprising 37 essays by sixteen contributors, is currently in the hands of our Editor, Nicholas Rogers FSA, Archivist at Sidney Sussex College, and will be published by Gracewing publishing in May 2003. A hardback volume of approximately 132,000 words with illustrations, this will be a unique and authoritative work, to be offered on preferential pre-publication terms to interested subscribers. Subscription forms are available from CCHG, The Rectory, Hills Road, Cambridge CB2 1JR.

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Cambridge Industrial Archaeology Society

Chairman Don Fage 01727 847 562
Secretary Mrs Joyce Birkby, 149 Hereward Close, Impington CB4 9YF; 01223 233935
Treasurer Nigel Balchin 01223 832439

The Society's aim is to study and record the industrial history and artefacts of Cambridgeshire. It is affiliated to the Association of Industrial Archaeology (AIA) and is one of the founder members of the East of England Industrial Archaeology Conference (EERIAC). The Society will host the 13th conference on 7th June 2003, the venue and programme to be notified later. Meetings, visits and conferences are open to everyone with an interest in industrial history.

Meetings are held on the second Monday of the winter months at the Friends' Meeting House, Jesus Lane, Cambridge at 7.45 p.m. Subscriptions £4 per year or visitors £1 per meeting.

Programme for 2002/2003

14 Oct	John Parsons and Ron Hartley *Restoration of a vintage car*
11 Nov	Lorna Delanoy *Denny Abbey Farmland Museum: from shoebox to County collection*
9 Dec	Michael Bowyer *Cambridgeshire under attack 1940–1945*
13 Jan	Members' Evening Slide and Print competitions, and short talks including Nick Smith on printing
10 Feb	Don Unwin *Canals: from the viewpoint of a 'Gongoozler'!*
10 Mar	to be arranged
14 April	Peter Filby *Wind and water mills in Cambridgeshire*

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Cambridge Preservation Society

Chairman Robin Johnson
Secretary George Brewster, Wandlebury Ring, Babraham CB2 4AE

The Society aims to preserve Cambridge buildings, streetscape, views and amenities. It operates Wandlebury Country park and Nature Reserve (110 acres) and maintains Bourn Windmill and Hinxton Water Mill, both open to the public.

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Cambridgeshire Local History Society

President Mike Petty
Chairman JM Farrar
Secretary G Rushworth, 1a Archers Close, Swaffham Bulbeck CB5 0NG

The Society has been working for over 40 years to encourage the study of all aspects of local history in the former counties of Cambridgeshire and the Isle of Ely. Meetings are held at 2.15 pm on Saturday afternoons at St John's Church Community Room, Blinco Grove, Cambridge unless otherwise stated. Parking is available. Ordinary membership is £8 and allows free access to all lectures. Everyone is welcome to attend and non-members are invited to donated £1. An annual journal is published.

Programme 2002/2003

5 Oct	Steve Cassidy of Rattee & Kett *Stone and Restoration*

2 Nov	Lorna Delanoy, MBE *Royal Memorabilia*
7 Dec	David Cozens *The Cromwell Family*
4 Jan	Francesca Ashburner *Spinning Houses in Cambridgeshire*
1 Feb	Alan Shipp *National Hyacinth Collection*
1 Mar	Martyn Smith *The Hunts Cyclists*
5 Apr	Rachel Wroth *College Servants in the 19th Century*
3 May	Annual General Meeting

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Chatteris Museum Society

Curator Jenny Furlong 01354 692801
Bill Coke 01354 692503

We are hoping to relaunch Chatteris Museum Society, and are finalising details of meetings etc. We would very much like to hear from interested parties to help us to work out a programme.

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Duxford History Group

Contact Jim Longstaff, 8b St John's Street, Duxford CB2 4RA; 01223 832000

Meetings are held in the Community Room, Laceys Way, Duxford at 7.30 pm on the second and fourth Tuesdays between September and March. Subscription is £16.00 per year or £1.50 per meeting.

Programme for 2002/2003

11 Sep	David Skeates *Funeral Directing*
24 Sept	Ken Drake *Covent Garden*
8 Oct	Rosemary Horrox *The Black Death*
22 Oct	Tony Cornell *Paranormal*
12 Nov	Becky Proctor *Shopping Memories in the Folk Museum*
10 Dec	Social evening
28 Jan	Mike Gates *East Anglian Film Archive*
11 Feb	Peter Roberts *Bassingbourn Barracks*
25 Feb	Gary O'Shea *International Rescue*
11 Mar	Robin Driver *Local Roman Finds*
25 Mar	Malcolm Busby *Child Labour in Victorian Times*

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Eltisley History Society

Chairman Michael Sawyer, 19 The Green, Eltisley PE19 6TG; 01480 880019
Secretary Mary Flinders, Heylock, Caxton End, Eltisley PE19 6TJ; 01480 880268

Eltisley History Society aims to research and record family and local history. Meetings are held on the fourth Wednesday of the month at 7.45 pm for 8 pm, usually in the Cade Memorial Hall; details from the Chairman and Secretary. Subscriptions are £10 per year for individuals (£15 for joint or family membership); concessionary rates are available. Visitors are welcome at £1 per meeting.

Programme 2002/2003

25 Sept Tom Doig *Folk Cures and Remedies*
23 Oct W & H Peacock, Auctioneers and Valuers: Antiques Valuation Evening
27 Nov Geoff Sewell *Eltisley World War I Soldiers*
22 Jan Paul Spoerry *Medieval Towns*
26 Feb Stephen Macaulay *The Romans in Cambridgeshire*
26 Mar Tom Doig *The Domesday Book for Eltisley*
23 Apr Annual General Meeting
28 May Cecil Parry *Life 1000 Years Ago*

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Ely and District Archaeological Society

Chairman/Secretary Steven Cole, 2a Church Lane, Ely CB7 4JG; 01353 669326
Treasurer Clive Hughes, Berrycroft, 65 The Row, Sutton CB6 2PB; 01353 778388

Meetings are held in the New Room, Ely Methodist Church, Chapel Street, Ely at 8 pm Subscriptions are £6 (individual), £10 (two from the same address) per year. Visitors pay £1.50 (students £1) per meeting.

Programme for 2002/2003

21 Oct David Cozens *Capability Brown & Huntingdonshire*
18 Nov Richard Mortimer *Excavations at West Fen Road*
12 Jan Adam Menuge *Recent Investigations at Oxburgh Hall*
18 Feb Anne Holton-Krayenbuhl *Medieval Ely: the town, the inhabitants and their occupations*
18 Mar Mary Alexander *Excavations in Ely*
20 May Allan Brodie *Law and Order*

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Essex Historic Buildings Group

President DF Stenning
Secretary Alan Bayford, 12 Westfield Avenue, Chelmsford CB1 1SF; 01245 256102

Meetings are held at 7.30 for 8.00 pm on the first floor at Moulsham Mill, Parkway, Chelmsford, except where stated otherwise. Admission is free for members and non-members. Subscription: £10 per year.

Programme for 2002/2003

18 Oct Patrick Crouch *Blind Backs and 19th Century Workers' Housing*

29 Nov	Members' Evening, including a brief account of the Vernacular Architecture Group's visit to Ireland
3 Jan	Speaker to be arranged
7 Feb	Speaker to be arranged
21 Mar	Speaker to be arranged
2 May	Speaker to be arranged

FENLAND ARCHAEOLOGICAL TRUST

Flag Fen Excavations, Fourth Drove, Fengate, Peterborough PE1 5UR
Tel 01733 313414, Fax 01733 349957
General Manager T Fox
Members' Secretary S Botfield
Events Co-ordinator R Healand

Flag Fen, a late Bronze Age fen-edge settlement is one of the most exciting English archaeological discoveries in recent years. It is open all the year round (except Christmas Day and Boxing Day) from 11 am to 4 pm There are guided tours of the site in summer, and a Flag Fen Trail in winter. Schools, universities and colleges are welcome at a special rate of £1.75 per child or student with teachers coming free. Pre-booked tours for archaeological or historical societies or any other group have a special rate of £2.50 per person. The Trust can supply speakers to give lectures to interested groups, for which a fee is charged. For additional information or bookings please contact the Members' Secretary at the address above.

Subscriptions are: Full Membership £30 per year, Associate Membership £10 per year.

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FRIENDS OF MILL ROAD CEMETERY

Chair Frank Dean, 5 Gwydir Street, Cambridge; 01223 560 058
Treasurer Dorothy Thwaites, 24 Taylors Way, Swavesey; 01954 231293
Secretary Shayne Mitchell, 7 Atherton Close, Cambridge; 01223 313541

The Friends were founded in 1999 and our aim is to protect the cemetery as a place of remembrance, spirituality, history and nature. We organise a 'Spring Clean the Cemetery' day in April and an Open Afternoon/open air service in the summer and have a guest speaker at our October AGM. Subscription: £6 for three years. Please contact any officers for the dates of the events on the programme.

PROGRAMME FOR 2002/2003

Oct	Annual General Meeting and AGM guest speaker
Apr	*Spring Clean the Cemetery* Day
August	Open afternoon

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HERTS AND ESSEX ARCHITECTURAL RESEARCH SOCIETY

Hon Chairman Alan Bayford
Hon Treasurer Peter Lewis
Hon Secretary Kathleen Pollard, 4 Nelmes Way, Hornchurch, Essex RM11 2QZ; 01708 473646;
e-mail: KPolrm11@aol.com

Meetings are held in Room M6, Roding Valley High School, Loughton, near Loughton Station, at 8.00 pm on the second Friday of each month between October and April. Subscription £6 per year (£8 from January 2003); Visitors 50p per meeting. During the summer visits are arranged to buildings of interest. While Herts and Essex buildings are our main interest, we consider it important to take the wider view.

Programme for 2002/2003

8 Sept Toby Lyons *Tour of Much Hadham* (01279 815830)

11 Oct Bob Crump *A study of the Vernacular Buildings in the Rochford Hundred*

Further meetings to be arranged.

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Huntingdonshire Local History Society

President Lord Renton KBE, TD, QC, DL
Chairman David Cozens MBE, 70 Upwood Road, Bury PE26 2PA; 01487 815229
Secretary Mary Hopper, 3 The Lanes, Houghton PE28 2BW; 01480 463007
Website www.huntslocalhistory.org.uk

The Society aims to encourage research into Huntingdonshire history. Records of Huntingdonshire, the Society's journal, is published annually. During the winter months a wide-ranging programme of monthly lectures is held at 7.30 pm on Thursday evenings in the Council Chamber of Pathfinder House, St Mary's Street, Huntingdon. A social evening is held at Christmas and an Annual General Meeting in May. During the summer coach excursions to place of interest in the county and further afield are arranged. Subscription £7 (individual) and £12 (double) per year, and includes two Newsletters and a copy of Records of Huntingdonshire.

The Society's Goodliff Awards scheme was launched in 1996. Since then 50 awards have been made, supporting history projects in 24 towns and villages in Huntingdonshire. The projects have been carried out by various organisations including schools, museums and local history societies as well as by many individuals. Further details of how to apply for grants can be obtained from Ken Sneath (01480 450686) or from the Society's website.

Programme for 2002/2003

24 Oct Tim Crawley *Creating an Image of Oliver Cromwell*

14 Nov Ken Sneath *The Hearth Tax 1664*

Dec Christmas Social

16 Jan John Drake *Historic Gardens of Cambridgeshire*

13 Feb Martin Smith *Hunts Cyclists Battalion*

27 Mar Dr R Berrington *400 Years of 'Medical Friars' in an Alconbury Practice*

17 Apr Patrick Ellis *The Giddings*

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The Ickleton Society

Chairman Sheila Birch

The Society was established to promote high standards of planning and architecture in or affecting the village, to educate the public in the geography, history, natural history and architecture of the village, and to secure the preservation, protection, development and improvement of features of historic or public interest in the village. Meets roughly every 4-6 weeks in members' homes.

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THE ISLEHAM SOCIETY

Chairman Roynon Howes, 51 Waterside, Isleham CB7 5SH
Secretary Beryl Powys, 5 Church Lane, Isleham CB7 5SQ

The Society is interested in the history and traditions of the village, in its preservation and development. It arranges lectures each year on a wide range of subjects but all with special emphasis on local and East Anglian interest. There are three or four outings each year, as well as organised rambles around the village pathways in the summer. A Nature Reserve is maintained, and members assist in planting trees in the village.

Meetings are held in the Village Hall at 8 pm on Thursday evenings and subscription is £10 per year (visitors £2 per meeting).

PROGRAMME FOR 2002/2003

5 Sept	Dr Susan Murphy *The Animal Welfare Trust*
24 Oct	Peter Norman *Old Newmarket*
28 Nov	John Whitmore *The History of Magic*
16 Jan	Slides from the Arthur Houghton Collection
20 Feb	PG Day *The History of Lifeboats*
20 Mar	Rodney Tibbs *Gardens*
24 Apr	Annual General Meeting

Rambles: Saturdays in June, August and September: meet on Priory Green at 10 am, by arrangement. Contact A Clements for details on 01638 780252.

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KIMBOLTON LOCAL HISTORY SOCIETY

Chairman Nora Butler, 71 Castle Gardens, Kimbolton; 01480 861007
Secretary VM Schorer-Nixon, 3 The Lane, Stow Longa; 01480 860325
Treasurer W Watson, 34 Constable Leys, Kimbolton; 01480 861431

Meetings are held once a month in Kimbolton Castle at 8 pm. Subscriptions are £6 (single) and £10 (double) per year.

PROGRAMME FOR 2002/2003

11 Sept	Nina Pope *The Construction of Grafham Water*
9 Oct	Members and Committee Family Histories
13 Nov	Tom Doig *Folk Cures and Remedies*
4 Dec	Performance of *The Wakefield Second Shepherd's Play* by members at the Drama Studio, Kimbolton School

Programme for 2003 not yet available.

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THE LANDSCAPE AND LOCAL HISTORY GROUP (LLHG)

Contact Lyn Boothman at 18 York Street, Cambridge CB1 2PY; 01223 323042
email: annys@boothman27.fsnet.co.uk

Are you interested in local and landscape history? Are you doing or considering original research? Would you enjoy an occasional meeting of like minded people? The LLHG exists to provide a meeting place for active researchers (largely amateurs although we have 'professional' members); many members are researching in the local area but several are working on places further afield. The group exists on a fairly informal basis, but meets three or four times a year, normally at Shire Hall, Cambridge. It provides a meeting place where members can share research findings, exchange ideas and information and increase their knowledge of the range of records and resources available. Members of Cambridgeshire's archive staff are active members and we are very grateful for their co-operation, contributions and assistance.

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March and District Museum Society

Chairman Peter Hewitt, 101 Elwyn Road, March PE15 9DB; 01354 654783
Vice-Chairman Richard Munns, 1 Milner Close, March PE15 8LH; 01354 653714

The Museum is open: Wednesdays 10 am – 12 noon
Saturdays 10.30 am – 3.30 pm
1st Sunday in summer months 2.00 pm – 5.00 pm
Parties are welcomed at any other reasonable time and admission is free.

The Museum Society holds its programme of evening lectures on the second Friday evening of each month in St Peter's church hall opposite the Museum and all are welcome. Subscription is £3 per year. Members attending meetings: £1; Visitors £2.

Programme for 2002/2003

13 Sept Heather Falvey *17th Century Riots against Drainage*
11 Oct Rebecca Hatton *Roman Burials in Cambridgeshire*
8 Nov Annual General Meeting followed by a presentation by the Rushden Historical Society
12 Dec Members' Evening
Friday evening meetings continue in 2003, but the programme is still to be finalised.

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Orwell Local History Society

Secretary SH Miller, 55 High Street, Orwell
Treasurer John Holroyd, 2 Greenford Close, Orwell

Meetings are held in the Methodist Church Schoolroom on the last Thursday of each month except August, commencing at 8 pm (June and July meetings are visits to local places of interest). Subscription is £5 per year, payable in November. Non-members are welcome on payment of £1 per meeting.

Programme for 2002/2003

29 Oct Becky Proctor (Cambridge Folk Museum) *Local History Quiz*
26 Nov Susan Rumbold Slides of the Village in the 1960s, with a seasonal theme
Meetings continue in 2003, but the programme is still to be finalised.

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PETERBOROUGH MUSEUM SOCIETY

Chairman DA Sharp, 30 Apsley Way, Longthorpe, Peterborough
Secretary R Rodwell, 9 Royston Avenue, Orton Longueville, Peterborough, PE2 7AA; 01733 231434

The main aims of the Society are to promote the study of local and natural history, archaeology, art, science and kindred subjects, and to promote the interests of the Peterborough Museum and Art Gallery. Meetings are held in the Museum Lecture Hall, Peterborough Museum and Art Gallery, Priestgate, Peterborough. The summer outings programme will be available from the Secretary in February 2003.

PROGRAMME FOR 2002/2003

1 Oct	Toby Fox *Flag Fen: New Development*
15 Oct	F Nigel Hepper *Kew: Pharaoh's Flowers*
29 Oct	Payne *Life in a Fenland Village in the 1920s*
12 Nov	M Dillon *Queen's Jubilee*
26 Nov	A Mills *The Jedburghs from Milton Hall*
10 Dec	Hurluberlu *An Evening with Jane Austin*
7 Jan	D Mackreth *Peterborough Cathedral Archaeology*
21 Jan	Dr J Sutcliffe *Wild Flowers – English Nature*
4 Feb	Canon Higham *The Monastic Infirmary and Table Hall*
18 Feb	Adrian Green *London before London – Archaeology*
4 Mar	Dr T Foulds *Nottingham Castle: A Magnificent Palace*
18 Mar	B Sutton *The Mary Rose: Second Episode*
1 Apr	A Purser *The Monk's House, Monastery and Cloister*

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SAWSTON VILLAGE HISTORY SOCIETY

President Mary Dicken, 23 Princess Drive, Sawston
Chairman Joan Paine, 18 Evans Way, Sawston
Treasurer Eric Jacobs, 21 West Moor Avenue, Sawston
Secretary Bryan Howe, 16 Henry Morris Road, Sawston; 01223 833963

The Society has a small Museum at 57 High Street, Sawston, and it is open every second Saturday of the month 2–4pm, except in August. During this time there will always be an enthusiastic member available who will be delighted to talk about any of the exhibits, or any other aspect of local history. Meetings are held on the second Thursday of each month at the Chapelfield Community Centre, starting at 7.30 pm.

PROGRAMME FOR 2002/2003

12 Sept	Annual General Meeting
10 Oct	Barry Stevenson *Antiques Road Show*
14 Nov	Members' evening *1939–45 War Experiences*
12 Dec	Members' evening
9 Jan	William Tyler *Witchcraft*
13 Feb	Henry Porter *The University of Cambridge*
13 Mar	Peter Filby *Wind & Water Mills of Sawston*

10 Apr Mary Dicken *Sawston Surnames*
8 May *Origins of the Land Settlement Scheme*

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Staine Hundred Local History Society

Chairman Robert Hill, 12 Albert Road, Quy CB5 9HH
Programme Secretary Gillian Rushworth, 1a Archers Close, Swaffham Bulbeck CB5 0NG; 01223 811703
Meetings Secretary Maureen Rogers, 95 High Street, Bottisham CB5 9BA; 01223 812146

Meetings are held at 7.30 pm on the second Wednesday of each month at Bottisham Village College. Subscription is £6.50 per year. Visitors are welcome (£2 per lecture).

Programme for 2002/2003

11 Sept Lorna Delanoy *From Shoebox to County Collection*
9 Oct Dr Tim Hunt *Opium Trail Across East Anglia*
13 Nov Mike Petty *Pickwick's Cambridge Scrapbook*
11 Dec Professor Parker *History of the Botanic Gardens*
8 Jan Peter Hewitt *Development of Wisbech*
12 Feb Gill Rushworth *A Short History of the Department Store*
12 Mar Ann Holton-Krayenhbuhl *Monks, Merchants, Craftsmen in the Broad Street Area of Ely*
9 Apr S Pearl *History of Straw Plaiting*

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St Neots Local History Society

Chairman vacant
Deputy Chairman E Marshall, Church House, Berkeley Street, Eynesbury, St Neots PE19 2NA
Meetings Secretary R Pullinger, 40 Drake Road, Eaton Socon, St Neots PE19 8HS; 01480 217933
Programme Secretary E Meeks, 26 The High Street, Wilden, Bedford MK44 2PB; 01234 771792

The aim of the Society is to stimulate and foster an interest in local history through monthly meetings and the opportunity for research and outings. Historical information is collected, and a magazine published three times a year.

Meetings are held at 7.30 pm on the first Friday of each month in the school hall of Eynesbury Primary School, Montagu Street, Eynesbury. Subscriptions are £6.00 per year (individual) and £10.00 per year (double).

Programme for 2002/2003

6 Sept Gp Capt Peter Garth *The Airship Heritage Trust*
4 Oct Peter Walker (Gamlingay Wood Warden) *Ancient Woodland*
1 Nov David Bushby *Frank Day's Photograph Album 1880–1910*
6 Dec Members' Evening
3 Jan Rod Todman *The Clarabut Photographs*
7 Feb Annual General Meeting
Sue Jarrett *Eaton Socon Cross Hall and the Old Workhouse*

7 Mar	To be announced
4 Apr	Mike Osborne *20th Century Military Structures*
2 May	Ian Burton *History & Development of the Papworth Settlement*
6 Jun	David Rudd *St Neots Priory*
4 Jul	Ann Taggart: Outing to Taggart's Gallery and Tile Museum
1 Aug	Outing to Cambridge Folk Museum

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The Thriplow Society

Chairman Shirley Wittering, 24a Middle Street, Thriplow
Secretary Peter Spark, 23 Church Street, Thriplow
Treasurer Peter Yates

The Society aims to promote interest in local history, the environment and the conservation of the Thriplow region. All meetings are held at the Village Hall at 8 pm unless otherwise stated. Subscription is £5 per year (Visitors £1 per meeting). The Thriplow Journal is published three times a year and is free to members.

Programme for 2002/2003

14 Sept	Visit to Burwell Museum
18 Oct	Anne Rowe *Dovecotes: Historic Features of the Landscape*
15 Nov	Visit to the Cambridgeshire Collection
17 Jan	Michael Bentinck *Wartime Women*
15 Feb	Tenth Birthday Party
14 Mar	Bill Wittering *King's Cross to Cambridge: An historic trip*
25 Apr	Annual General Meeting
	David Lee *Duxford: Past, Present and Future*

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Thriplow Study Group

Contact Bruce Milner, 8 Brookfield Road, Sawston CB2 4EH; 01223 570596
e-mail: brucemilner@ntlworld.com

We are in the process of putting the results of our research on the factors influencing the development of Thriplow into print, for which we are hoping to attract funding. Not wishing to rest on our laurels we intend to apply our newly-acquired skills in further projects of a similar kind, in the south Cambridgeshire area. We are not intending to emulate *Time Team*, but the purchase of geophysical equipment will greatly enhance our scope for research into how and where the earlier residents of Cambridgeshire lived. New members are always welcome!

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West Wickham & District Local History Club

Secretary Janet Morris, 21 High Street, West Wickham CB1 6RY; 01223 290863

Meetings are held on the second Monday of the month at 8 pm in the West Wickham Village Hall.

PROGRAMME FOR 2002/2003

14 Oct Julia Napier *The Work of the Friends of the Roman Road and Fleam Dyke*
11 Nov Tim Reynolds *Recent Developments in Archaeology in Cambridgeshire*
9 Dec To be confirmed
13 Jan Janet Morris *Horseheath Hall*
10 Mar Annual General Meeting

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WHITTLESEA SOCIETY

Chairman Ken Mayor, 19 Bowker Way, Whittlesey PE7 1PY; 01733 204944
Vice-Chairman Ray Cotton, 6 Bellman's Grove, Whittlesey PE7 1TX; 01733 202065
Hon Secretary David Hancock, 3 Vintner's Close, Peterborough PE3 6BT; 01733 853894
Hon Treasurer Barbara Gale, 160 Eastrea Road, Whittlesey PE7 2AJ; 01733 208381

Meetings are held on the second Monday of each month (except August) at 7.30 pm in the Town Hall, Market Street, Whittlesey. Subscriptions are £5 (individual) and £7.50 (family) per year.

PROGRAMME FOR 2002/2003

9 Sept Geoffrey Dodd *What the Blacksmith Said Before He Died*
14 Oct Alan Porter *An Auctioneer's Life*
11 Nov John Gates *When I Think Of What I've Thrown Away*
9 Dec Matthew Piccavar *Forensic Science*
13 Jan Alan Dawn *Fossils of the Fens*
10 Feb David Cozens *Ramsey Abbey*
10 Mar Gerry Burrows *The Fifties Revisited*

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BURWELL MUSEUM

Mill Close, Burwell CB5 0HJ; 01638 605544 (recorded messages)

Contact Paul Hawes, tel. 01638 742847
Website http://mysite.freeserve.com/burwell_museum

Opening Times Easter – end of October, 2 – 5 pm on Thursdays, Sundays and Bank Holidays
Admission £2 (adults) and 50p (children); season tickets £5.00
Group Visits School and evening group visits arranged by appointment
Contact Mike Pike tel. 01638 741933
Directions From A14 take B1102 signposted Burwell. Free parking for the Museum at the Gardiner Memorial Hall which is signposted on the village High Street.

Burwell Museum concentrates on fen-edge village life and is housed in a re-erected 18th century barn depicting bygone domestic and working life over the past 100 years. Around the site there are displays showing a village school, shop, working telephone exchange, forge and wheelwright's shop, vintage car, Nissen hut with war memorabilia, carts, traps and carriage for the gentry, audio-visual room with archive films, over 5000 photographs in our Millennium Collection, local archaeology and much more. All are housed in a visitor-friendly environment. Toilets, stair chairlift, giftshop and 'special events' throughout the year make this an idea afternoon out for the family.

Friends of Burwell Museum enjoy free admission to the Museum, discounted entry to fund-raising events and free newsletters trice a year. Annual subscription £5 per person. Contact Len Bowyer, the Friends' Membership Secretary, for further details (tel. 01638 743193).

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CAMBRIDGE AND COUNTY FOLK MUSEUM

2–3 Castle Street, Cambridge CB3 0AQ; 01223 355159

Curator Cameron Hawke-Smith
Assistant Curator Becky Proctor
Education Officer Sarah-Jane Harknett
Museum Assistant Katherine Shearer
www.folkmuseum.org.uk

PROGRAMME FOR 2002/2003

14 Oct Tea Party, 2.45–4.15 p.m. Admission £1
13 Nov Museum's Annual General Meeting, 7.30 p.m.
6 Dec Christmas Social Evening, 7.30 p.m.
All events are held in the Museum.

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Norris Museum

The Broadway, St Ives PE27 5BX; 01480 497314

Curator Bob Burn-Murdoch
e-mail bob@norrismuseum.fsnet.co.uk

Opening Hours Monday–Friday: 10 am–1 pm, 2–4 pm
Saturday: 10 am–12 noon
Also open Saturday and Sunday afternoons May–September

Friends of the Museum £3 (individual) and £5 (couple)

The Norris Museum's ducks are like the Tower of London's ravens. Nobody knows what use they are, but we keep feeding them just in case they're doing something vital we don't know about. (The Norris Museum's curator is much the same really.) Picture the consternation then when the Norris lost its last Muscovy!

Duck numbers have always fluctuated, but by the end of last year we were down to just one. On New Year's Day, annoyed by the lateness of breakfast, she flew off in search of a hotel where the staff were more respectful. Disaster for the Museum followed swiftly on this portent.

St Ives Town Council has allocated £22,000 to the rebuilding of the river wall at the end of the Museum building: the state of the wall has been a cause for concern and the Town Council's generous offer is of a piece with its whole-hearted support for the Norris over many years. It was hoped to carry out the work this summer, but at the time of writing the project has been blocked by the District Auditors on various obscure technicalities.

But things could be worse. Building work may be at a standstill, but the Museum's catalogues are being computerised on equipment the auditors don't know we've got, by people pretending to work for someone else; our programme of displays and exhibitions is being enhanced by pictures and posters from a colour printer we didn't officially pay for; and much conservation work is being done on the collections, all carried out for nothing if you believe the balance sheets. It would be sad to see so many years of fraud and peculation sliding into the River Ouse but if the ducks won't come to the Museum, I suppose the Museum must go to the ducks.

Obviously with all this uncertainty we must ask PCAS readers not to visit the Norris again this year. We're still trying to attract a better class of visitor.

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St Neots Museum

Friends of St Neots Museum

The Old Court, 8 New Street, St Neots PE19 1AE; 01480 214163 (Reception)

Curators Anna Mercer and Elizabeth Davies
Friends Secretary Gillian Hillyard 01480 394950

Opening Times	January–April: Wednesdays to Saturdays 10.30 am–4 pm May–December: Tuesdays to Saturdays 10.30 am – 4 pm *Christmas, New Year, Bank Holidays, please contact Museum*
Admission	Friends of St Neots Museum *free* Residents of St Neots & contributing parishes *free* Other adults £1.50, Concessions £0.75, Under 5s *free* Out-of-hours pre-booked groups £2 each (minimum £20) Friends' Annual Subscription *on application*
Access	Market Square and town centre car parks 2 minutes' walk away

The Museum has been awarded a Heritage Lottery Fund grant for improved presentation, including new exhibitions in the 1907 cells (believed to be the only ones in Huntingdonshire in near-original condition) and other additions. Work will be complete by November 2002.

Opened in 1995 and commended in the national Gulbenkian Awards in 1997 for 'outstanding achievement with limited resources', the Museum occupies the former police station and magistrates' court. Attractive, professionally-designed displays tell the story of St Neots district from prehistoric to modern times. The Museum has large reserve collections. Of particular interest is the Don Wills collection of Huntingdonshire postcards, maps and postal history, amounting to several thousand items. A copy of the catalogue of these is kept at the Huntingdon Record Office. Originals and many digital copies may be seen by appointment with a curator. The Museum welcomes school and other pre-booked parties. Several resources link with the National Curriculum and a Primary Schools Resource Pack is available. Please contact a curator.

Events and exhibitions: the Museum has a rolling programme of temporary exhibitions with supporting workshops and demonstrations. Full details from the Museum.

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Proceedings of the Cambridge Antiquarian Society

Notes for contributors

The Editor welcomes the submission of papers which are principally on the history and archaeology of the County. Papers will be sent out to referees.

Format of articles

All articles should begin with a Summary. The main text of the Article should be followed by (as appropriate): Appendices; Glossary; Acknowledgements; Endnotes; Bibliography; Acknowledgement of Grant.

Notes should be numbered consecutively throughout the article. Full stops after initials should be omitted.

References in the Bibliography should be cited as follows:

Manuscripts: Buckinghamshire Record Office (hereafter Bucks RO) Dormer estate, D/93/Box 2, Court Roll of Ravensmere Manor, Hughenden 1752.

Books: Schmorl, G & H Junghanns 1971 *The human spine in health and disease.* 2nd American edn, ed. E F Besemann, New York: Grune and Stratton.

Articles in books: Hines, J 1998 'The sixth-century transition in Anglian England: an analysis of female graves from Cambridgeshire'. In J Hines (ed), *Studies in Early Medieval Chronology.* Oxbow Monographs.

Articles in Journals: Moorrees, C F A, E A Fanning & E E Hunt 1963 Formation and resorption of three deciduous teeth in children. *American Journal of Physical Anthropology* 21: 205–13.

Theses: Mortimer, C 1990 *Some Aspects of Early Medieval Copper-Alloy Technology, as illustrated by a Study of the Anglian Cruciform Brooch.* Oxford University D Phil thesis, unpublished.

Format of submissions

The *Proceedings* are produced digitally: authors must supply copies of their final text both on paper and on disk. Contact the Editor for information on appropriate software packages. The following information must also be supplied on paper: the file-names on the disk; the software package from which each file originated; and the platform (Mac/PC) on which the disk and files were produced. Files may also be emailed; contact the Editor for more information. Artwork will be scanned, placed and printed.

Tables

These should be set out with no vertical rules and as few horizontal rules as possible. A paper copy must be supplied. Files supplied from a specialist database must be compatible with Microsoft Excel.

Figures and illustrations

A complete list of figures and their captions must accompany each article; note that photographs are to be referred to as figures and included in the list of figures rather than separately as plates. Each piece of artwork and/or digital file must be clearly identified with the correct figure number. The desired location of each figure must be marked in colour on the paper copy of the final text.

If created digitally these should be supplied in digital format, both to save time and cost, and to ensure that the final versions are of the best quality. Requirements for both digital files and camera-ready artwork are noted below; please contact the Editor for more specific information.

Note that the PCAS page is set in two columns: maximum column width is 73mm ; maximum full page width is 155mm; maximum full page height is 240mm.

Photographs

Prints: glossy black and white prints should be submitted at the size at which authors would ideally wish them to appear. Crops should be marked on an overlay.

Scans: greyscale image resolution should be 300dpi when printed at the desired size. TIF and EPS are appropriate file formats.

Artwork

***Camera-ready artwork* must be supplied no larger than A4**, in finished form, and with adequate keys and scales included (note that a textual statement of scale is inaccurate if the image is subsequently resized). The scanning process is less able to compensate for some problems than was the camera: extremely fine lines and small text should be avoided. Letratone must not be used.

Line art scans should have a resolution between 900 and 1200dpi when printed at the desired size, and should be supplied as TIF or EPS.

Graphic files should be produced using graphics packages such as Illustrator or Freehand, and be in a standard graphic format such as TIF or EPS which can be imported into another application.

Copyright

Papers are accepted for publication on the understanding that they have not already been accepted for publication elsewhere. The copyright will normally remain with the Society.

Other information

Twenty-five offprints of each paper will be supplied. Further offprints may be ordered at extra cost at proof stage.

Contributors who know of possible sources of subventions towards the cost of printing their paper should inform the Editor of this when submitting the typescript; long articles will not normally be accepted without some financial support.

The Proceedings were produced for the Society by Sarah Wroot. Printed and bound in Great Britain by Burlington Press (Cambridge) Ltd, Foxton, Cambridge CB2 6SW. T: 01223 870266; F: 01223 872113.

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