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(incorporating the Cambs and Hunts Archaeological Society)

Volume LXXXIII

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EDITORIAL

This volume of the *Proceedings of the Cambridge Antiquarian Society* is the first by a new editor. I would like to thank, both the previous editor, Sarah Bendall, and the present officers and council members for their support and assistance.

Alert readers will observe that the style has been changed somewhat to simplify it and to bring it in line with the more usual modern practice,

This volume is predominantly archaeological. It is my hope that forthcoming volumes will also include papers of wider interest. I encourage our members — and others interested in Cambridgeshire — to submit papers with the kind of material they would like to read.

The Library

Members of the C.A.S. are reminded that, by agreement with the University of Cambridge, they are entitled to read in the Haddon Library, Faculty of Archaeology and Anthropology, Downing St. The Library holds a large number of British and foreign serials exchanged for the *Proceedings of the Cambridge Antiquarian Society*, together with a wide range of archaeological and topographical books. Intending readers should apply to the Faculty Librarian, Mr Aidan Baker, and for access to, or information about, specialised collections to the Society's Librarian Dr J.D. Pickles, The Old Schools, Trinity Lane.

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Transactions, The North Staffordshire Field Club, Stoke-on-Trent
Ulster Journal of Archaeology, Belfast
Wiltshire Archaeological and Natural History Magazine, Devizes
Yorkshire Archaeological Journal, Leeds

Little Paxton Quarry, Diddington, Cambs.: Archaeological Excavations 1992–3

Second Interim Report: The Southwest Area

Settlement and Activity from the Neolithic to the Iron Age

by Alex Jones

with contributions by Lynne Bevan, Stephanie Pinter-Bellows, Rebecca Roseff & Ann Woodward

Introduction

This report presents an interim summary of the results of the second stage of an ongoing programme of archaeological investigations at Little Paxton Quarry, Diddington, Cambridgeshire (Figs. 1A–B; centred on NGR. TL202651), undertaken by Birmingham University Field Archaeology Unit on behalf of CAMAS Aggregates Limited (formerly English China Clays Quarries Ltd). The second stage investigations, described here, involved the evaluation of a cropmark settlement focus located in the southwest zone of the quarry concession (Jones 1992), followed by area excavations here in advance of quarrying (Fig. 1C). The results of the first stage investigations, which involved the excavation of a complex of Romano-British enclosures, were summarised in the First Interim Report (Jones & Ferris 1994).

In this report the results of the evaluation and excavation stages will be conflated to form a single account.

The Site and its Setting (Figs. 1B–C)

These second stage investigations were located in an arable field to the west of the present quarry workings, and lying to the southeast of the village of Diddington. The area lies approximately 1 km to the east of the River Great Ouse, on the first to second river terraces, which here comprise calcareous gravels overlain by alternating bands of unsorted angular stones in sandy clay and sand. The ploughsoil above is a sandy clay loam, or sandy clay, with approximately 30% clay content and a high pH. The river terrace gravels are probably Devensian in date (Rogerson 1986), while the overlying bands are possibly early post-glacial.

The excavated area lies at between 13.0–13.2 m AOD, and was probably above the watertable from the date of the earliest activity recorded here, although the area to the east, which adjoined a stream, may have been waterlogged. The main cropmark feature in this southwestern zone of the quarry concession was a cropmark enclosure (Fig. 1C, south of Tr. 30); other undefined cropmarks plotted to the north of this enclosure were interpreted as forming parts of further enclosures or of field boundaries.

Methodology (Fig. 1C)

In the southwestern zone of the quarry, evaluation of the unidentified cropmark complex to the north of the cropmark enclosure (Fig. 1C, Tr 29–31), by geophysical survey and trenching, identified ditches containing pottery of Middle–Late Iron Age date. In addition to the plotted cropmarks, other smaller ditches, gulleys, and post-holes were also recorded. A total of 35 test-pits (not illustrated), each 1.6 m square, was machined at 20 m intervals in the area of this cropmark complex. Each was machined to the base of the ploughsoil, and approximately 50% of the spoil from each test-pit was hand-sieved to test the density and distribution of artefacts in the ploughsoil.

Excavation was initially targeted in two contiguous areas, the northernmost measuring 80 m square, the southernmost measuring

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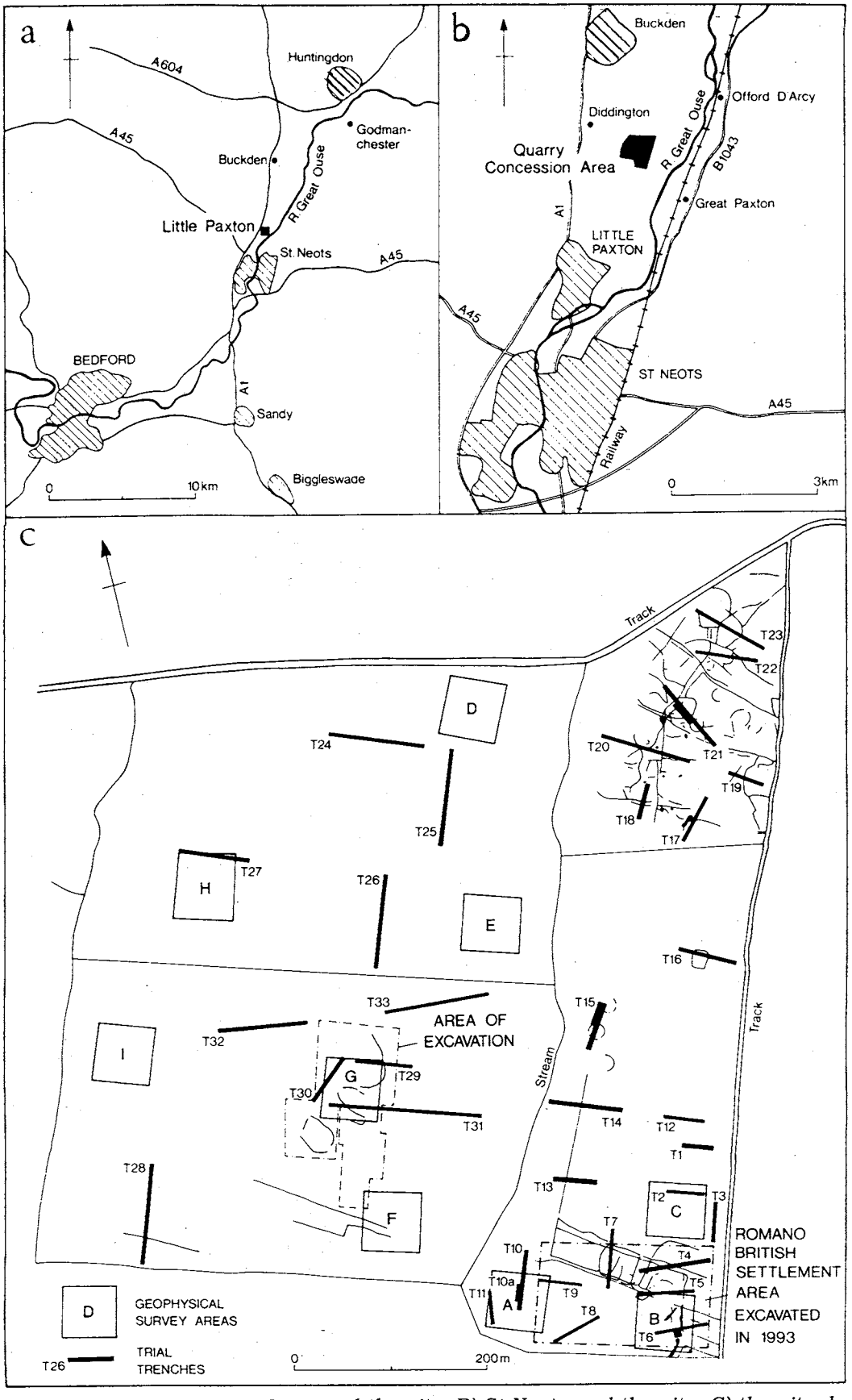

Figure 1. *A) The River Great Ouse and the site; B) St Neots and the site; C) the site: location of excavation and simplified plan of cropmarks (by Air Photo Services).*

60 m square, both areas being positioned to include the majority of the plotted cropmarks in this area. The southernmost area was subsequently extended eastwards, to investigate the possible continuation of Neolithic features into this area. Excavation was undertaken in two stages, the first in June 1993, the second in October–December 1993.

Excavation was intended to define the form and sequence of the enclosures and other cropmark features within this settlement complex, and to determine the site's changing function and economy. Of particular importance was the potential for future comparison of the structural and economic data from this Iron Age settlement with data from the remaining Iron Age settlement zones identified within the quarry. The integrated analysis of these settlement zones could also contribute to a broader, multi-period, landscape-based study of the changing patterns of settlement and economy in the River Great Ouse valley, and in other river valley environments.

The ploughsoil within the excavated area was removed by Euclid box-scraper under archaeological supervision, to expose the upper gravel horizon, later cleaned by JCB excavator and by hand. Ditch intersections were dug to define the chronological sequence, and further lengths of ditches were excavated to identify their form and fill sequence, and to sample the ditches as widely as possible for artefactual and palaeoenvironmental evidence. Of particular importance was the investigation of features of Neolithic and Bronze Age date, and such features were targeted for more intensive sampling, which included the excavation of features in controlled spits and the total recovery of feature backfills for sieving, to maximise the recovery of artefacts and ecofacts. All pits and post-holes were examined in half-section.

All prehistoric well-stratified and datable contexts were sampled objectively to recover charred plant remains and small bones. A minimum sample of 20 litres of soil from each context was flotted on-site during the excavation to allow the supplementary re-sampling of those contexts which contained charred plant remains on an informed but judgemental basis.

The Archaeological Sequence

Elements of five distinct phases of activity were provisionally identified during the excavation and subsequent preliminary post-excavation analysis, which provided spot-dating of the flint artefacts and pottery. This provisional sequence of activity is defined as follows:
Phase 1: Late Neolithic and Early Bronze Age
Phase 2: Early Middle Iron Age
Phase 3: Later Middle Iron Age
Phase 4: Late Iron Age
Phase 5: medieval or post-medieval.

Phase 1: Late Neolithic and Early Bronze Age (Figs. 2–4)

Late Neolithic

The earliest activity comprised three irregular clusters of features, predominantly post-holes, cut into the gravel subsoil, located in the southeast sector of the excavated area.

The southern group of features comprised three flat-based small pits, or post-holes (F342–3, F346), with near vertical sides, and measuring between 0.2–0.7 m in diameter, and between 0.1–0.3 m in depth.

The western group comprised two gulleys (F380–1), a pit (F389), measuring 0.8 m in depth, and two small pits or post-holes (F387–8). A further small pit or post-hole (F361), located 20 m south of pit F389, may be associated with this group.

The northern group of features comprised a cluster of small pits or post-holes (F325, F331, F350–3, F357), which appeared to be similar in fill and form to the southern group, except that this northern group appeared to have been more severely plough truncated; the maximum surviving depth of the latter group was 0.1 m.

The southern group of features was backfilled with a charcoal-rich dark grey sand-silt. Sherds of Peterborough Ware were found in features F342–3, while feature F346 contained Beaker fragments; all three post-holes also contained flint artifacts. No artefacts were recovered from the northern group of features, despite the extensive sieving of their backfills; accordingly this group is attributed to this phase on the basis of the recorded similarity in form and backfill material between the northern and southern feature groups, as well as by the absence of later artefacts. The western group of features was backfilled with silty dark grey-brown sand, and contained flint artefacts but no pottery.

Early Bronze Age (Figs. 2–4)

Two roughly circular features (Structures 1

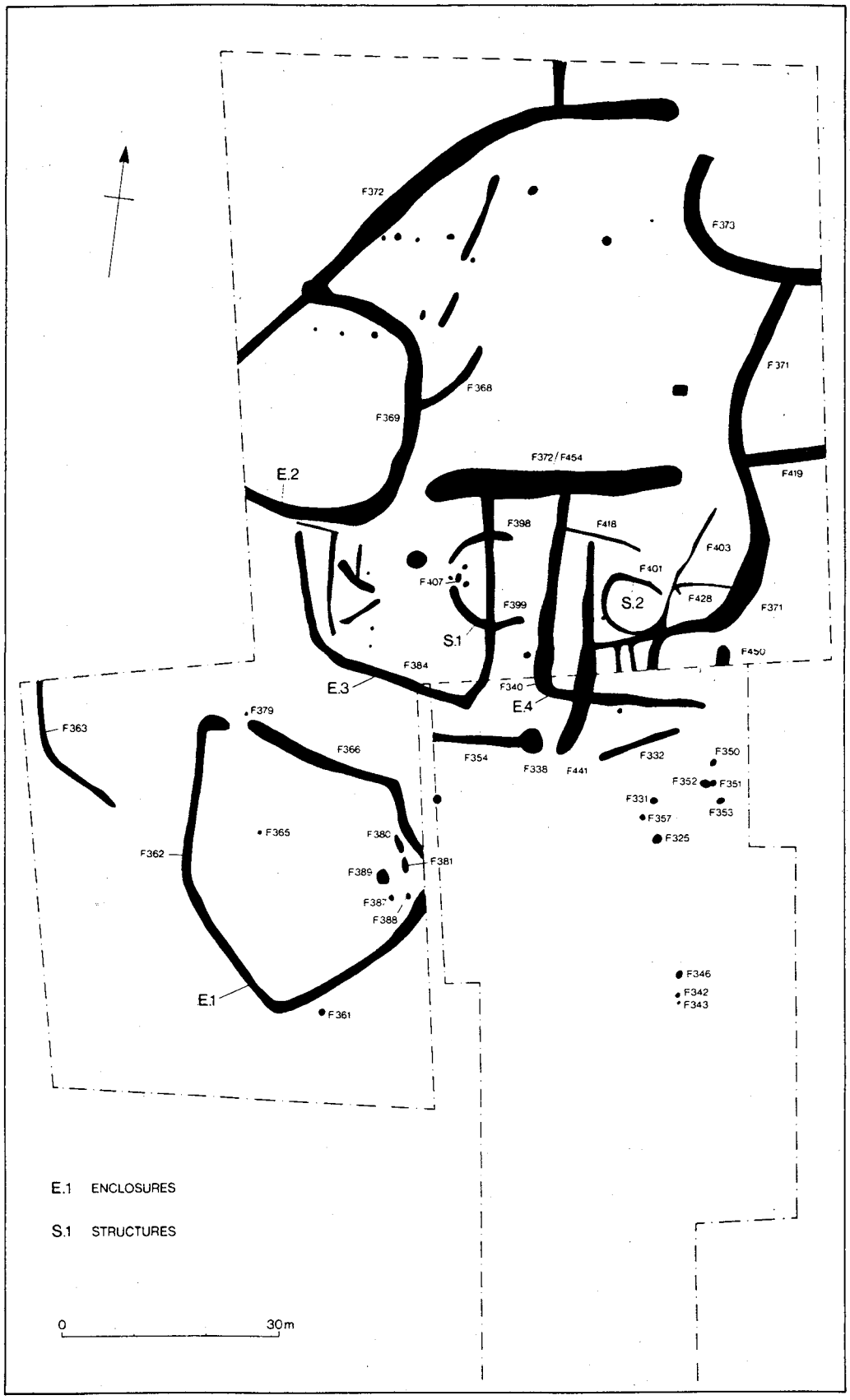

Figure 2. *Simplified plan of the main prehistoric features of all periods.*

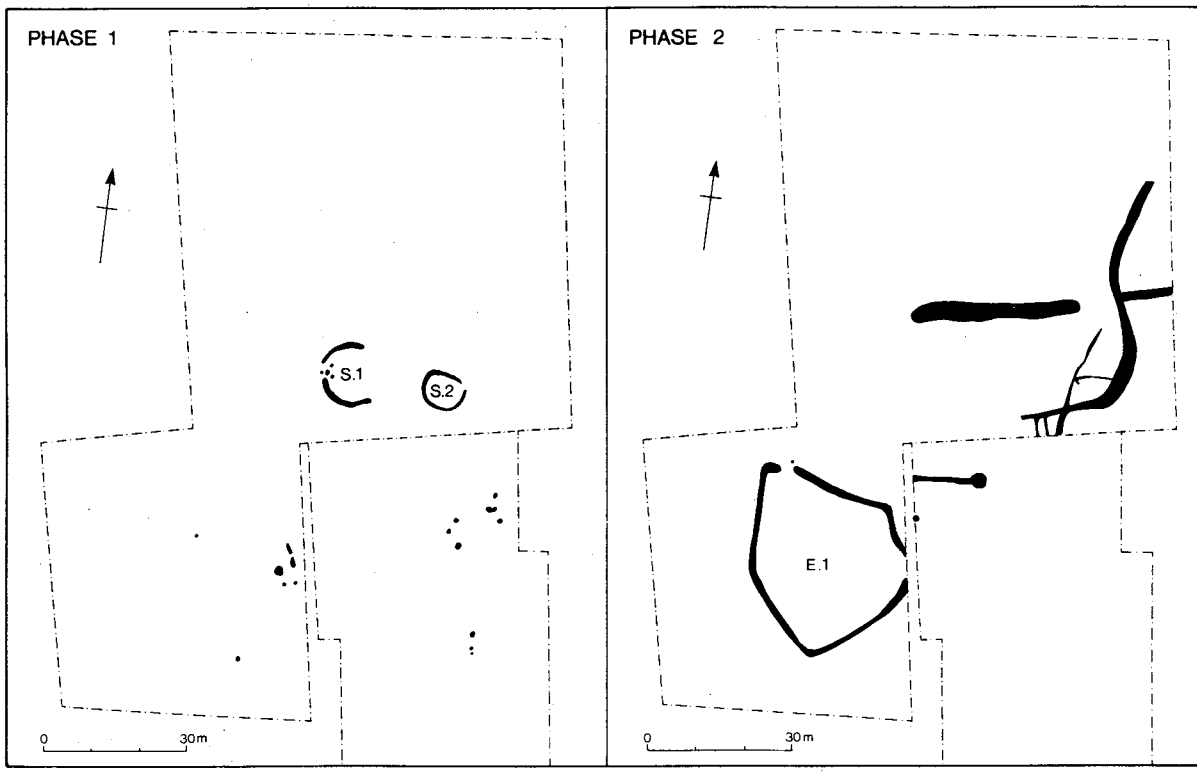

Figure 3. *Simplified plan: Phases 1–2.*

and 2) were dug into the gravel subsoil after the disuse of the Late Neolithic post-hole complexes.

Structure 1 comprised two curvilinear gulleys (F398–9), probably associated and together defining approximately two-thirds of the circumference of a circle. The northernmost gully (F398) was flat-based in profile, measuring a maximum of 0.07 m in depth and 1.1 m in width. The southernmost gully (F399) was flat-based, except towards its western terminal where it became W-shaped in profile. The latter measured 0.15 m in depth and between 1.2 m and 0.5 m in width, at its western and eastern limits respectively. Both gulleys appear to have been dug in sections, with slight changes in angle.

The western entry gap of Structure 1 measured 3 m in width, and contained four post-holes (F407, F448–50), which may have been contemporary with the structure. Post-hole F407 was dug in the centre of this entry gap, and features F449–50 were dug in line with the former and at an oblique angle to the apparent main axis of this entrance. The fourth post-hole of this group (F448) was positioned opposite post-hole F449, and 1 m to its north. These irregularly-shaped post-holes measured between 0.5–1.0 m in width and between 0.3–0.7 m in depth.

There were no other identifiable features within the interior of Structure 1, nor was there any trace identified of a gulley, or post-hole alignment between the recorded eastern termini of gulleys F398–9, despite repeated cleaning. The shallow depth of the northern gulley (F398), and the absence of a clearly defined eastern butt-end, may suggest that its eastern continuation had been scoured-out by plough truncation. In contrast, the original eastern terminal of the deeper-cut southern gulley (F399) was clearly defined at excavation.

Structure 2 (Fig. 5) was oval in plan, measuring 8 m in diameter along its longest axis, which was aligned northwest–southeast. This structure was defined by a gulley (F401) which may have been cut in sections, with slight changes of angle. This measured an average of 0.6 m in width and 0.3 m in depth.

An entry gap, 2 m wide, located on the eastern side of Structure 2, was further defined by an arrangement of post-holes, cut just inside the line of the two eastern gully terminals. These post-holes (F420–1 to the north; F422 to the south: not illustrated) may have defined the position of the timber uprights probably framing this entrance. The only other internal features identified were two stake-holes, positioned inside this entry gap

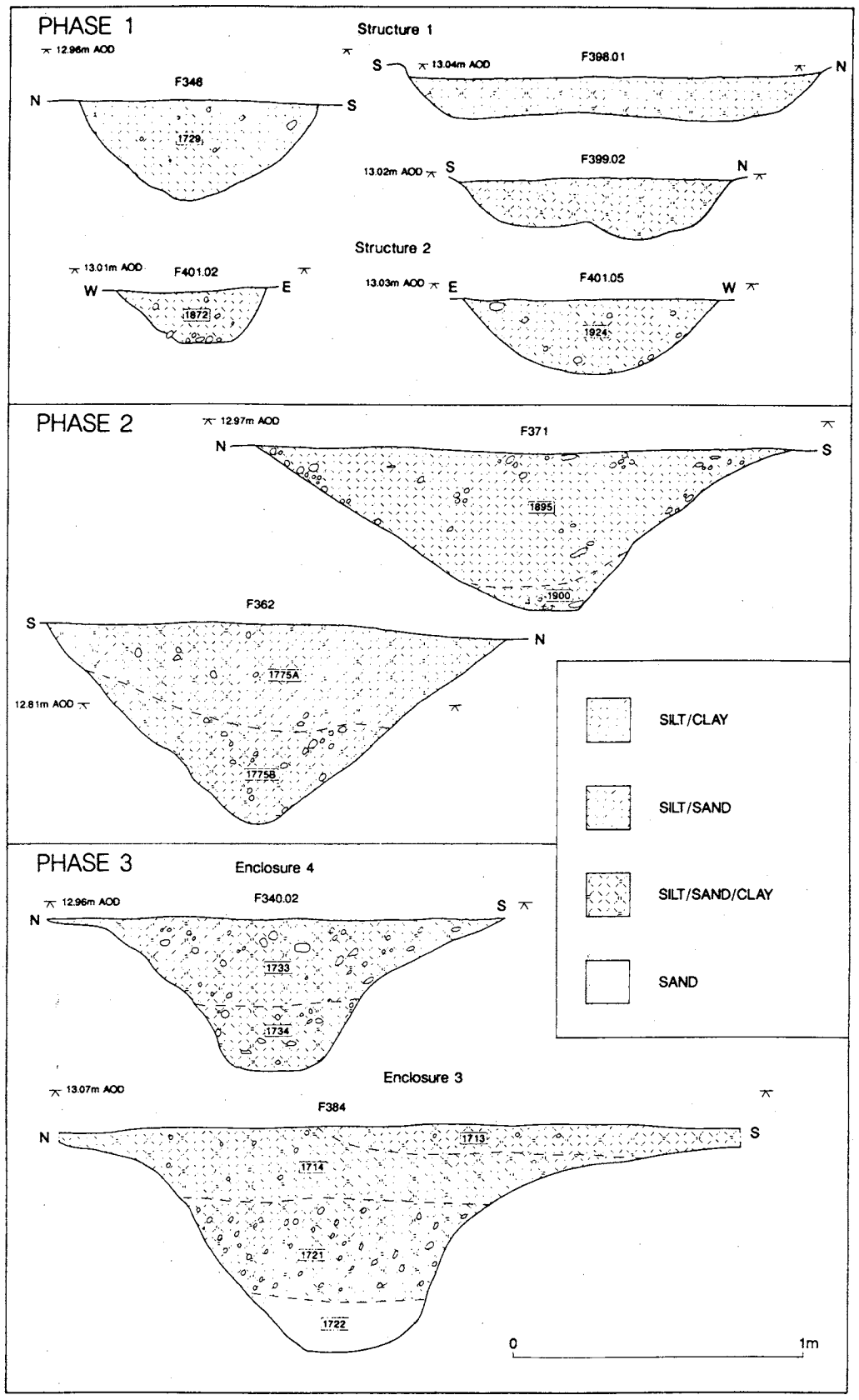

Figure 4. *Sections: Phases 1–3.*

Figure 5. *Phase 1: Structure 2, view north. (Photo: Newton)*

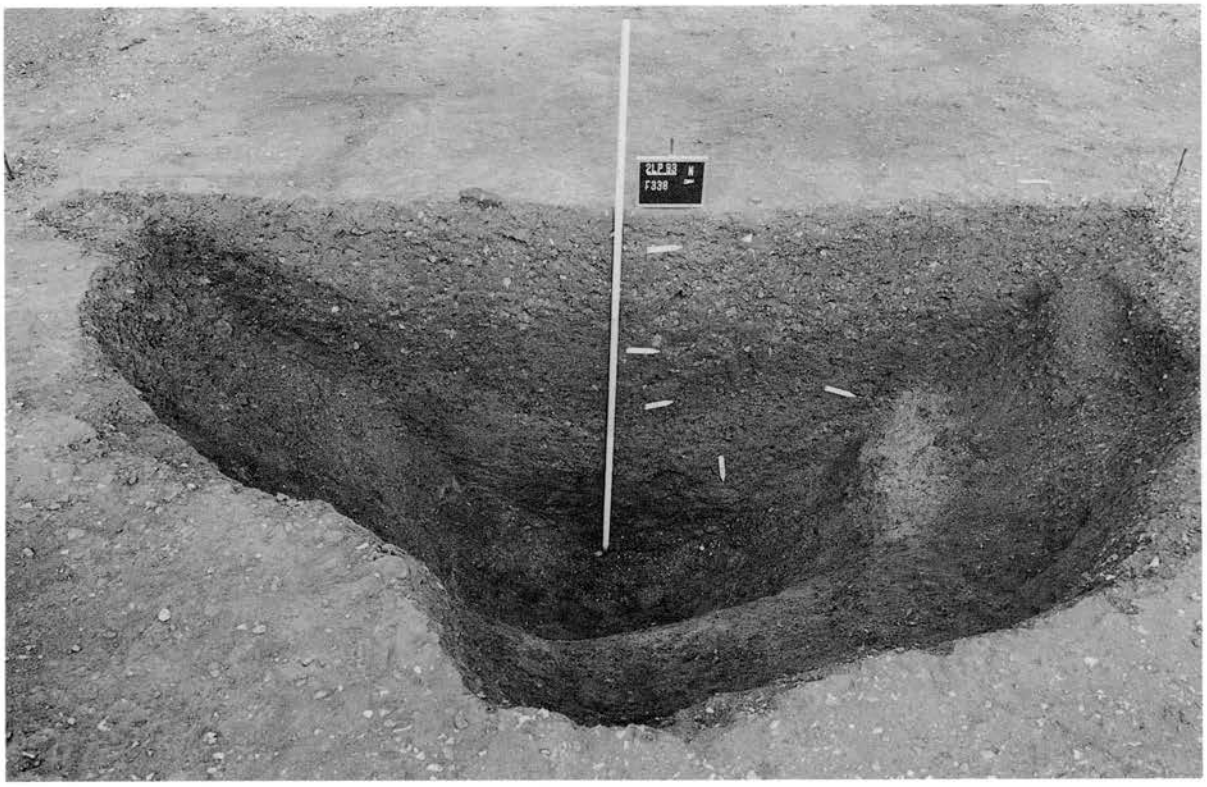

Figure 6. *Phase 2: Well F338, view west. (Photo: Newton)*

(not illustrated). Two features of natural origin were also sampled within the interior of this structure.

There was no evidence within the excavated area of a contemporary enclosure containing Structures 1 and 2.

The Structure 1 gulleys were infilled with dark brown silt-clay-sand (F398) and dark brown silt-clay-sand (F399). The fills of the Structure 2 gully (F401) were a dark yellow-brown sand-silt throughout. The pottery from Structures 1 and 2 comprised soft black laminated fabrics of Early Bronze Age type.

Phase 2: Early Middle Iron Age (Figs. 2–4)

The earliest excavated features of Iron Age date comprised an enclosure, a well, and a group of ditches located in the east of the site.

The main feature of this phase was an irregularly-shaped pentagonal ditched enclosure (Enclosure 1), first identified as a cropmark (Fig. 1C). In plan, this enclosure comprised four straight sides (F362, F366), and one curved side (F366). The depth and profile of the ditch varied, becoming generally deeper and more rounded in profile towards the changes in alignment and at the entrances. The ditch was generally U-shaped in profile, and measured a maximum of 1.6 m in width and between 0.7 m and 1.2 m in depth.

Enclosure 1 had two entrances. The northern entrance, located towards the western end of the northeast side (F366), was defined by two round-ended and slightly mis-aligned ditch terminals, positioned 2 m apart. A single post-hole (F379), dug on the outside of the eastern ditch terminal, may be the sole surviving feature of an entrance structure. Both ditch terminals of the eastern entry-gap were located to the east of the excavated area, and no trace of any entrance structures could be found within the excavated area. There was no evidence of a third entrance, in the southwest corner of the enclosure, suggested by the cropmark evidence.

A well (F338: Fig. 6) was located 20 m northeast of Enclosure 1. It was roughly circular in plan and measured a maximum of 1.5 m in depth. A shallow gully (F354), aligned west–east, was cut to the west of the well and may have been associated with its use.

The group of contemporary features in the east of the site comprised both shallow field boundary ditches, and more substantial ditched features. Some of these features were cut into the infilled gully (F401) of Structure 1. The field boundary ditches (F418, F428, F403) measured a maximum of 0.1 m in width and depth and were cut on north–south and east–west alignments. No relationships could be observed between the field boundaries at their intersections. The more substantial contemporary features of this eastern group comprised a curvilinear ditch (F371), which became slighter after turning westwards, and two ditches (F372: Fig. 7, F419) cut on east–west alignments. Other shallow, and possibly contemporary, gulleys were also cut north–south, to the south of ditch F371.

Ditch F371 cut the western terminal of feature F419. The presence of a bank constructed to the south of ditches F372 and F419 was suggested by the recorded fill sequences. Evidence of later re-cutting (Phase 3, below) was also apparent in the former feature.

The ditch fills of Enclosure 1 comprised a dark brown clay-silt-sand. The lower, silty fills of the well were sealed by layers of brown silt-sand accumulating in the feature as a result of the rapid weathering and collapse of the unstable sides of this feature. In contrast, the fills of the eastern ditch group exhibited little sign of prolonged weathering, and most appeared to have become rapidly infilled with occupation debris including charcoal, except in the length of ditch F371 cut to the north of feature F372, where a more gradual process of infilling may be suggested.

The early Middle Iron Age pottery from Phase 2 features comprised mainly simple rim forms. The occurrence of scored ware was relatively high (6% in Enclosure 1 and well F338, and 8% in Enclosure 1). The pottery fabrics from Enclosure 1 were dominated by sandy wares, but shelly wares predominated in ditch F372; shelly and sandy wares were found in approximately equal proportions in the contemporary ditch group in the east of the site.

A curvilinear ditched boundary (F372), located in the northwest of the excavated area and cut by the northern ditch terminal (F369) of Enclosure 2 (Phase 4, below), may be attributed to Phases 2 or 3, although no datable artefacts were recovered from the fills of the former feature. The apparently regular positioning of a group of post-holes to the east of ditch F372 may suggest that these defined a stockade, abutting the

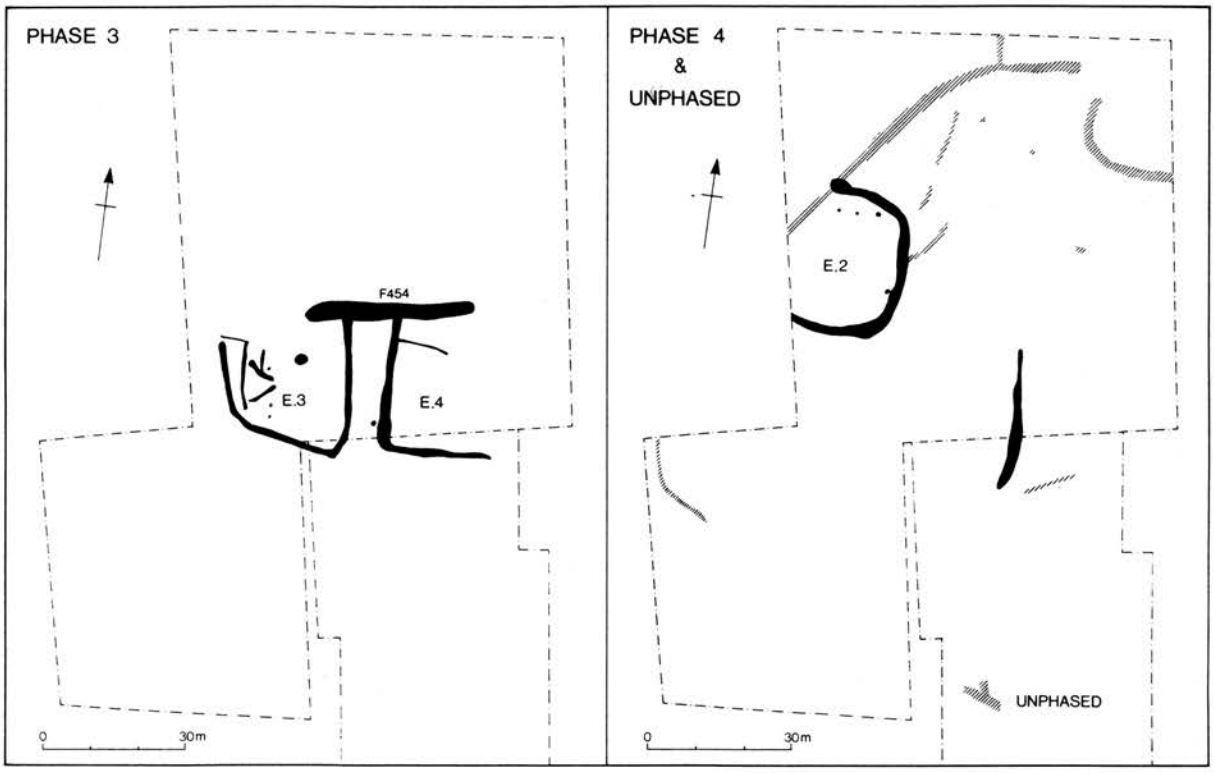

Figure 8. *Simplified plan: Phases 3; Phase 4 and unphased.*

Figure 7. *Phase 2: Ditch F372.02, view east. (Photo: Cavanagh)*

Figure 9. *Phase 3: Ditch F384.02, view east. (Photo: Roberts)*

eastern side of the ditch. The positioning of this stockade also suggests that it predated Enclosure 2.

Phase 3: Later Middle Iron Age
(Figs. 2, 4 & 8)

The abandonment and infilling of Enclosure 1 and other Phase 2 features was followed by the excavation of two adjoining ditched enclosures (Enclosures 3–4), which may have been contemporary. The defining ditches of these enclosures were cut into infilled features belonging to Phases 1 and 2.

The southern, eastern and western sides of Enclosure 3 were defined by linear ditches which curved towards the changes in alignment. The eastern end of the northern side of this enclosure was defined by a re-cut (F454) of Phase 2 ditch F372, which also continued uninterrupted to the east to form the northern boundary of Enclosure 4 (see below). The definition of the remainder of the northern side of Enclosure 3 was probably obscured by the digging of a later ditch (F369: Phase 4) on a similar alignment. The east-

ern and western ditches (F384) of Enclosure 3 were U-shaped in profile, while its southern ditch was stepped in profile (Fig. 9) measuring 0.8 m in depth and a maximum of 1.2 m in width.

Entrances were identified on the northern and western sides of this enclosure. The eastern and southern ditch terminals of these respective entrances were identified, but no trace of the remaining ditch terminals or of any contemporary entrance structures had survived the subsequent excavation of Enclosure 2 (Phase 4, below).

A number of ditches, shallow gulleys, a pit and two small hearths, backfilled with burnt clay, all dug within the interior of Enclosure 3, may have been in contemporary use.

The northern, western and southern sides of Enclosure 4 were fully defined (F454, F340), but its eastern side may have been positioned beyond the eastern limit of the excavated area. The northern side of the enclosure was formed by a re-cut (F454) of the Phase 2 ditch F372. The western and southern ditches (F340) were cut to a regular U-shaped profile and measured between 1 m–1.5 m in width and 0.8 m in depth. There was no evidence of any contemporary entrance structures or of any possibly contemporary features located within the interior of this enclosure.

The southern ditch of Enclosure 4 (F340) was cut by a Phase 4 ditch (F441). The relatively unweathered profiles of the Enclosure 3 ditches suggests that they were rapidly backfilled with dark grey-black clay-silt after abandonment. In contrast, the fill sequences in the Enclosure 4 ditches suggest a more gradual infilling process as a result of weathering with some dumping of occupation material, including quantities of daub as found in the southern ditch (F340).

The ditches of Enclosures 3 and 4 contained 127 and 94 sherds of pottery respectively. These assemblages may be dated to the later Middle Iron Age, and comprise sandy wares, with proto-bead and externally expanded rims, including only a small proportion of scored ware.

Phase 4: Later Iron Age (Figs. 2 & 8)

The final phase of Iron Age activity was represented by the excavation of a further ditched enclosure (Enclosure 2), which extended beyond the western baulk of the excavation. This enclosure was dug into a backfilled field-boundary (F371), which is unphased, but may possibly be datable to Phases 2 or 3.

The southern, eastern and northern sides of Enclosure 2 were slightly curvilinear in plan, the latter terminating in an enlarged round-ended terminal, defining the eastern side of a northern entry gap. The alignment of the presumed continuation of this northern side, to the west of the entrance, was obscured by post-medieval disturbances (not illustrated). The enclosure ditch was cut to a V-profile, and measured an average of 1.5 m in width and 1.0 m in depth. The sequence of fills suggested the ditch was originally complemented on its eastern side by an inner bank which later weathered into the ditch.

There were no traces of any contemporary internal features within this enclosure.

Ditch F441, cut on a north–south alignment for a length of 30 m and truncating the southern ditch of Enclosure 3 (F340), may have been contemporary in use with Enclosure 2. No features associated with ditch F441, which lies to the southeast of Enclosure 2, could be noted.

The fills of ditch F369 of Enclosure 2 comprised a dark grey-brown silt-sand-clay, which contained a quantity of charcoal and burnt clay. The pottery assemblage (274 sherds), included ribbed and corrugated fine-ware bowls, with a large proportion in sandy fabrics.

Other Prehistoric Features (Figs. 2 & 8)

Other features, including ditches and postholes, mainly located in the north of the excavated area and a field boundary to the west of Enclosure 1, could not be related to this phased sequence, either stratigraphically or artefactually, but these features may also be prehistoric in date.

Phase 5: Medieval or Post-medieval Features

Traces of ridge-and-furrow cultivation, and disturbances caused by late post-medieval rubbish-pits, were also recorded (not illustrated).

The Finds

The Flint
By L. Bevan

The flint assemblage comprises a total of 15 artefacts and 60 flakes, the majority of which came either singly or in very small groups from Phase 1–4 contexts and the ploughsoil. The raw material used probably originated from on-site gravel deposits, since some items have retained traces of pebble cortex. The flint is of a generally high quality, translucent beige and opaque light to dark grey in colour.

With the exception of a later Mesolithic opposed platform core and a possibly contemporary end scraper, the majority of chronologically diagnostic tools date to the Neolithic period, including a sickle fragment, an axe butt fragment (both unfinished), and four blades. Three of the blades derived from a Phase 1 post-hole (F346), which also contained Neolithic pottery, together with ten flakes, a water-rolled core and a notched flake. Another Phase 1 post-hole (F342) contained both Neolithic pottery and five flint flakes, one of the latter being a large irregularly-shaped flake with traces of retouching. Much of the Neolithic flint, originally light grey in colour, was patinated and iron-stained. A fourth blade was the sole find from post-hole F361, where it had been placed at the base of the cut. This blade was also patinated and iron-stained and may have had a Neolithic origin.

The Prehistoric Pottery
By A. Woodward

The excavations produced a total of 1382 sherds, of which 72 were Neolithic or Bronze Age, 1297 were of Iron Age date and 13 were Roman or later. For the purposes of this report a preliminary survey was undertaken to identify the main diagnostic sherds (rims, bases and decorated wall sherds). The distribution of the major fabric types amongst the main enclosure assemblages was also assessed. The main aim was to establish any chronological or other differences between the ceramic assemblages derived from the various enclosures and context groups defined during excavation.

The Neolithic assemblage derived from a group of large post-holes located in the south-east of the excavated area: F342, F343 and F346. A minimum number of six Peterborough Ware vessels and three beakers could be identified, the Peterborough Ware including vessels of both Mortlake and Fengate styles. The pottery dates from the late Neolithic period.

Structure 1 was cut by Enclosure 3 (Phase 3), and Structure 2 was cut by Phase 2 ditches. These structures contained relatively little pottery (totals of 38 and 23 sherds respectively). Both ditches produced some sherds in soft black laminated fabrics with buff or grey surfaces, which are of Early Bronze Age type. In addition, one of these sherds from Structure 1 was decorated with an incised lattice motif, and one from Structure 2 bore a horizontal groove. The lattice-decorated piece may possibly have derived from a small Collared Urn. It should be emphasised that some intrusive Middle Iron Age pottery was also present in the fills of both Structures 1 and 2.

Most of the pottery was of Iron Age date. Forms of Early Iron Age type, such as those so well represented at Fengate, were totally absent, and the assemblages are of Middle and Late Iron Age date only. A large proportion (64%) of the Iron Age pottery was found within the various enclosure ditches. It was distributed as follows.

Enclosure	No. of sherds
1	141
2	274
3	127
4	94
Ditch F372	196

Most of the pottery was undecorated and the variation in form was not great. The main rim profiles noted were simple or slightly everted, although flattened rims, externally expanded examples and more developed proto-bead rims were also present. Base angles were simple or protruding, both types occurring throughout the assemblages. Decoration fell into three groups; finger impressed or incised decoration on the top and outer edge of the rim, rough scoring of the body, and finally, cordon or corrugated treatment of the upper body wall. No incised geometric or stamped motifs are present, and the scored surface treatment only occurs at low levels (a maximum of 11% occurrence by sherd count in the Phase 2 ditch group in the east of the excavated area).

The spatial distribution of these formal characteristics has allowed the formulation

of a phasing for the main enclosures and context groups on the site. Only one enclosure assemblage included the ribbed and corrugated fine-ware bowls, and Enclosure 2 may therefore be regarded as Late Iron Age. This assemblage also produced most of the proto-bead and externally expanded rim forms, and a low percentage (2.5% by sherd count) of scored ware. The other enclosures whose ditch fillings produced proto-bead and externally expanded rims were Enclosures 3 and 4. These also contained very low percentages (0–2%) of scored ware. Rims with incised nicks occurred in Enclosure 4 and also in the later Enclosure 2. Enclosures 3 and 4 are best ascribed to a late phase of the Middle Iron Age. In contrast to the assemblages described so far, that from Enclosure 1 contained the simpler rim forms only; there were no nicked rims and the occurrence of scored ware was greater (8%). A similar assemblage, with 6% scored ware and mainly simple rims, came from ditch F372, and the pottery from well F338 and gully F354 also appeared similar. This group of enclosures and contexts probably dates from the earlier Middle Iron Age. The Phase 2 well, and ditch group in the east of the excavated area were also characterised by simple rims, and 11% scored ware; these also may be regarded as relatively early.

Four main Iron Age fabric groups may be discerned: shell-tempered, sand-tempered, wares with sand and shell, and a very fine sandy ware. Apart from the incidence of fine sandy wares in the latest enclosure (Enclosure 2) no simple patterning of fabric occurrence through time can be demonstrated. Evidence from Enclosures 2, 3 and 4 might indicate that sandy wares replaced the shell-tempered fabrics as the Iron Age progressed, but the various early Middle Iron Age context groups contained large proportions of sandy (Enclosure 1) or shelly wares (F372), or an equal mixture of the two (ditches east of Enclosure 4). In the earlier Middle Iron Age (Phase 2), fabric variation seems to relate more to vessel size than to chronological period.

The Iron Age pottery from Little Paxton may be matched within other known Middle and Late Iron Age assemblages from the East Midlands. In comparison with the pottery known from Northamptonshire and Lincolnshire, the incidence of scored ware is particularly low, and the total absence of geometric or curvilinear decoration of the Dragonby or Hunsbury types is striking. It has been noted that there is a tendency for vessel size to decrease through the Middle Iron Age phase, and that decorated rims are more characteristic of the later assemblages (Elsdon 1993). Both these factors may be recognised at Little Paxton. The scored ware belongs to the Ancaster/Breedon group which originated, probably in Northamptonshire, during the fourth-century BC. Broadly similar assemblages occur at Fengate (Padholme Road and Cat's Water), and the Late Iron Age assemblage from Little Paxton Enclosure 2 also has good parallels at that site: Cat's Water Group 3 (Pryor 1984). These wheelmade assemblages were probably current from the later part of the first-century BC. Full analysis of this assemblage, and other Iron Age assemblages from subsequent excavations at Little Paxton, will provide an important contribution to our understanding of Iron Age pottery usage and production within the region.

The Animal Bone
By S. Pinter-Bellows

The faunal assemblage was briefly examined. Only three of the features associated with Phase 1 Neolithic activity (F325, F342, F346) contained any bone, and this was a very small quantity. Most of this bone was in small fragments and the majority had become calcined through burning.

Very little calcined bone was associated with the Iron Age features. The Iron Age assemblage was dominated by domestic mammal species; cattle and sheep/goat (both sheep and goat were identified as being present) were found in the largest numbers, with smaller amounts of horse and pig. None of the teeth examined came from elderly animals. There would appear to be a shortage of elements belonging to the feet from these species. As a programme of sieving was carried out it does not seem that they were missed during the excavation. It is possible that this evidence may suggest the feet were removed from animal carcasses, prior to tanning of the hides, which may have been carried out elsewhere in this settlement. Future research will attempt to clarify this intriguing possibility.

The condition of the bone was good except for the assemblage from Enclosure 1. The bones from Enclosure 1 were uniformly in very poor condition; they were eroded, exfoliating, with a consistency of rotting wood and an orange-buff colour. The bones from ditch F372 and Enclosure 3 were observed

to have more signs of dog gnawing than those from other areas. Several single dog bones were found and one almost complete skeleton (F340). There is no reason at this time to place any special significance on this skeleton (Wilson 1992). The only other articulated bones observed was a partial vertebra column with ribs from a late adolescent horse (F369). One feature (F383) contained a Red deer bone and antler fragments.

From this brief examination, there appear to be more horse bones associated with this Iron Age settlement than were found in the Romano-British settlement complex previously excavated. The converse was observed regarding dog bones, and at least two of the Romano-British dogs were of a larger size. A few sheep/goat jaws from the Romano-British features were in heavy enough wear to be regarded as elderly while none of this age were recovered from Iron Age contexts.

The Environment
By R. Roseff

A total of 103 contexts was sampled for charred plant remains, involving the processing of 231 soil samples, each of 10 litres. The samples were disaggregated in water and poured through a 300 micron sieve. The remainder was water-sieved through a 2 mm mesh and sorted by eye for small bones and artefacts.

Preliminary analysis suggests a minimum total of 22 charred cereal grains were recovered. These were evenly distributed in features across the site, there being no pattern or concentration by feature or period, although no grains were recovered from the Phase 2 features. The concentration of charred cereal grain was not high, as is suggested by the recovery of a total of 5 charred seeds from the Phase 2 ditch F372, derived from 50 samples, each of 10 litres. Many chance factors lead to the deposition, preservation and recovery of charred plant remains on archaeological sites, and large quantities of charred plant remains would not necessarily be expected. Iron Age sites in particular rarely yield large assemblages of charred remains. The assemblage from this phase of excavations does, however, suggest that some grain processing was ongoing during Phases 3–4 of site occupation. Many contexts contained the blackened and apparently charred remains of cleavers (*Galium aparine*), a very common plant of hedges, disturbed and wet ground. It grows everywhere today in the area. Modern flax seeds were also found in features at a depth of at least 1.5 m below the present-day surface. Flax was a recent crop in these fields and it is interesting to note that small seeds can be carried to such a depth by natural agencies in this comparatively short time. This would seem to be a subject for consideration by archaeobotanists concerned with taphonomic processes leading to the formation of archaeological plant assemblages. It is also possible that the cleaver seeds were modern (Gregory 1993), and this could be established by laboratory analysis.

The soil texture and colour from a section cut through the Phase 2 ditch F372 indicated that there was a possible turf line at about 12.39 m OD, about 1 m below the present-day surface. Analysis of micromorphological samples and particle size samples taken from the relevant layers should indicate if this was the case. In-field interpretation of the whole section suggests that the lower part of the ditch infilled quickly followed by a period of slower infilling and a stable time (represented by a possible turf line). At this time the ditch would have been quite a substantial feature in the landscape. The uppermost surface layers subsequently slowly infilled.

Waterlogged deposits were generally not present, due to the slightly higher elevation of this southwestern cropmark complex in relation to the Romano-British settlement, and the shallower depth of the features at the former site. Pollen samples were taken, though the results from these are likely to be poor.

Discussion

Introduction

Area excavation has transformed our understanding of this cropmark complex. In addition to the cropmark enclosure (Enclosure 1), three further ditched enclosures (Enclosures 2–4) have been successfully identified and excavated. These latter were partly represented by the indistinct curvilinear cropmarks to the north of Enclosure 1 (Fig. 1C). Smaller features, such as pits and postholes, have also been located and sampled. Of particular importance is the definition of early settlement and activity here in the Neolithic and Bronze Age periods, and the preliminary definition of four main periods

of activity, based on the recorded stratigraphy and the datable artefacts.

Test-pitting established that the survival of artefacts within the ploughsoil was very limited, possibly due to the consistency of the main Iron Age fabrics here present. The archaeological deposits in this zone of activity were confined to the fillings of cut features dug into the subsoil. Extensive ploughing from the medieval period onwards may have eradicated all trace of any positive features here, and, additionally, shallower pits and post-holes may also have been scoured-out, as was suggested during the excavation of the Romano-British settlement to the east.

Phase 1: Neolithic and Bronze Age

The recovery of a few stray flint artefacts of Mesolithic date could suggest an early date for sporadic activity in the vicinity. It is hoped that future work in the quarry will elucidate the extent and nature of this early exploitation of the river terrace gravels.

The discrete clusters of Late Neolithic small pits or post-holes and other possibly contemporary features are difficult to interpret in the absence of clearly identifiable structures. It is perhaps possible that at least some of the features forming the northern feature group could represent the remains of a severely truncated pit-circle, measuring approximately 7 m across (e.g. Maxey 1967, sites IIIA/B; Simpson 1985). Alternatively the Neolithic features may not have formed part of a large and coherent structure. A large post-setting, identified during the excavation of a ring-ditch at Diddington (Evans n.d.), was identified by the excavator as a 'totem' pole, associated with cremation pits. Although none of the Neolithic post-holes excavated in this southwestern area appears to have been burnt *in situ*, burnt bone was present in three features belonging to this phase (F342–3, F346).

The apparently deliberate placing of flint artefacts in the base of some of these post-holes also suggests their function may not have been solely structural. Richards & Thomas (1984) have noted that 'the performance of ritual involves formalised repetitive actions which may be detected archaeologically through a highly structured mode of deposition'. This deliberate placing of artefacts in post-holes is also recorded in features of Late Neolithic date at Hunstanton, Norfolk (Healy *et al.* 1993), and at Barholm, Lincolnshire (Simpson 1993).

Evidence of widespread Bronze Age activity on the first and second gravel terraces is provided by the recorded cropmarks of ring-ditches (Field 1974), which have also been similarly identified within the north-east sector of the present quarry concession (Fig. 1C). The size and form of Structure 1 could suggest its interpretation as the quarry ditch of a small barrow, albeit heavily truncated. Its excavation in straight sections, with slight changes in angle is a typical attribute of barrow quarry ditches. The absence of central or satellite burials could result from extreme plough truncation which would also have removed the central mound.

The apparent positioning of a post-hole group within the western entry gap of Structure 1 may argue that the post-hole group defined an entrance structure in contemporary use with Structure 1. If the post-hole group was associated with Structure 1, the latter may have formed an eavesdrip gully encircling a central hut-circle. The bounds of such a hut structure could have been defined by a ring of post-holes, with the deeper-cut post-holes at the entranceway the only features to survive plough truncation.

The evidence suggests some degree of spatial continuity in the Late Neolithic/ Early Bronze Age activity in this zone, while the later re-occupation of the site in the Middle Iron Age may suggest this location was favoured because of its topography.

Phases 2–4: Iron Age Chronology

Present dating evidence suggests a hiatus in activity here between the Late Bronze Age and Middle Iron Age. It is tempting to suggest that this abandonment may have been influenced by a deteriorating climate, and in particular, by increased rainfall which may have caused the periodic flooding of this settlement zone. The stream (Fig. 1C) identified during the earlier investigations of the Romano-British settlement may have been in existence during the settlement of this southwestern zone.

Preliminary analysis of the pottery assemblage suggests the re-settlement of the area occurred in the early Middle Iron Age and continued through the Middle and Late Iron Age. The relative absence of Roman pottery suggests the end of settlement or activity in this zone may be dated no later than the mid-first century AD.

It is possible to distinguish three distinct phases of Iron Age activity, but the present

dating evidence does not indicate if site occupation in each phase was more or less continuous with preceding or succeeding activity, or was relatively short-lived.

However, the dating evidence does highlight significant changes in the settlement pattern which occurred during Iron Age occupation and activity here.

Iron Age Settlement and Economy

Although the individual phases of Iron Age occupation are characterised by marked changes in structural arrangements, an apparent element of continuity is provided by their location (with the possible exception of Enclosure 1), within an area which appears to be fairly closely-defined.

The earliest Iron Age activity (early Middle Iron Age: Phase 2) was focused on Enclosure 1, and the area to the east of the enclosure. Evidence of any contemporary structures within Enclosure 1 may have been scoured-out by plough truncation. The remaining features of this phase comprised a well, a deeply-cut, 'ranch-type' boundary and other possibly associated ditches located in the east of the excavated area. The distribution of the pottery finds within the infilled ditches suggests a focus of activity sited to the north and east of Enclosure 1; the ditch fills in these areas also contained large quantities of charcoal and other occupation debris.

Although the re-cutting of ditch F372 in Phase 3 (Later Middle Iron Age) provides a degree of continuity with the arrangements of the preceding phase, the Phase 3 occupation was otherwise characterised by the excavation of two new and adjoining enclosures (Enclosures 3 & 4). The former contained traces of internal structures, including gullies, post-holes and hearths backfilled with red clay. In contrast, the interior of Enclosure 4 was devoid of features. Enclosures 3 and 4 may have been in contemporary use.

The final phase (Phase 4) of Iron Age occupation was also marked by a change in structural arrangements, although Enclosure 2 encroached slightly within the area of Enclosure 3 (Phase 3). Enclosure 2 was also devoid of internal structures, possibly as a result of plough truncation.

The plant remains recovered suggest crop processing occurred on site during Phases 3–4, such remains being absent from Phase 2 features. The bone assemblage suggests cattle, sheep and goats predominated among the domesticated animals, although dog, pig and horse bone were also identified.

Conclusion (Fig. 1C)

The excavated evidence from this southwestern multi-phase settlement complex may usefully be compared with the data from the other major prehistoric settlement complexes located within the quarry concession, although the data from these latter are presently confined to the results of evaluation.

The northeastern and southwestern Iron Age cropmark complexes alike have provided evidence for Bronze Age activity, which has also been tentatively identified in a third area to the north of the Romano-British settlement.

The dating evidence obtained at evaluation suggests the northeastern settlement complex was occupied from the Early Iron Age, pre-dating the earliest recorded Iron Age occupation of the southwestern focus. Continued settlement is recorded in both zones during the Middle and Late Iron Age, and both settlements appear to have been abandoned no later than the middle of the first century AD. Neither settlement has provided strong evidence for later Roman re-settlement of the Iron Age occupation zones within the present quarry concession. This apparent break in Iron Age/Roman continuity of settlement is further emphasised by the comparatively late date of Roman re-occupation here, in the late second to early third centuries AD.

Other apparent differences between the northeastern and southwestern settlements are manifested in their extent, complexity, and the wealth of their respective material culture. The southwestern zone appears to form a compact focus with little evidence obtained for outlying associated features such as droveways and field systems. The northeastern focus is more extensive, and is perhaps characterised by an extended range of settlement forms which on present evidence include ditched enclosures, field-systems and droveways. The material culture of the latter zone, from which quality imported pottery vessels have been recovered, suggests a status beyond that of a mere farming settlement or community. The existence of two such complex Iron Age settlement zones will provide an important opportunity for the later comparative analysis of settlement forms, material culture and economy, set within a broader multi-period landscape study.

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References

ELSDON, S.M. 1993. Iron Age Pottery in the East Midlands: A Handbook. Unpublished, Department of Classics and Archaeology, University of Nottingham.

EVANS, C. n.d. The Excavation of a Major Ringditch Complex at Diddington, near Huntingdon. Unpublished manuscript.

FIELD, K. 1974. Ring ditches of the Upper and Middle Ouse Valley, *Archaeological Journal* 131: 58–74.

GREGORY, T. 1993. *Excavations at Fison Way, Thetford.* (East Anglian Archaeology 53.)

HEALY, F., R. Bradley & D. Gurney. 1993. Excavations on Redgate Hill, Hunstanton, Norfolk 1970–1, in Healy, F. *et al.* (ed.), *Excavations on Redgate Hill . . . and at Tattersall Thorpe, Lincolnshire.* (East Anglian Archaeology 57.)

JONES, A.E. 1992. Little Paxton Quarry, Diddington, Cambridgeshire, Phase 2 Archaeological Assessment. (BUFAU Report 223.) Unpublished report.

JONES, A.E. & I.M. FERRIS. 1994. Archaeological excavations at Little Paxton, Diddington, Cambridgeshire, 1992–3: First interim report, the Romano-British period, *Proceedings of the Cambridge Antiquarian Society* LXXXII, 55–66.

PRYOR, F.M.M. 1984. *Excavations at Fengate, Peterborough, England.* (Northants. Archaeological Society Monograph 2; Royal Ontario Museum Arch. Monograph 7.)

RICHARDS, C. & J. THOMAS. 1984. Ritual activity and structure deposition in later Neolithic Wessex, in Bradley, R. & J. Gardiner (ed.), *Neolithic Studies: A Review of some Current Research*: 177–88. (British Archaeological Reports British Series 133.) Oxford: BAR.

ROGERSON, R.J. 1986. The Fens of the River Great Ouse. Unpublished Ph.D thesis, University of London.

SIMPSON, W.G. 1985. The excavations at Maxey, Bardyke Field, 1962–3, in Pryor, F. *et al.* (ed.), *The Fenland Project* No. 1: *Archaeology and Environment in the Lower Welland Valley*, vol. 2. (East Anglian Archaeology.)

SIMPSON, W.G. 1993. The excavation of a late Neolithic settlement at Barholm, Lincolnshire, in Simpson, W.G. *et al.* (ed.), *The Fenland Project No. 7: Excavations in Peterborough and the Lower Welland Valley 1960–69.* (East Anglian Archaeology 62.)

WILSON, B. 1992. Considerations for the identification of ritual deposits of animal bone in Iron Age pits, *International Journal of Osteoarchaeology* 2: 341–51.

A Late Iron Age/Romano-British Settlement at Madingley, Cambridgeshire

J.B. Tipper[1]

Introduction

Between June and September 1992, archaeological monitoring along the Coton to Longstanton trunk main pipeline discovered a Late Iron Age/Romano-British settlement *c.* 3.5 km west of Cambridge and *c.* 1 km east of Madingley village (Figs. 1 & 2a).[2]

Using a combination of data from field walking, limited excavation along the pipeline easement and geophysical survey, an attempt has been made to define the extent and type of site, the date of occupation, and its location in the landscape.

Location: Topography and Geology

The site is situated on the brow of a low hill, TL4013/5987, *c.* 40–50 m a.s.l., with the land falling away abruptly to the north. It may best be described as a gently rolling landscape. A clunch pit for building stone immediately to the northeast (the earliest known reference dating to 1811) probably destroyed some of the site.[3] Finds of Roman pottery and a coin of Tetricus I are recorded from its edge.[4]

The site is located on the very edge of the heavy western clayland of Cambridgeshire. The local geology consists of boulder clay over chalk marl (Fig. 2b). Gleyed brown calcareous soil overlies this to the south and west of the site. Chalk marl, below the boulder clay, forms a sharp change in the angle of slope immediately to the north of the site. This is probably a naturally formed terrace, the chalk marl being eroded more quickly than the overlying boulder clay. To the north and east, below Cambridge Road, the local geology is made up of surface-water gley soil overlying Cretaceous gault clays.

Drainage ditches may have been dug during the Late Iron Age. This would have been a necessity for farming on low lying clayland. Even today, while there are frequent drainage ditches, the land below Cambridge Road becomes waterlogged and floods during the winter, resulting in areas without crop growth. This was almost certainly an important factor for the siting of the settlement on the brow of a hill.

Fieldwork: Methods of Study

Field walking was undertaken in 1992 by Cambridgeshire Archaeology along the pipeline easement before topsoil stripping in order to define the extent of activity. The site was brought to the author's notice by Mr Henry Hurst, who walked the stripped easement after the excavations had taken place. Further survey was carried out below the brow of the hill at TL403-/600- in an attempt to clarify occupation, which was suggested by Late Roman sherds scattered along the easement (Long 1993b).

Limited excavation by Cambridgeshire Archaeology on the brow of the hill uncovered features along a 60 m stretch of the easement, consisting of ditches, post-holes and pits with associated pottery dating to the Late Iron Age/Early Romano-British period (Welsh 1992). No relationships could be established between the larger ditches and therefore the chronology of occupation is in doubt, as is the extent of the possible settlement.

The features uncovered by excavation do

Proceedings of the Cambridge Antiquarian Society LXXXIII pp. 23–30.

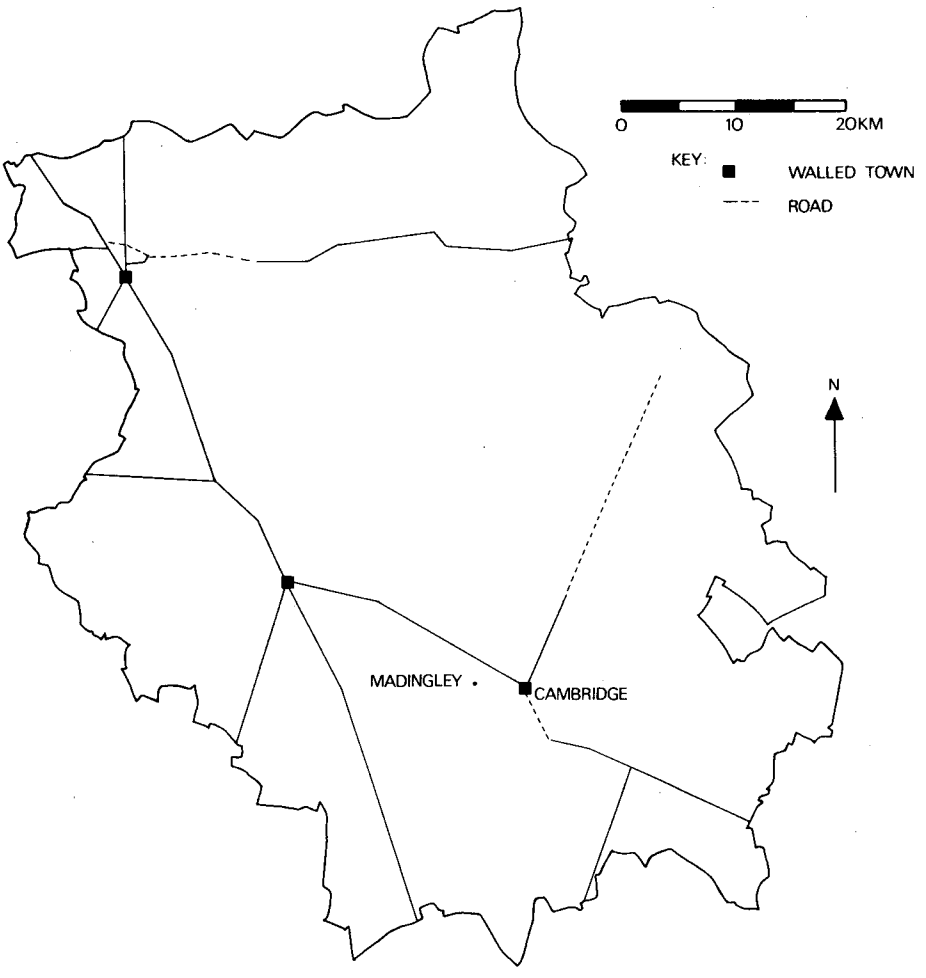


Figure 1. *Site location: immediate context of settlement, combining data from field walking, excavation and geophysical survey. Contours enlarged from OS 1:10,000 according to OS conventions.*

not show as crop marks on aerial photographs probably because they have been masked by ridge-and-furrow known from cropmarks at TL402-/599-, running in a north-south direction.[5]

In order to further define the size and complexity of the settlement, a magnetometer survey was undertaken in February 1993, using a Geoscan fluxgate gradiometer. The field on which the site is located was fallow land at the time of the survey and was last ploughed in October 1991, offering little interference from furrow marks. A 40 m by 40 m survey grid was set out (four 20 m by 10 m quadrants) adjacent to the excavations.[6]

Date, Type and Spatial Extent of Occupation

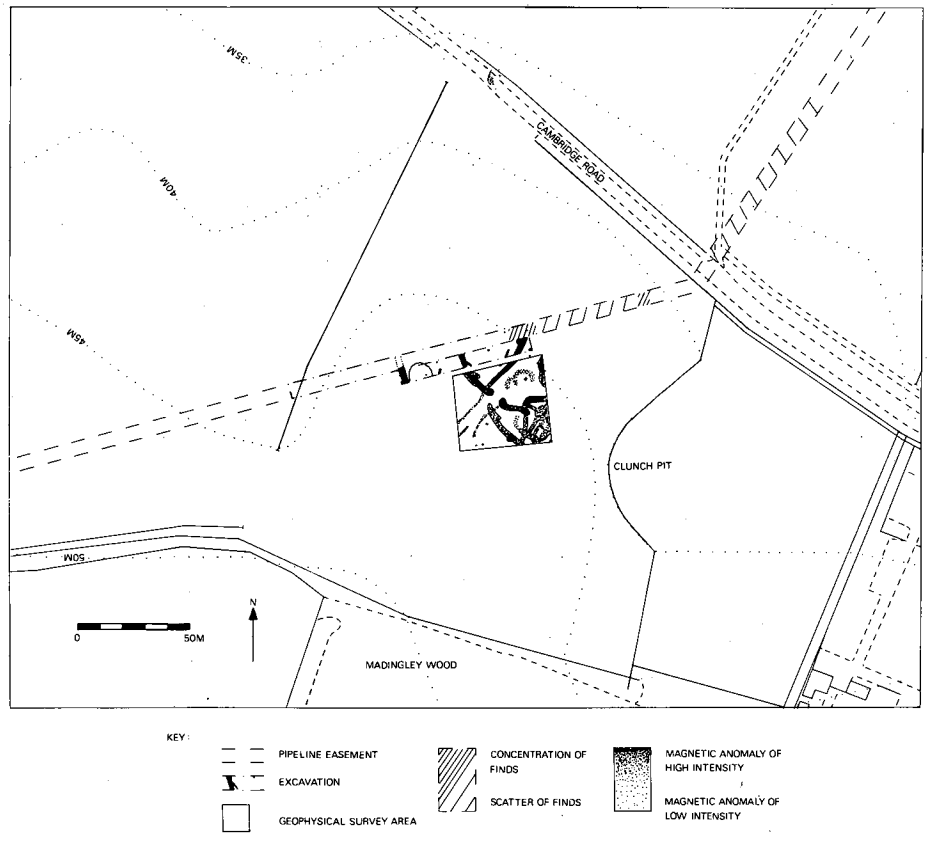
A multi-phase site is known. Geophysical survey and excavation have defined a large and complex arrangement of enclosure ditches, gullies, pits and post-holes (Figs. 3 & 4).[7] At least two ditched enclosures are known, one with a clear entrance.

The centre of activity, apparently to the south of the easement, is indicated by the high intensity of activity on the geophysical survey but this has not been examined by excavation. The diagnostic material from the 1992 fieldwork consists of a small collection of pottery, a fragment of flue-tile and a single coin.

The earliest evidence of occupation consists of imprecisely dated Late Iron Age/Early Romano-British pottery found in the excavated features on the brow of the hill. The lower fill of ditch F12, containing several sherds of Late Iron Age/Iron Age tradition, represents the earliest evidence of occupation (Welsh 1992).

The upper fill of ditch F12, which is almost certainly a recut of the earlier phase, contained body sherds from three vessels: carinated, medium-mouthed jars, in coarse grey ware. Decoration in the form of oblique lines occurs on the shoulder of all three.

A



B

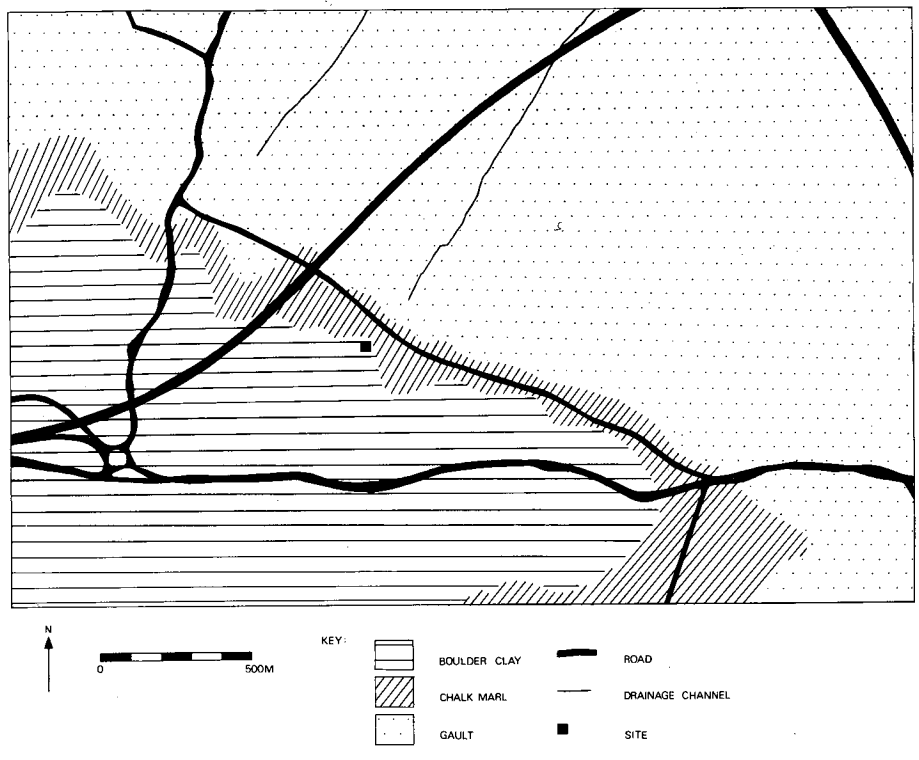


Figure 2. *A) Location: relationship with the road network; B) geology of Madingley. Relationship of site to modern roads and drainage channels.*

The distinctive style, part of a strong East Anglian tradition, has enabled dating to the middle of the second century AD (Long 1993a). The closest parallels, from Arbury Road, Cambridge (Frend 1955), suggests that they were produced at Horningsea, 8 km north-east of Cambridge (Hughes 1904).

Ditch F12 appears to mark the western extent of occupation and may have formed an outer boundary ditch enclosing the settlement. This limit to activity is indicated by a decrease in the intensity of magnetic activity towards the western edge of the survey area (Fig. 4). It is possible that ditch F12 could form a double ditched enclosure with F19, which appears to be on a similar alignment. However, the ditches had different shaped profiles, ditch F12 has a shallow U-shape (but this could be a consequence of recutting) while F19 is V-shaped (Welsh 1992), and they could easily represent different phases of activity. A circular structure, F33, lay outside both enclosures defined by the magnetometer survey but inside the outer enclosure ditch F12 and may be associated with this outer ditch (Figs. 3 & 4, see below).

The enclosure defined by ditch F19/50 would appear to be non-rectilinear, curving NW-SE (Fig. 4a). Ditch F50 appears to turn southwards through 90°, forming a corner of the enclosure. A break of *c.* 3 m is indicative of an entrance. Associated with the entrance are the faint indications of possible ditches or gullies, F56 and F57, fanning out in a NE-SW direction from the ditch terminals of F50 for *c.* 20 m.[8] These appear to form a narrow neck-like entrance, possibly a funnel entrance arrangement for the control of stock, or they could be drainage gullies alongside a trackway. A sub-circular feature, F62, is tentatively suggested to lie within this enclosure.

A sub-rectangular enclosure is defined by ditch F26/51, which apparently cuts ditch F19/50 (Figs. 3 & 4b).[9] Enclosure ditch F51

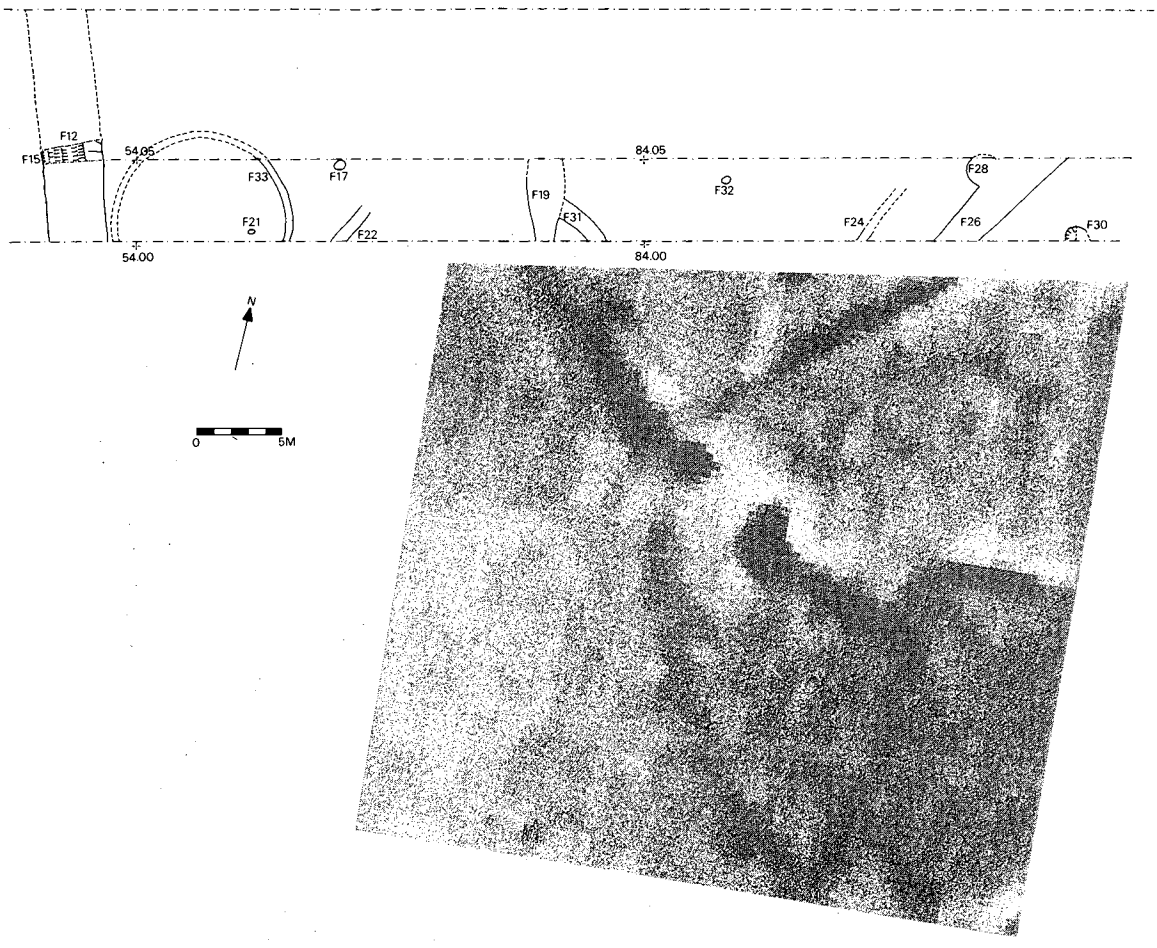


Figure 3. *Random dot density plot of magnetometer survey located with respect to the excavations.*

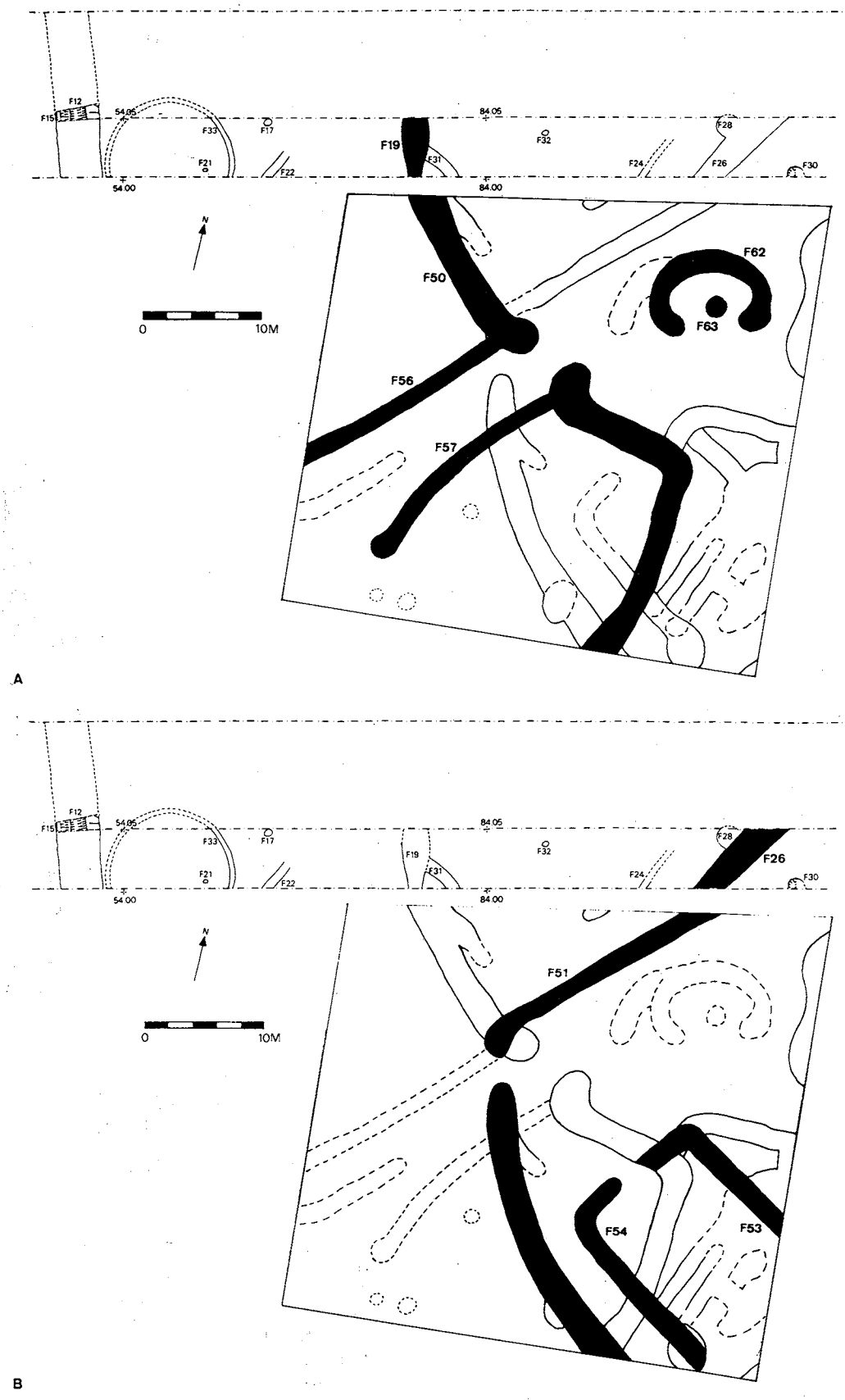


Figure 4. *Interpretative plan of excavation and geophysical survey to show the sequence of enclosures: A) Phase 1, F19/50; B) Phase 2, F26/51 .*

would appear to curve sharply southeast from northeast–southwest, but the continuity of the feature appears to be broken close to where it cuts F50. If this is an entrance, it might be tentatively suggested that this later enclosure, while being on a different orientation to F50, was also aligned on the same trackway. One might even go as far to suggest that there was a short space of time between the replacement of enclosure F19/50 with F26/51, but it would require clarification through further excavation. Unfortunately, the pottery has not been more precisely dated than Late Iron Age or Romano-British in both F19 and F26 (Welsh 1992). The later enclosure may contain a rectangular structure, defined by F53/54, running parallel to the enclosure ditch, which has been tentatively identified by geophysical survey.

As a result of field walking along the pipeline trench, two concentrations of finds probably define the centre of Romano-British occupation from north to south (Fig. 1). A southerly concentration of Roman pottery and a couple of pieces of tile were located in the immediate area of ditch F26. Accepting that this concentration is associated with the feature, it is suggested that the northern concentration, located above the sharp fall in the land to the north of the site, probably indicates the presence of another enclosure ditch delimiting the northern extent of occupation. Between these concentrations, *c.* 50–70 m apart, there was a scatter of Roman finds. Sherds of Samian pottery indicates occupation between the first and third centuries.

There was a sparsity of structural evidence, consisting of a few pieces of roof tile, a single piece of reddish coloured flue-tile and possibly some imported stone. No stone foundations have been found. There is no trace of wall plaster. Nevertheless, the fragment of relief-patterned flue-tile, 75 × 62 × 72 mm, does have mortar adhering to the relief which is suggestive of a stone building, normally indicative of a villa. This fragment has been dated to the late second century.[10] Unfortunately, the flue-tile was found on the pipeline spoil heap while field walking. There is little to indicate the structure from which it was a part but this could possibly lie beyond the area surveyed by magnetometer.

The material recovered suggests that a Late Iron Age/Early Romano-British farmstead was Romanised, possibly even transformed into a small villa. This is very speculative and dating remains uncertain.[11] However, it is very difficult to say more without further geophysical survey or, in particular, further excavation.

A coin of Postumus (259–268), found during field-walking of the pipeline with the northern concentration of pottery, together with a coin of Tetricus I (270–273), recorded in the SMR as being found on the edge of the clunch pit along with Roman pottery, are strong evidence of third-century occupation on the brow of the hill.[12]

Evidence for occupation during the later third and fourth centuries is suggested by a small quantity of colour-coated ware recovered during field walking. This is significant as it was found below Cambridge Road, up to 50 m to the north of the limit of the earlier evidence, which is suggestive of a shift in occupation from the brow of the hill in the Late Iron Age/Early Romano-British period to the lower ground in the later period.[13] This indicates that by the early fourth century the low lying ground had been satisfactorily drained for settlement. Sufficient material has been recovered to suggest that this occurred without any significant breaks in occupation of the site. Alternatively, the distribution of late Roman pottery below the hill could easily relate to the manuring of plots for arable cultivation. Further field survey to the north of Cambridge Road proved inconclusive (Long 1993).

Relationship to Other Sites

The Madingley site was located *c.* 2.2 km from the Cambridge to Godmanchester Road, *c.* 3.5 km from the Cambridge to Arrington Bridge road and *c.* 4.25 km from Cambridge (Fig. 2a). A possible road, mentioned by Browne, has been suggested to connect Cambridge with the Ermine Street at Caxton Gibbet.[14] If this could be proven, it would pass within 400 m of Madingley, offering direct access into Cambridge. In any case, the landscape is likely to have been criss-crossed with a network of trackways and droveways.

Cambridge was a Belgic settlement, founded in the first century BC. It is suggested that the Madingley site was possibly of a similar date, or soon after. Early Roman Cambridge was probably connected with a garrison but by the end of the first century AD the military site had become a market and administrative centre (Browne 1978). The small town would have acted as a focus for the surrounding area, providing specialized

goods and services. This may have allowed rural sites to flourish.

The eastern part of the Catuvellaunian canton was apparently sparsely occupied by villas and the Madingley site was not located in an area of great wealth. Nevertheless, to the south and west of Cambridge, villas were an important element along the upper Cam and its tributaries.

The picture of villas in the near vicinity is probably incomplete. The nearest evidence of a villa is at Girton, *c.* 2.5–3 km northeast of Madingley (Fox 1923). Other villa sites, all *c.* 5 km away, are known at Arbury Road and King's Hedges, northeast of Roman Cambridge, Comberton to the south and Grantchester to the southeast of Madingley.

Possible sites of the same period were researched in an attempt to fit the site into the settlement hierarchy. In Madingley village, *c.* 850 m to the northwest (context and exact location unknown), two coins of Valentinian (AD 364–75) and remains (but the SMR does not say what sort of remains) were recorded in the late nineteenth century.[15] A fragment of box flue-tile is mentioned by Browne from New Farm, Madingley, *c.* 1.75 km northwest of the site, but is not recorded in the SMR (Browne 1978: 75). Pottery has been noted in the SMR *c.* 1.9 km to the west of the site, but neither the type nor quantity. At Dry Drayton, *c.* 2.9 km to the northwest, Roman material suggests the presence of a site. At Bar Hill, *c.* 4.1 km to the northwest, a scatter of pottery dates to the fourth century. A ditch or pit with a Samian sherd near the bottom was found at High Fields, *c.* 4.9 km to the west of the site.

Unfortunately, this list of sites in the SMR is almost certainly an incomplete record of the total numbers and judgements based on the distribution of chance finds can be very misleading. The evidence for the site's relationship to other local sites of all types is, at present, inconclusive.

Summary

The evidence which has been discussed is suggestive of a Late Iron Age to fourth-century AD farmstead, probably becoming Romanised during the second half of the second century. There is no suggestion of any substantial break in the occupation of the site but there does appear to be a gradual shift in the centre of activity northwards, from the brow of the hill in the Late Iron Age to the lower situation below the terrace in the Late Roman period.

Acknowledgements

I wish to thank Mr Ken Welsh of Cambridgeshire Archaeology for his help and access to excavation records, Mr Mark Long for his assistance in the field, Dr Colin Shell for his guidance and knowledge of geophysical survey and, finally, to Mr Henry Hurst for his encouragement and help while undertaking this project.

Endnotes

[1] This study was submitted as part of a First Degree at Cambridge University in 1993. The pottery analysis was undertaken by Mark Long as a similar project.

[2] By Cambridgeshire Archaeology for Cambridge Water Company (see Welsh 1992).

[3] Plan of Estates in the Parishes of Madingley, Girton, and C. in the County of Cambridge belonging to Admiral Sir Charles Cotton, Bart. 1811.

[4] Sites and Monuments Record of Cambridgeshire No. 04361.

[5] SMR No. 09614. As a result of intensive agriculture, no evidence of this is visible over the site. However, because of woodland encroachment, the headland ridge is preserved behind the present bank delimiting the boundary of Madingley Wood (Rackham 1986: 169–70).

[6] Readings were taken longitudinally at 50 cm intervals along the X axis, to measure the extent of features, and laterally every 25 cm along the traversed lines of the Y axis, to give clear resolution.

[7] The numbers on the interpretative diagram (Fig. 4) refer to probable features in order to clarify the discussion in the text and to relate these to the excavated features. The numbers on the excavated plan refer to the excavation records in Welsh (1992).

[8] Features F56 and F57 are not clearly defined in Fig. 2, which was produced using general statistical techniques which enhanced some features at the expense of others.

[9] The uniformity of the magnetic anomalies making up F50 would appear to be disturbed by F51, indicating that F51 is from a later phase of construction.

[10] A band of vertical lines framed by chevron belongs to Lowther's Group 1, W chevron, die 5, which has been dated to *c.* AD 150–75. Other sites yielding similar examples include Latimer villa, Bucks, and Boxmoor villa, Herts. (Black 1985: 353–75).

[11] However, evidence from other sites, for example, at Gorhambury or Stanwick, shows that both rectangular and circular structures occurred together on Romanised villa sites. It cannot be assumed that the circular structures are necessarily early, nor that their presence shows that the site did not have a rectangular stone dwelling.

[12] SMR 04361, TL 4025/5983.

[13] Field walking identified a tailing out of finds up to 92 m north of Cambridge Road, c.100 m north of the site.

[14] It is not shown on Fig. 2a because there is little archaeological evidence for it (Browne 1978).

[15] SMR 271, TL 39-/60- (Babington 1883).

References

BABINGTON, C.C. 1883. *Ancient Cambridgeshire.* Cambridge: Cambridge Antiquarian Society.

BLACK, E.W. 1985. The dating of relief-patterned flue-tiles, *Oxford Journal of Archaeology* 4(3): 353–75.

BROWNE, D.M. 1978. Roman Cambridgeshire, in Wilkes, J.J. & C.R. Elrington (ed.), *A History of Cambridgeshire and The Isle of Ely.* (The Victoria History of the Counties of England.) Oxford: Oxford University Press.

FOX, C. 1923. *The Archaeology of the Cambridge Region.* Cambridge: Cambridge University Press.

FREND, W.H.C. 1955. Romano-British settlement at Arbury Road, *Proceedings of the Cambridge Antiquarian Society* XLVIII: 10–43.

HUGHES, T.M. 1904. On the Potter's Field at Horningsea, with a comparative notice of the kilns and furnaces found in the neighbourhood, *Proceedings of the Cambridge Antiquarian Society with communications made to the Society* X.

LONG, M. 1993a. An Examination of some Iron Age/Romano-British Pottery Vessels from a Site near Madingley, Cambridge. Unpublished Undergraduate Project, University of Cambridge.

LONG, M. 1993b. A Field Walking Survey of a Site near Madingley, Cambridge. Unpublished Undergraduate Practical Project, University of Cambridge.

RACKHAM, O. 1986. *The History of the Countryside.* London: Dent.

WELSH, K. 1992. *Coton to Longstanton Pipeline: An Archaeological Assessment.* (Cambridgeshire County Council Archaeological Report 73.) Cambridge.

Excavation of a Roman Site near Wimpole, Cambs., 1989

Wendy Horton, Gavin Lucas & Gerald A. Wait

Summary

A Roman settlement site was investigated on the National Trust estate of Wimpole, north of the junction of the A14 (now A1198) and the A603, in advance of a road improvement scheme. Archaeological remains were found along the A14 Roman road (Ermine Street) which appear to comprise part of a ribbon settlement. A series of substantial ditches were revealed forming rectangular enclosures, interpreted as paddocks, garden plots, and small domestic enclosures. A cobbled surface was interpreted as a yard surface. A large volume of pottery, including high quality table ware was recovered, as well as quantities of animal bones. An Anglo-Saxon burial of the sixth century AD appears to represent the last phase of occupation of the site (Fig. 1).

Introduction

In 1988 a proposal was made by Cambridgeshire County Council Department of Transport to replace the staggered junctions of the A14, A603 and B1042, with a roundabout (Fig. 2). The scheme was accepted, but would cut across a corner of the National Trust Wimpole estate where previous archaeological fieldwork had recorded a probable Roman site. Consequently an assessment and further excavations by the Cambridgeshire County Council Archaeology Office were arranged in advance of construction work.

Setting

The geology of the area is grey boulder clay, on the north slope of the shallow valley formed by the River Cam or Rhee. The river passes below the A14 under Arrington bridge, immediately south of the junction of the A14 and A603. The clay subsoil made excavations in the very dry summer of 1988 very difficult.

Known Archaeology

In 1986, Dr Peter Wade-Martins carried out a Survey of the Wimpole Estate for the National Trust. He recorded a scatter of Roman pottery suggestive of a settlement along the A14 Ermine Street north of the junction with the A603. In a subsequent fieldwalking survey carried out by Dr G. Wait in 1988, further Roman material was recovered, confirming the presence of a site.

A Roman occupation site located along both sides of the A14 at Arrington bridge has been known for some years. It was discovered and investigated by very limited trial trenching by Roland Parker in 1972, who interpreted the site as a posting station. It is now a Scheduled Ancient Monument. Further Roman material was found just north of this site in the grounds of Wimpole Lodge by E.H. Warner in 1936 (the lodge is in the south-east corner of the A14/A603 junction, see Fig. 2). Taken together this distribution of Roman remains along Ermine Street would seem to suggest a ribbon settlement.

Strategy of Fieldwork

Fieldwork was carried out in two phases — the first consisting of trial trenches, and a second phase of area excavation based on the results of the trial trenches.

Proceedings of the Cambridge Antiquarian Society LXXXIII pp. 31–74.

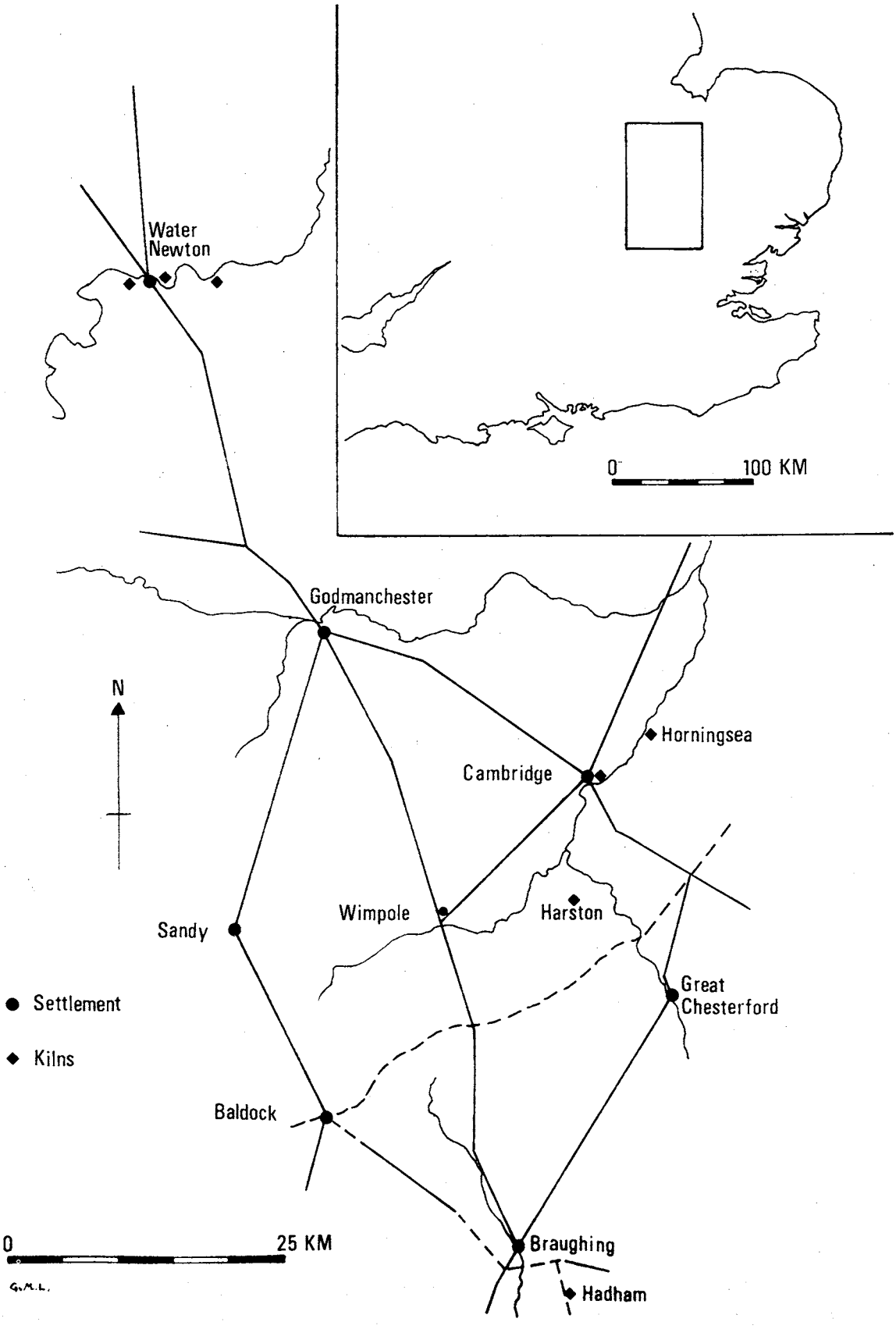


Figure 1. *Location of Wimpole in relation to Roman road network.*

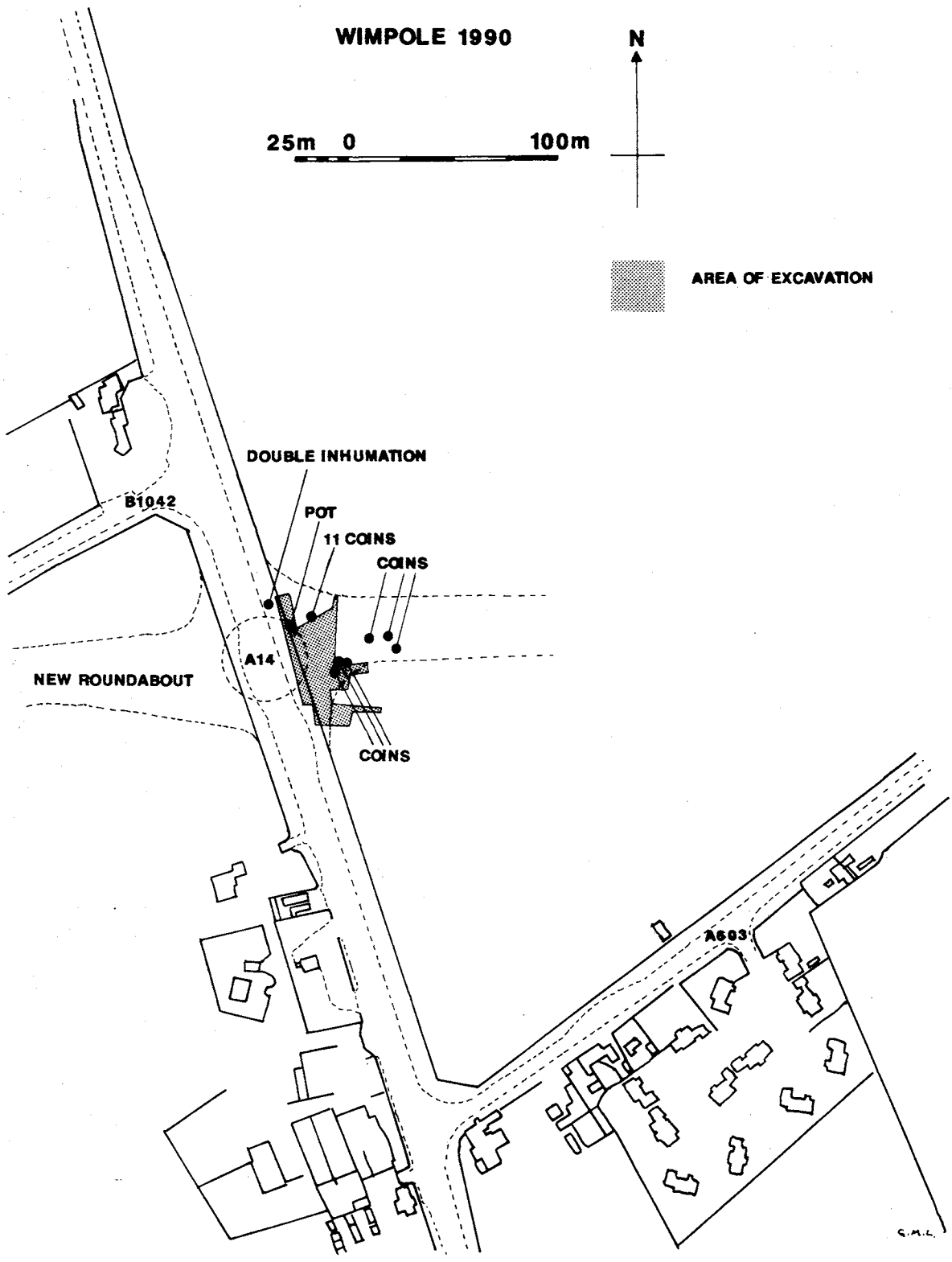


Figure 2. *Plan of excavations 1989 and watching brief 1990.*

Stage 1

The first phase involved the digging of five trial trenches each 2 × 50 metres. Only Trench 1, nearest the A14, contained any archaeological features. This trench was enlarged, revealing a number of ditches and a cobbled surface. Sample sections were excavated, showing that Roman pottery and animal bones were common in all the features.

Stage 2

The site was subsequently enlarged to allow an area excavation of the Roman remains where they would be destroyed by the planned roundabout (see Fig. 3). One goal was to get as close as feasible to the A14, as it was thought that Roman buildings would be located along the road, but a large post-medieval ditch prevented this, and quite probably destroyed such buildings.

The Excavation

The excavations revealed a Roman settlement site of five phases, followed by an Anglo-Saxon presence of uncertain nature. The following discussion is synthetic, based upon information from the archaeological features and the specialist analyses reported in the appendices below.

Phase 1 circa AD *180–200* (Fig. 3–4)

Thirteen features have been identified to Phase 1, creating an enclosure system. These include the cobbled surface [138], the small gulley [110], gullies [190], [192], [166], [120–70], [116–124], [151], [176] and [194] and a small pit [197]. Feature [161] may be either an elongated pit or a short length of ditch, in either case its sharply pointed butt-end contained an ox skull. The deposition of animal skulls on settlement sites is well documented (Wait 1985: 122–53) and may represent a form of animal sacrifice. No clear layout or pattern is discernable. The cobbled 'surface' [138] is not easily interpretable. Its top surface was somewhat irregular and undulating. It was comprised of a wide variety of types of materials, including many fragments of quernstones (some from Derbyshire and others from Somerset), flint cobbles, and tile and brick. The most difficult aspect to explain is the origin of the approximately 30 cm of clayey-loam which overlay the cobbles *if* the cobbles had formed a yard surface. That these did form a Roman yard surface is suggested by the later layer [105] which accumulated over the cobbles. It is possible that the cobbles are the surviving remains of some form of foundation, the upper layers of which have been destroyed by robbing and ploughing.

Gully [110] was unusually straight, approximately 0.5 m wide and 0.2 m deep, and was traced for 12 m across the site. Its purpose is not known. Gullies [190] and [192] were located below a disturbed deposit [176]. They appear to branch from a common stem, and are both about 0.6 m wide and 0.2 m deep. Neither extended far enough to be visible in section.

Phase 1 pottery was dominated by storage jars, fine grey ware from either Hadham or Horningsea, sandy grey wares from Horningsea, locally produced grey colour-coated wares, and Nene Valley products. The features of Phase 1 contained 48 small finds. These included a bronze brooch of Hod Hill type (*c.* AD 45–75) and a sheet bronze strigil, both from ditch [172].

Phase 2 circa AD *240–300* (Fig. 5)

Phase 2 involved the initial creation of the system of enclosures, demarcated by ditches The ditches [120–70], [153–122] and [116–124] form two very narrow enclosures or trackways — the layout makes their purpose obscure. The short length of ditch [182] may have formed an enclosure east of [114] and north of [134]. Ditch [155] appears to skirt, and thus form a southern edge to, the cobbled area [138] and [105]. Ditch [155] was later recut by the small gully [194]. It is likely that ditch [163] in its earliest form was created during this phase as the back (eastern) boundary of the site. Gully [118–86] is cut into the top of the Phase 4 ditch [129], which in turn perpetuated the line of the phase 2 ditch [122–53]. During this phase layer [105] accumulated over the Phase 1 cobbles at the southern end of the site. Gully [172] varied from 0.8 to 1.35 m wide and was 0.3 m deep, and uniquely on this site contained a great quantity of mussel shells and the greatest density of potsherds of any feature. The excavated sections do not provide any firm evidence for the presence of banks, hedges or fences along the ditches, though one or the other is likely to have been present. This phase appears to involve a northward expansion of the site.

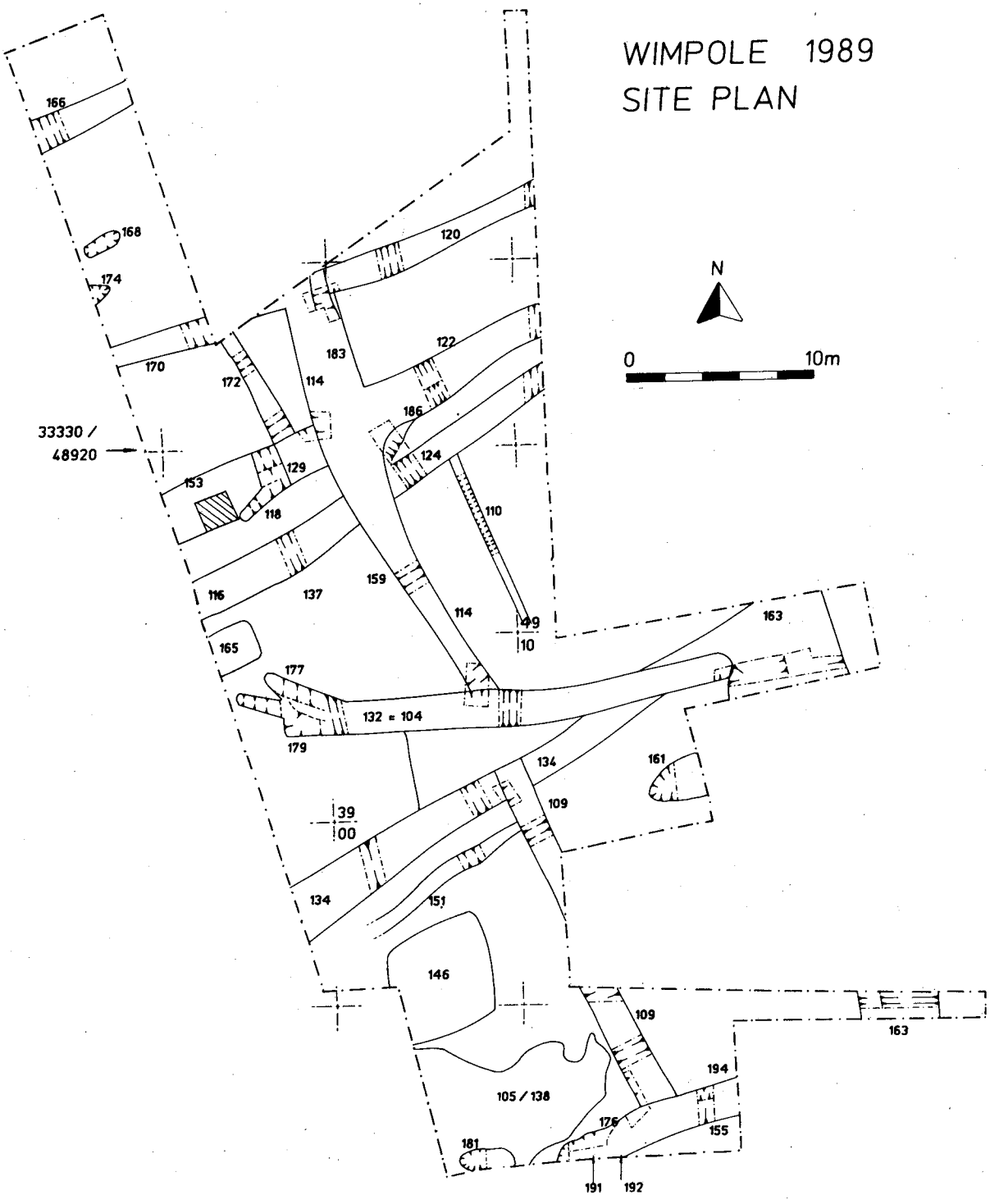


Figure 3. *Wimpole 1989 site plan, features of all phases shown.*

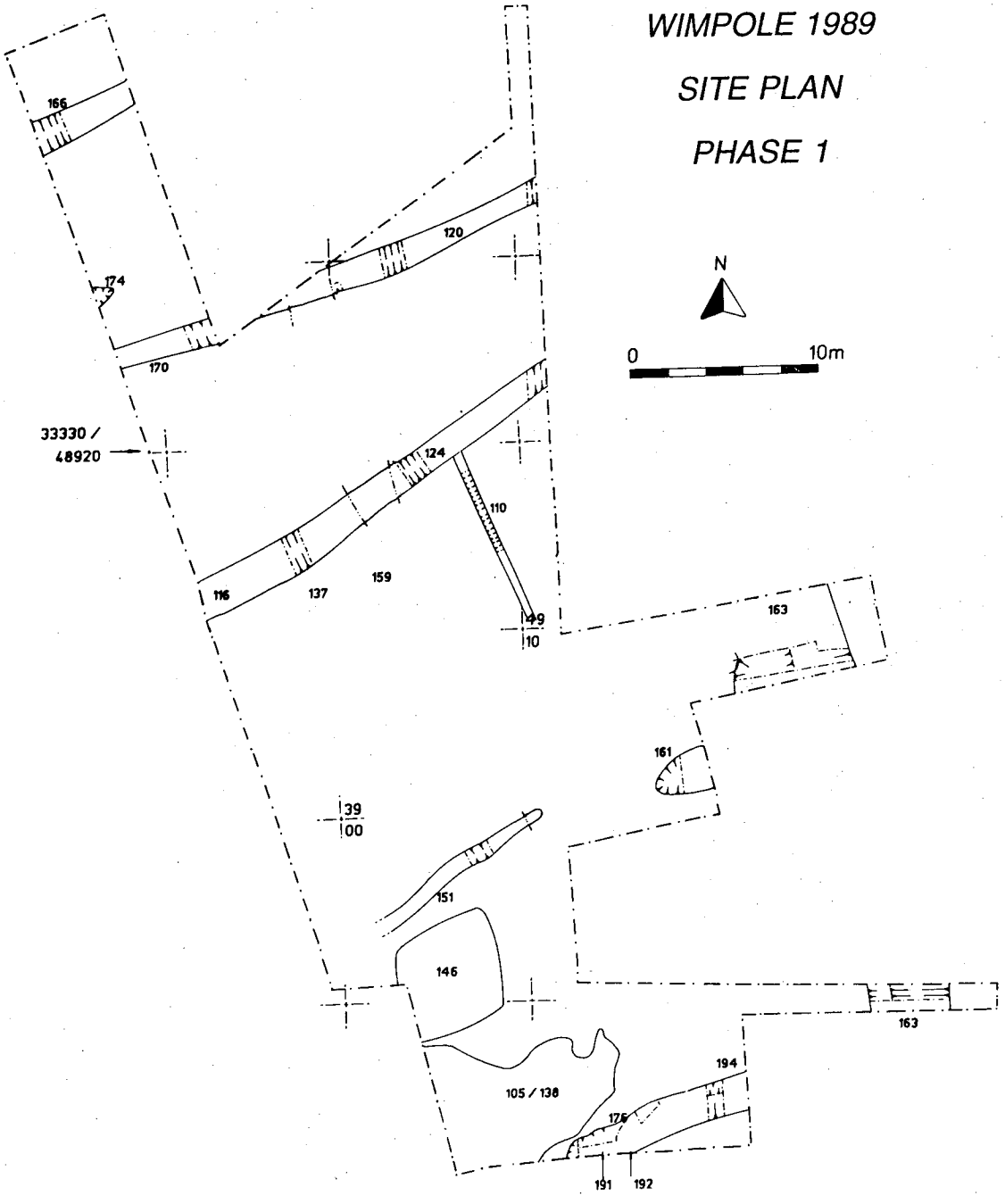


Figure 4. *Wimpole 1989, Phase 1 features.*

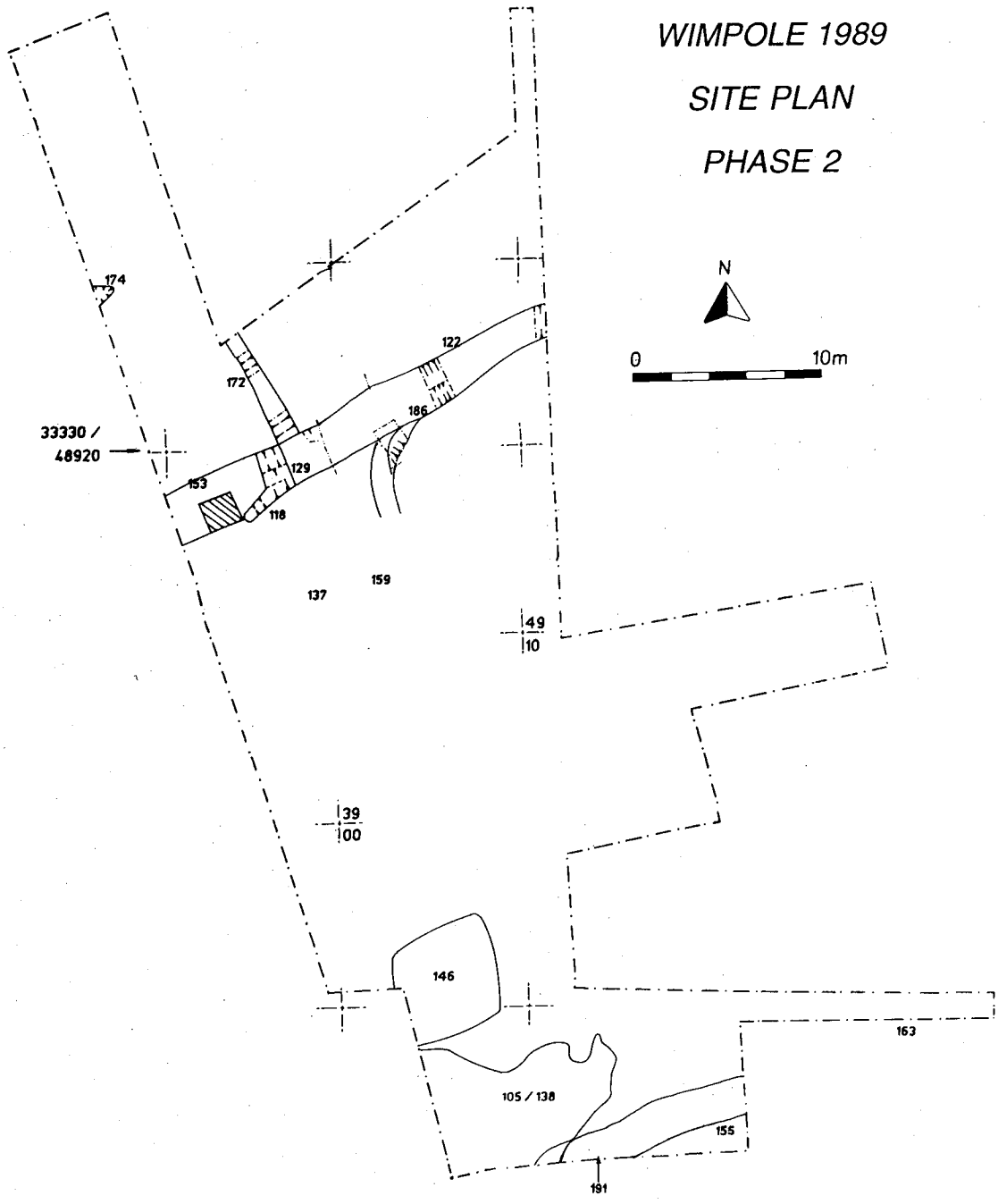


Figure 5. *Wimpole 1989, Phase 2 features.*

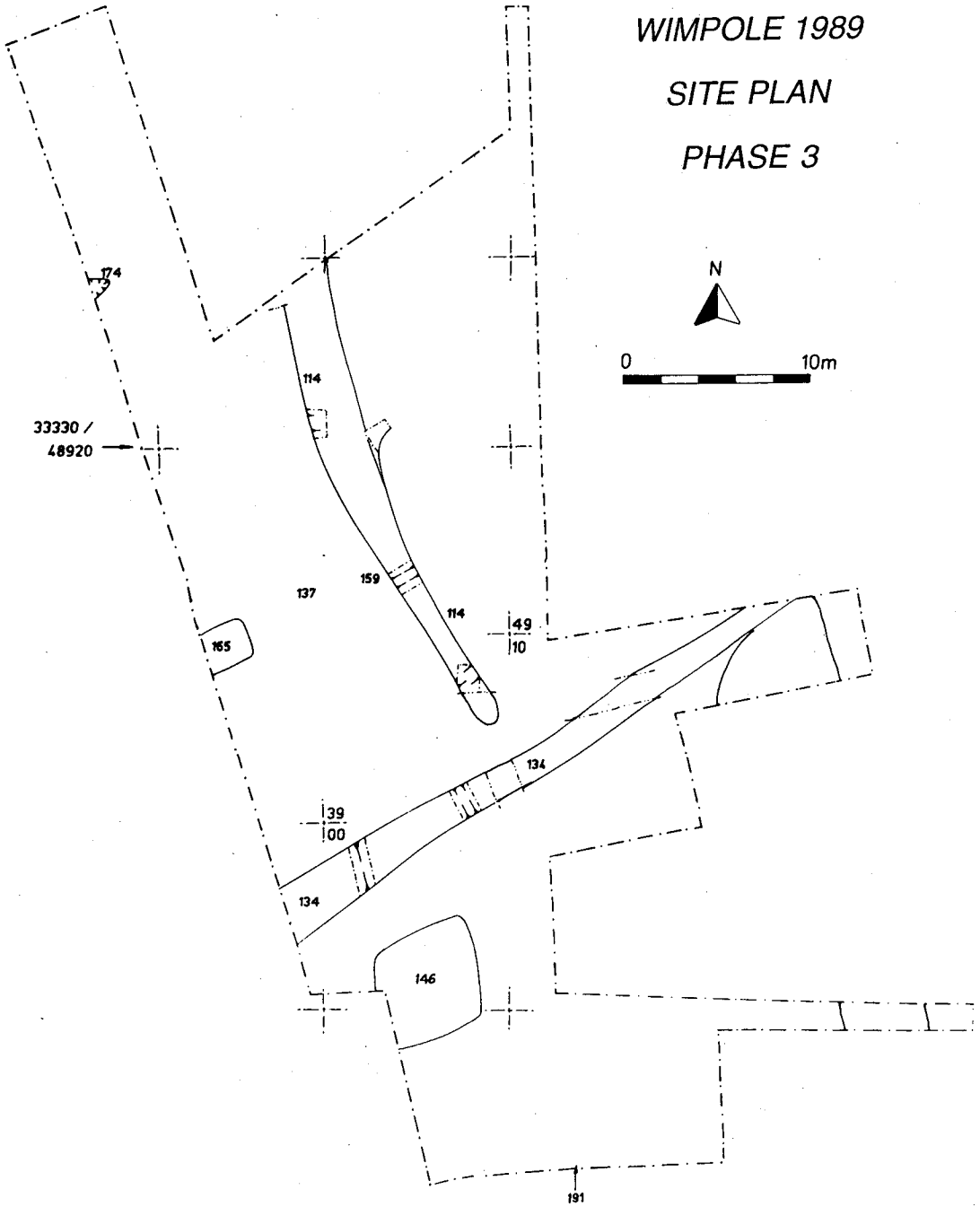


Figure 6. *Wimpole 1989, Phase 3 features.*

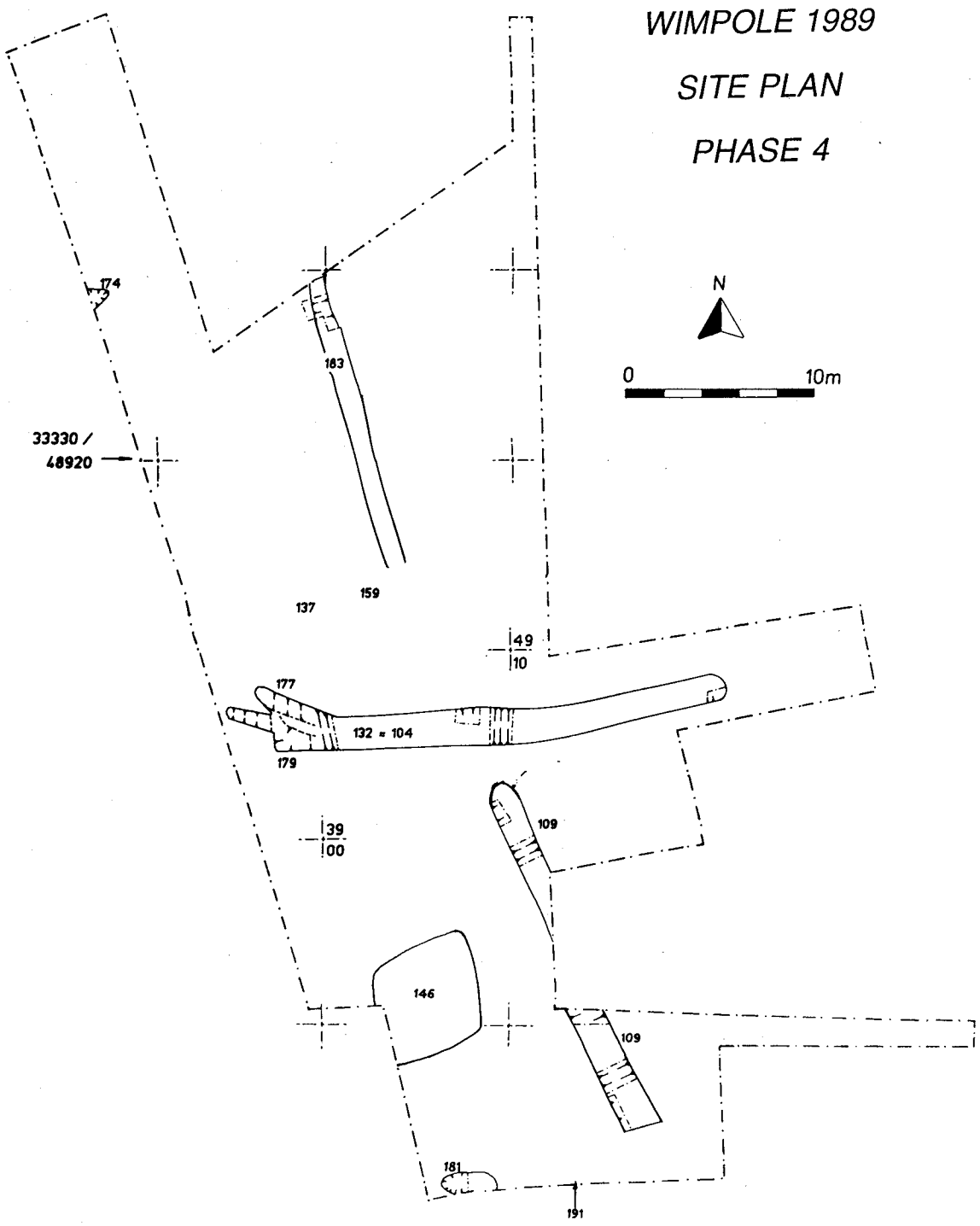


Figure 7. *Wimpole 1989, Phase 4 features.*

The ditches are generally 1.8 to 2.2 m wide and 0.8 to 1.0 m deep, with rounded bases and convex sides. The fills usually comprise two or three layers of mid to dark grey clayey loam with occasional small flint pebbles and fragments of charcoal. The upper layers, especially along the west edge of site, were frequently darker and softer in texture.

Phase 2 contexts contained 44 small finds. These included 26 nails, hobnails, a tool socket and a chisel, six fragments from glass vessels, a bronze knife, and 11 coins. During Phase 2 Nene Valley pottery appears to decrease in importance, while Hadham kiln grey and orange wares are prominent, and Black Burnished Ware I from Dorset is also common. Horningsea sandy grey wares are increasingly common. There were five iron objects, two hobnails, fragments of glass vessels, eighteen quernstone fragments (with Millstone grit being the most common), and a variety of other types of worked stone fragments.

Phase 3 circa AD *300–360* (Figs. 3–6)

Phase 3 marked a revised pattern of ditched enclosures. Ditch [114] cuts across the two earlier narrow enclosures/trackways, running parallel to the Roman road. It ended about three metres north of ditch [134] (the butt-end was cut through by the later Phase 4 ditches [104] and [177]), apparently forming a entrance between two enclosures. It is likely that ditch [163] was maintained as a boundary during this phase. Ditches [114] and [134] were both about 2.0 m wide and between 0.8 and 1.0 m deep, with convex sides and rounded bottoms. Again no evidence for either banks or hedges was observed.

The Phase 3 contexts contained 72 small finds. This includes some 53 nails, many fragmentary iron objects, fragments of glass vessels, a fragment of a bronze jewellry chain, and 18 coins (14 from ditch [114]). Phase 3 pottery again sees a drop in numbers of Nene Valley products, while Hadham wares remain common, and Black Burnished Ware II from the Thames estuary replaces the earlier Dorset BBI Ware. Local grey colour-coated wares are very common, as are Horningsea sandy grey wares and storage jars.

Phase 4 *after* circa AD *360* (Figs. 3–7)

This phase is a reorganization of the basic enclosure layout established in Phase 3. Ditches [103–9] and [104–32] again form enclosures with a gap or entrance in the centre of the site. Further north, ditch [183] demarcates other smaller enclosures. Similarly gullies [177] and [179] are cut into the top of [104], though in this case they could not be traced in the excavated section 'a' of [104]. Feature [181] was an irregular pit cut through the cobbled surface, while [188] was a post-hole likewise cut into the cobbles. The large ditch [163] (varying from 4.3 to 6.4 m wide and 0.78 m deep) probably formed the eastward edge of the settlement. This ditch was recut on at least one occasion (and probably twice) and had a fill notably browner in colour and with many more pebbles and cobbles than was common in the other ditches on site.

Phase 4 contexts contained 63 small finds. These include many more nails, hobnails, and a reaping hook all of iron, a bronze cosmetic spatula, quernstones, and 25 coins (of which 14 are from [161] and 7 from [104]). The pottery of Phase 4 shows a dramatic resurgence in the quantities from the Nene Valley production centres. BBII from the Thames estuary is very common, as are Hadham wares, local colour-coats and Horningsea products.

Phase 5 *Anglo-Saxon (sixth century* AD*)* (Figs. 3–9)

A feature [168] was revealed to be an isolated burial, lying between two E–W ditches, [166] and [170], and in particular, parallel with [166] and 5 m to the south of it. The skeleton was found in an extended position, lying on its back and facing east. The head, at the west end, lay on its left side, pointing slightly downwards. The spine was curved at the top. The right arm was straight and parallel with the side of the body. The left arm was bent and crossed the hip. The legs lay up against the south edge of the burial pit with the right lower leg just crossing the left lower leg. The feet were packed hard against the end of the grave. In the same burial pit, about 15 cm west of the skull was a lower jaw and teeth plus a few vertebrae of another individual. The origin of these is unknown.

Some diagnostic artefacts were found with the body; an annular bronze brooch lay on the right clavicle, although the pin was missing. Above the left clavicle was a group of iron nails or pins, which were difficult to discern. Two bronze wrist clasps were found, one on the right arm and one by the left hand. Perhaps the most exciting find was

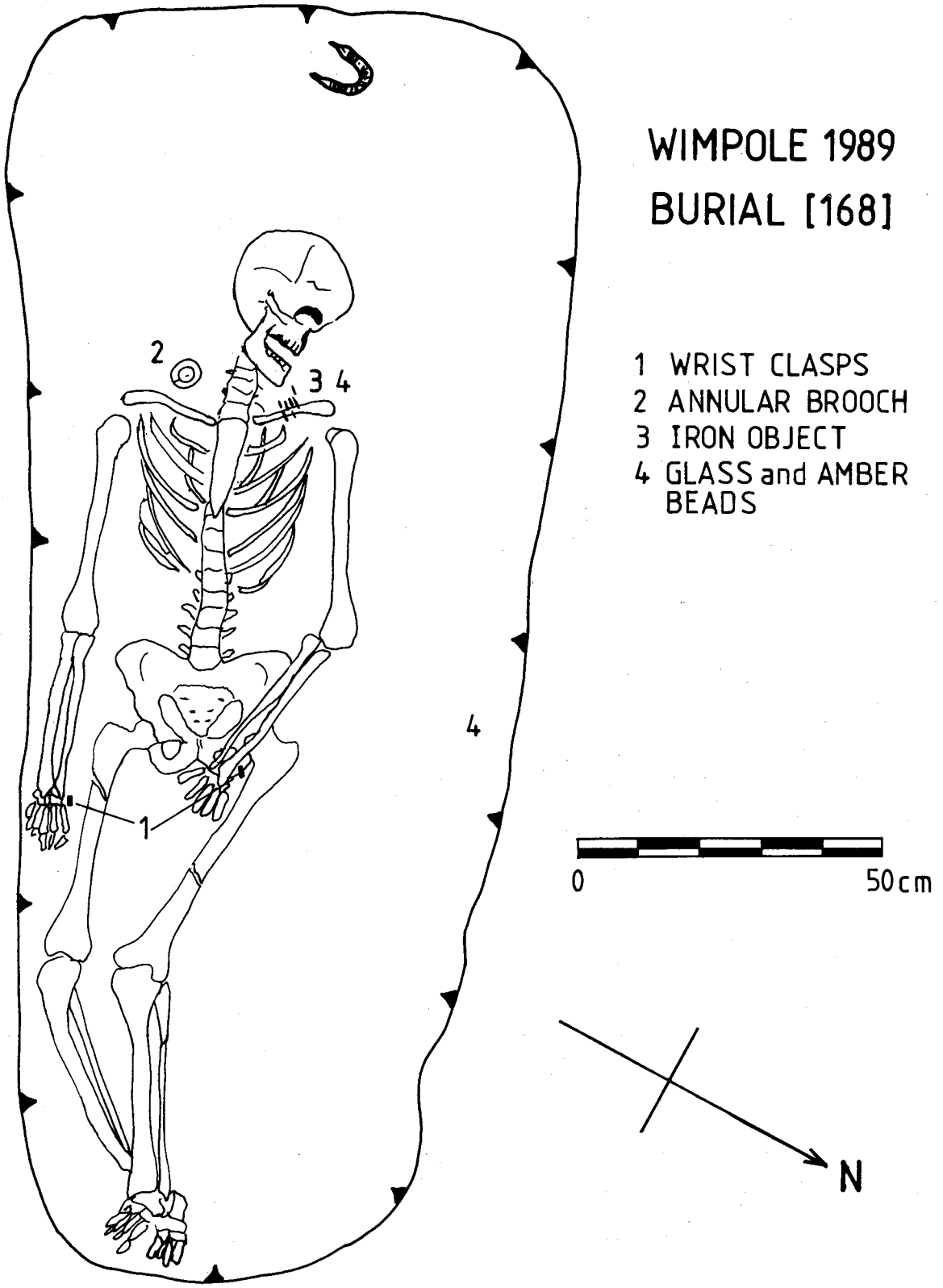


Figure 8. *Anglo-Saxon burial [168].*

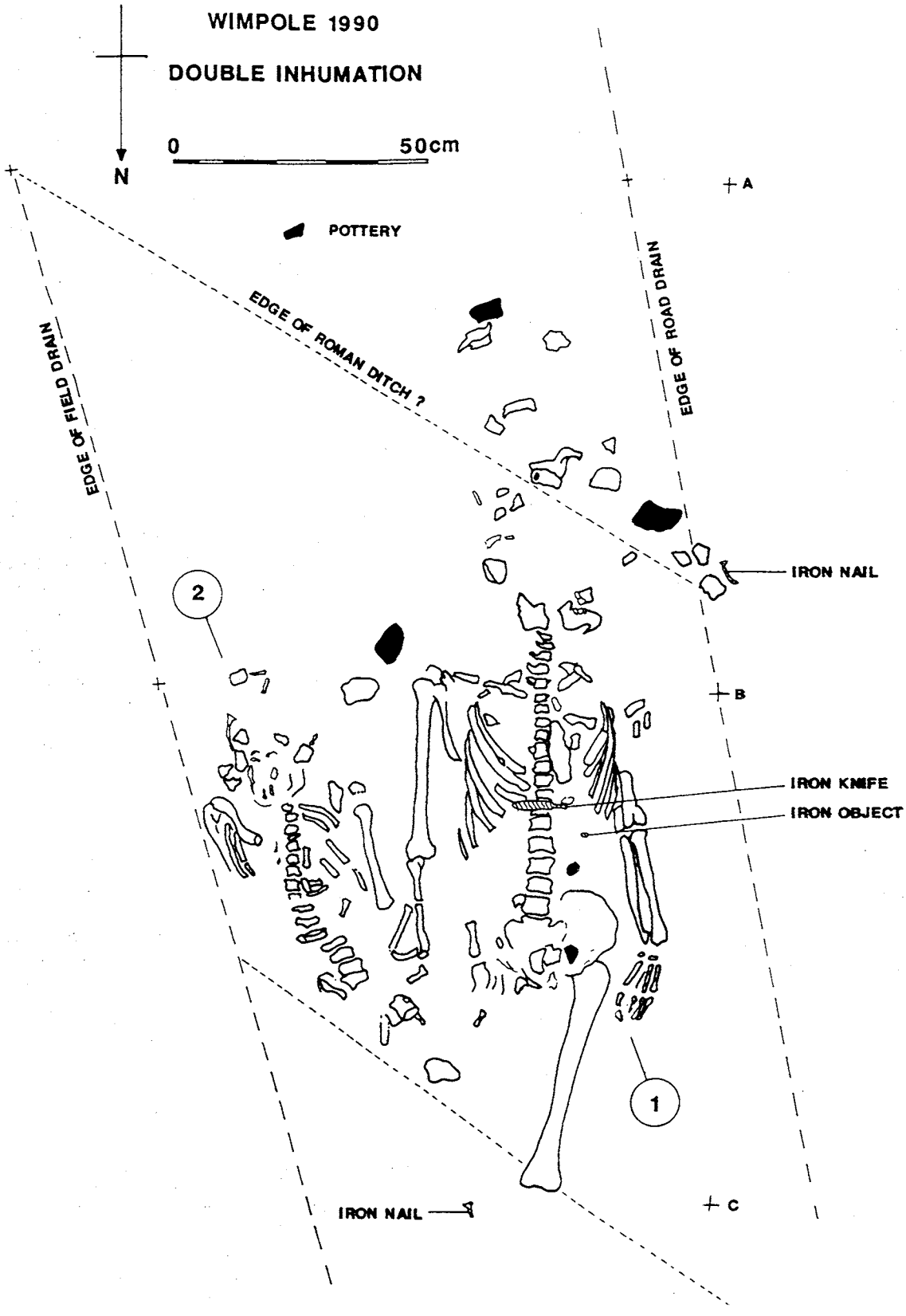


Figure 9. *The 1990 watching brief burials.*

a large, glass, biconical bead found below one of the neck vertebra. It is coral pink in colour with yellow and green/grey stripes. Another glass bead, black and in the form of a flattened sphere with a white swirling pattern was found underneath the additional jaw at the west end of the burial pit. Further beads appeared along the north edge of the pit. They occurred in two clumps around the mid-point of the edge and were all deep orange amber, except for one of yellow glass. The amber beads varied considerably in size and shape. Three bronze coins were found in the fill as well as various iron nails and fittings and some pot sherds. The nature of the fill was much the same as elsewhere on the site; mid-brown, hard clay, containing frequent pebbles. At the bottom, underneath the skeleton was a thin layer of pebbles or gravel. It has been stated (Dr C. Hills, pers. comm.) that the beads and metalwork found with the body date to the sixth century AD. Since the body was laid out parallel to a Roman ditch, it is likely that the ditch was still visible on the ground when the individual was buried, and there may have been continuity of settlement from the late Roman (early fifth century) to the sixth century AD, a particularly interesting possibility. The Roman coins and potsherds found in the fill must have been redeposited.

Miscellaneous Features

A deposit [146] was revealed just north of the cobbled surface [138], which contains building debris. It covers an area approximately 5 m square and passes beyond the western boundary of excavation. A small section was dug through the deposit, which was found to be approximately 40 cm deep. It comprised a mixture of clay and sand (70:30), with a mottled appearance, which included mid-brown, light brown, yellow, grey and black. It contained frequent flecks of charcoal and occasional small fragments of pink mortar, tile, pottery, bone and pieces of brown material which may be daub. This deposit suggests that there were once houses not too far away, perhaps to the west of the excavation.

An area approximately 4 by 4 m between ditches [104] and [116] on the west side of the excavation was found to contain frequent flecks and fragments of mortar, ash, tile and pottery in dark grey to black clay. This [165] can also be interpreted as building debris but it is not entirely clear whether this is the bottom of the topsoil, or a separate deposit.

The Watching Brief 1990 (Figs. 9–10)

Between February and March 1990 a watching brief was carried out during stripping of topsoil in areas adjacent to the 1989 excavations and along the new route. The conditions were poor, with heavy rain flooding the site, and recovery was thereby restricted. Previously, a metal-detectorist had found 17 Roman coins and the top rim of an unusually large storage jar, from the Alice Holt production centre in Hampshire (a bead rimmed storage jar type 4.45, *c.* AD 350–420: Lyne & Jefferies 1979), all probably found on or immediately adjacent to the excavation area (see Fig. 3). No features were observed along either of the new road routes, but a double inhumation was discovered during trenching for a new road drain.

The double burial was located just beyond the northwest end of the site, approximately 7 m northwest of the single inhumation excavated [168]. The burial had been disturbed by construction machinery, and probably by modern ditches along its east and west sides. The burials were probably placed in a shallow ditch about 1.6 m wide and 0.2 m deep, with a fill of mid-grey to yellow-brown clay loam, with Roman pottery,

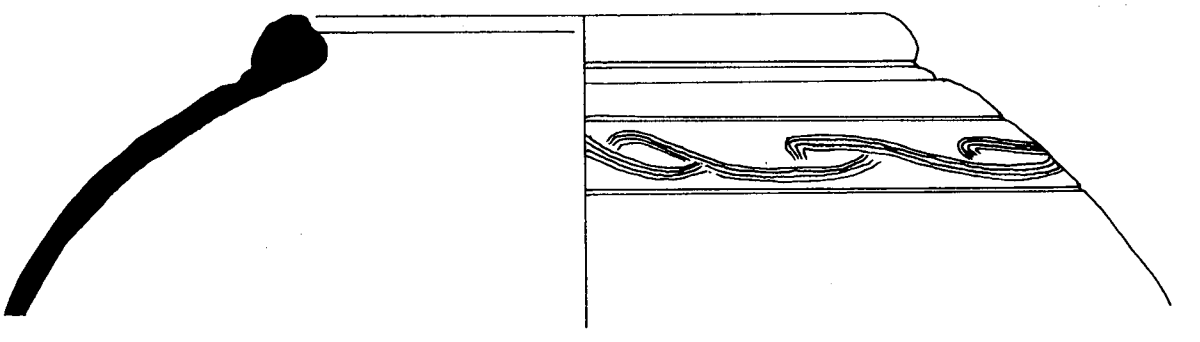


Figure 10. *Rim of Alice Holt storage jar.*

tile, shell and charcoal (this is probably ditch [166] of Phase 2).

The two skeletons were parallel, oriented north–south, and were probably extended (Fig. 10), though the poor preservation of [2] prevents certainty. No grave goods were present with [2], but [1] had an iron knife under the spine and another unidentifiable iron object.

There is no association with burial [168] except proximity: the orientations are different and the grave goods do not suggest any relationship. The burial of individuals in or along field ditches did occur during the mid and late Roman periods (as at Godmanchester: see Wait 1992, and Wait 1985: 83–120, further discussion below).

Discussion

This particular excavation covers a small part of a much larger Roman site which stretches for over 1 km along Ermine Street. The settlement straddles a Roman road junction, that of Ermine Street and Akeman Street and could be termed a ribbon settlement. Settlements such as these are not uncommon at major road junctions (Salway 1981: 573–614).

The site excavated was located in the path of the proposed roadworks, and is therefore an arbitrary sample of the settlement (exactly as at Hibaldstow: Smith 1987: 60). No buildings were found, but it can be inferred from deposits of building debris and domestic refuse that they were located nearby. The latter deposits, including ash, mortar, charcoal, daub and large volumes of pottery were particularly dense along the west side of the site. There were few finds of any kind along the outer (east) boundary of the site, which suggests that this was distant from the dwelling areas. Ermine Street itself is thought to lie directly beneath the A14, and there could well be room for a row of houses between the site and the road. Another possible location for houses is to the south of the site, beyond the cobbled surface found during the excavation. Dr Wade-Martins mentioned in his survey that evidence for a settlement was seen approximately between the site and the junction.

The area investigated is therefore a peripheral area; it comprises a series of roughly rectangular field enclosures of five phases. An entrance between enclosures can be seen at one point. It is likely that they comprised paddocks for animals, garden plots or house plots. Settlement plots at other Roman roadside settlements are of various sizes and shapes, but a fairly consistent depth of plot from the roadside of *c.* 40–45 m can be observed (Smith 1987: 22–33). The distance from the presumed road (under the modern A14) to the back boundary ditch [163] is about 40 m.

Ermine Street, linking Lincoln and the north with London, was a major line of communication in the Roman period, well-travelled by officials. Such official travellers would change horses regularly on journeys, and the most important would stay overnight in a *mansio*, which provided luxurious accommodation. Roland Parker has interpreted the site (from his excavations at Arrington Bridge, unpublished manuscripts, 1973) as a *mansio*, although his excavation records do not suggest anything of the sort. It is assumed that he was speculating on the general nature of the site, and it is true that such a building could lie on a yet unexcavated part of the site. That there were well-made buildings on the site is not disputed. Part of a building with stone foundations was excavated in the grounds of Wimpole Lodge in 1936 by E.H. Lee Warner and there are frequent finds of tile, stone, mortar and plaster in many of the features on the site. His major findings were cobbled surfaces, similar to those found in this investigation, lined with ditches. There is a much more likely example of a *mansio* 23 km up Ermine street in Godmanchester, a quadrangular building with tesselated and mosaic pavements (published by Green 1975). The site investigated here at Wimpole, might otherwise centre on a horse changing station or *Mutatio*, which does not have the official accommodation facility, or it could be a more informal horse changing station (see Smith 1987: 17–19). Stables should be fairly large substantial buildings, but are notoriously difficult to identify. Based on more recent analogies, a stable might be 9 m wide by 30 m long to house 30–40 horses, an appropriate complement to a *mutatio* (Smith 1987: 17–19; Wells 1977).

The cobbled surface on the site may be interpreted as having an equestrian function. It may have been an outside yard, or even part of a stable complex. R. Finch Smith (1987: 17) makes some interesting comments on stables and notes that 'they can only be recognized with certainty . . . when they were provided with internal drainage gullies'.

A rough, but indestructible type of flooring is also likely. Many other internal features of stables would be insubstantial and would not survive in the archaeological record. The superstructure would probably be a construction of wood, which might not leave any trace either. At Wimpole, the cobbled surface at the south end of the site is rough, but substantial. It is slightly raised, but slopes down towards gullies and ditches to the east and south. The small gullies south of the cobbles and underlying layer [176], have been interpreted as drainage channels, while one of the functions of the two larger ditches, one immediately south of the gullies and the other lining the east side of the cobbles, might have been for drainage too. No traces of a superstructure, or of any internal stable fittings were found. The cobbled surfaces and gullies found by Roland Parker were very similar and may have had a similar function.

The site as a whole is over 1 km long, and narrow, possibly not extending more than 50 m behind the road on each side. It could be termed a ribbon settlement and its shape certainly suggests that the reason for its existence was the road. Its location at the junction with Akeman Street would have brought more traffic. It is worth pointing out that a division of settlements into smaller 'roadside settlements' and larger 'small towns' is an arbitrary one — Smith classifies Godmanchester as a roadside settlement (1987: 182; though with appropriate definitions, 1987: 1) while its excavator considers it a small town (Green 1975).

This configuration is typical for roadside settlements. The nature and functions of such settlements remains elusive despite a recent review of all the available evidence (Smith 1987; Salway 1981: 573–614). Some general points may however be relevant. Roadside settlements may have been focused on agricultural activities (Catsgore is an excellent example: Leech 1982), but they also seem to have fulfilled several other roles as well. Some were focused on other industries (e.g. pottery production, as at Stibbington: Wild 1973) but most contained evidence for a variety of industries and crafts practised on a small scale (iron working at Ashton: Hadman & Upex 1975; 1977; bronze working at Wilderspool: Frere 1977: 385; glass making at Catsgore: Leech 1982: 132–3 where an itinerant glass-maker may have operated: Price 1978: 70, 125); bone and lead working may have been almost universal on rural sites as at Claydon Pike: Wait & Hedges in Miles & Palmer forth.; as might leather working as at Bath: Ambrose 1979: 102–22; Maltby 1979). A market function, serving a limited hinterland, is also very likely (Smith 1987: 67–85) although the documentation of this function is notoriously difficult. Convincing shops have been identified at St Albans (Frere 1972) and Colchester (Hull 1958: 153–4, 198–202). Literary and epigraphic evidence suggests a much wider occurrence of markets (Macmullen 1970) and market squares associated with courtyard buildings have been postulated at Braughing (Todd 1970: 123) though other interpretations are possible (Partridge 1975; Rodwell 1980).

The faunal remains from the excavations were analysed as a single collection, so it is impossible to determine any changes in animal husbandry through time. Cattle were probably the most numerous animals kept, and were usually kept until mature and then butchered somewhere off the excavated area. Horses were unusually common, and some at least were skinned if not butchered. Sheep and goat were undifferentiated, and there was a marked predominance of non-meat bearing bones on site, suggesting that primary butchery occurred on or very nearby the excavated area. Most of the sheep were butchered when adult, and this may be used to argue that they were kept both for their wool and for their meat. Wilson suggests (below) that the absence of meat-bearing bones may indicate that mutton was exported from the site. Other animals present include pigs, dogs (with much evidence of gnawed bones), chickens, and geese. Both native oysters and mussels were imported from the sea for consumption on the site.

Roadside settlements included nearly every form of building known from Roman Britain, but it clear that the more elaborate features such as mosaics, tessellated floors, and hypocausts were much less common than in either villas or the larger 'small towns' and *civitas capitals* (Smith 1987: 86–90). In sum, the roadside settlements appear to be analogous to the generally small, agriculturally based hamlets and villages of later periods, some developing specialisations to fill local needs.

Burials and cemeteries are both standard elements of roadside settlements. Individual burials or small clusters of burials frequently occur aligned with either the side or rear boundary ditches of house plots, such

as at Catsgore (Leech 1982:8, 14, 17) and Ilchester (Leach 1982: 11, 62, fig. 35), and Smith (1987: 115–17) discusses others. Such burials appear to be most common in later periods such as the fourth century. More formal cemeteries, where they have been located, occur behind the rear boundaries of settlements or elsewhere (as at Queensmill near Dorchester-on-Thames: Harman *et al.* 1978; and Braughing's Skeleton Green: Wells 1981; Partridge 1977). As mentioned above, the depths of roadside plots varies but rarely exceeds 50 m, and burials at a greater distance would be missed in many excavations (including this one!). Romano-Celtic temples may also have been a component in some settlements (Rodwell 1980).

Summary

The relatively small-scale excavations undertaken in advance of roadworks have produced some information on the previously poorly understood Roman settlement at Wimpole Lodge/Arrington Bridge. The settlement seems to have had its origin in its position on the Roman road Ermine Street, probably in the late second or early third century. It evolved through several phases with different structural configurations, and although ultimately stretching for several kilometres along the Roman road (not all necessarily occupied contemporaneously) there is no evidence for social wealth or elaboration. The site did nonetheless function within the larger world of Roman Britain, receiving pottery from a number of sources including Gaul, and quernstones from Derbyshire and Somerset. There is limited evidence for several crafts being practiced, including blacksmithing, leatherworking and boneworking, but present evidence would suggest that the basis of subsistence for most of the inhabitants was farming, with cattle prominent, horses unusually numerous, and sheep and pigs both present. The Roman settlement certainly continued into the fifth century. The latest feature on the site is an Anglo-Saxon burial of the sixth century, suggesting that this site could shed light on the still poorly understood sub-Roman period between the departure of the Roman legions and the establishment of the earliest Anglo-Saxon kingdoms (Bassett 1989). Both the excavations reported here, and recent fieldwalking evidence suggest that parts of this site would amply repay any further opportunities for investigation.

Acknowledgements

The excavations and the initial post-excavation analysis reported here were funded by the Cambridgeshire County Council Department of Transportation, and much encouragement was forthcoming from the National Trust. Unfortunately much of the post-excavation work had to be undertaken by GL and GW during time borrowed from other work. The consequences of this are that a less than desirable amount of research could be undertaken. The illustrations are by G. Lucas, Ruth Pelling and Gary Gleghorn. G. Lucas wishes to acknowledge the assistance of Chris Going in discussing the pottery assemblage, and Chris Chippindale of the Museum of Archaeology and Anthropology, Cambridge for access to collections of pottery from known kiln sites around Cambridge.

References

AMBROSE, T. 1979. Roman leather, in Cunliffe B.W. (ed.): 115–22.

BASSETT, S. (ed.). 1989. *The Origins of Anglo-Saxon Kingdoms.* Leicester: Leicester University Press.

CUNLIFFE, B.W. (ed.). 1979. *Excavations at Bath 1950–1975.* (Committee for Rescue Archaeology in Avon, Gloucester and Somerset, Excavation Report 1.) Bristol: CRAAGS.

DETSICAS, A. (ed.). 1973. *Current Research in Roman-British Coarse Pottery* (Council for British Archaeology Research Report 10.) London: Council for British Archaeology.

FITZ, J. (ed.). 1977. *Limes: Akten des XI. Internationalen Limeskongresses* (Szekesfehervar, 30.8–6.9.1976). Budapest.

FRERE, S.S. 1972. *Verulamium Excavation*, vol. I. (Report of the Research Committee of the Society of Antiquaries of London XXVIII.) Oxford: Society of Antiquaries of London.

FRERE, S.S. 1977. Roman Britain in 1976, *Britannia* VIII: 356–425.

GREEN, H.J.M. 1975. Godmanchester, in Rodwell & Rowley T. (ed.): 183–210.

HADMAN J. & A. UPEX. 1975. The Roman settlement at Ashton near Oundle, *Durobrivae: A Review of Nene Valley Archaeology* 3: 13–15.

HADMAN J. & A. UPEX. 1977. Ashton 1977–78, *Durobrivae: A Review of Nene Valley Archaeology* 5: 6–9.

HARMAN, M., G. LAMBRICK, D. MILES & T. ROWLEY. 1978. Roman burials around Dorchester-on-Thames, *Oxoniensia* XLIII: 1–16.

HULL, M.R. 1958. *Roman Colchester.* (Report of the Research Committee of the Society of

Antiquaries of London XX.) Oxford: Society of Antiquaries of London.

LEACH, P. 1982. *Ilchester*, vol I: *Excavations 1974–75*. (Western Archaeological Trust Excavation Monograph 2.) Bristol: Western Archaeological Trust.

LEECH, R. 1982. *Excavations at Catsgore 1970–73: A Romano-British Village*. (Western Archaeological Trust Excavation Monograph 3.) Bristol: Western Archaeological Trust.

LYNE, M.A.B. & D.S. JEFFERIES. 1979. *The Alice Holt/Farnham Roman Pottery Industry*. (Council for British Archaeology Research Report 30.) London: Council for British Archaeology.

MACMULLEN, R. 1970. Market days in the Roman Empire, *Phoenix* XXIV: 333–41.

MALTBY, M. 1979. *Exeter Archaeological Reports 2; Faunal Studies on Urban Sites: The Animal Bones from Exeter, 1971–75*. Sheffield: Sheffield University Press.

MILES, D. & S. PALMER (ed.). Forthcoming. *The Iron Age and Roman Site at Claydon Pike, Glos.*.

PARTRIDGE, C.R. 1975. Braughing, in Rodwell & Rowley (ed.): 139–73.

PARTRIDGE, C.R. 1981. *Skeleton Green: A Late Iron Age and Romano-British Site*. (Britannia Monograph Series 2.) London: Society for the Promotion of Roman Studies.

PLAT TAYLOR, J. DU & H. CLEERE (ed.). 1978. *Roman Shipping and Trade: Britain and the Rhine Provinces*. (Council for British Archaeology Research Report 24.) London: Council for British Archaeology.

PRICE, J. 1978. Trade in glass, in Plat Taylor & Cleere (ed.): 70–78.

RODWELL, W. (ed.). 1980. *Temples, Churches and Religion: Recent Research in Roman Britain*. (British Archaeological Reports British Series 77.) Oxford: BAR.

RODWELL, W. & T. ROWLEY (ed.). 1975. *The Small Towns of Roman Britain*. (British Archaeological Reports British Series 15.) Oxford: BAR.

SALWAY, P. 1981. *Roman Britain*. Oxford: Oxford University Press.

SMITH, R.F. 1987. *Roadside Settlements in Lowland Roman Britain*. (British Archaeological Reports British Series 157.) Oxford: BAR.

TODD, M. 1970. The small towns of Roman Britain, *Britannia* I: 114–30.

WAIT, G.A. 1985. *Ritual and Religion in Iron Age Britain*. (British Archaeological Reports British Series 149.) Oxford: BAR.

WAIT, G.A. 1992. Excavations at Godmanchester (A14–A604 Junction, 1990), *Proceedings of the Cambridge Antiquarian Society* 1991: 79–95.

WELLS, C.M. 1977. Where did they put the horses? Cavalry stables in the early empire, in Fitz, J. (ed.): 659–66.

WELLS, C.M. 1981. Report on three series of Romano-British cremations and four inhumations from Skeleton Green, in Partridge, C.R.: 277–321.

WILD, J.P. 1973. A fourth-century potter's workshop and kilns at Stibbington, Peterborough, in Detsics A. (ed.): 135–7.

The Pottery from the Excavation of the Roman Site at Wimpole, Cambs., 1989

By Gavin Lucas

Introduction

Pottery was the most abundant artefact recovered from the site, over 100 kg from stratified contexts alone; all the stratified material was examined, the sherds sorted by fabric, then counted and weighed for each context. Evrep was calculated on the basis of minimum number of vessels from rims (though liable to under-representation). A hand lens (×10 magnification) was used to facilitate description of the fabrics after sorting by eye. Almost certainly there will have been a degree of error in the sorting process, but given the time, resources, quantity of material and limitations of fabric analysis, this is entirely unavoidable (Darling 1989).

The Pottery

A brief description is given for each fabric with selected forms numbered for cross-reference with the illustrations; context numbers are given in square brackets after each form (Figs. 11–16).

Fine Wares

Samian (*Terra Sigillata*)
Most of the Samian (*c.* 60%) came from the cobbled surface (contexts [105] and [138]); practically all the sherds are abraded and quite small. On the basis of fabric (distinctly micaceous, mid to pale pinkish-brown), 90% of the Samian appears to derive from Central Gaul, probably Lezoux, the rest from Eastern Gaul; there does not seem to be any South Gaul Samian. Most of the forms were plain, and only four makers' stamps were found (footring with edges carefully chipped off — gaming piece?). The maker's stamp reads MARTIAN (?) from Lezoux [138]; footring with the stamp of the 'Potter of the Rosette' from Les Martres-de-Veyre [105]; footring fragment with half a maker's stamp ending in ...FIC [138]; footring fragment of Black Samian reading MERCATOR (?) [118]. Except for the mortarium, all forms are cups and bowls. FORMS: Drag.27 [104], [105], Drag.31 [105], Drag.33 [105], [116], [138], Drag.35 [105], [114], [172], Drag.37 [105] (encircled gladiator (?) and thin wavy line border), [165] (sherd with tassled ovolos similar to those of Attianus from Lezoux), Drag.38 [128], [161], Drag.45 [105].

Nene Valley Colour-coated Ware
A major industry throughout the Roman period, though it was only during the later third century that large-scale distribution started with a corresponding increase in the range of colour-coated vessels copying earlier greyware forms or Samian. Most of the vessels in this assemblage are fourth-century dishes and bowls, and the few beakers present are are almost all equally late. The fabric is predominantly a fine and hard buff-white with occasional calcareous inclusions and medium-sized quarztite grains and black and red ironstone particles. Sometimes the colour is pale grey, but more interestingly, oxidised fabrics with a distinctly orange colour occur and may have been intentional. Over a quarter of the fine wares were from the Nene Valley. Most of the vessel types are shallow bowls, with open jars, beakers, flagons and lids also represented. Apart from these forms, there were a few interesting sherds, one obviously from a hunt cup [172] and another with a naked male figure [122]. Both probably date to the second/early third century. Also one sherd was found in Romano-Saxon style with a moulded boss [177], which probably dates to the late fourth/fifth century. FORMS: 1 [124], 2 [163], 17 [122], 42 [114], 52 [132], 53 [132], 54 [132], 55 [103], 56 [179].

Nene Valley Grey Ware
Not common on the site — fabric as for the colour-coated wares (white to buff/grey) with a grey slip. FORMS: 57 [177].

Harston Red Colour-coated Ware
Only recently discovered, a kiln site at Harston was producing fine colour-coated vessels and mortaria in the Oxford tradition in the early-mid fourth century, possibly from a migrant potter (Pullinger & Young 1981). However, there is a likelihood that coarsewares were also being manufactured there, although the evidence is not as clear. The fabric of the colour-coated vessels is a fine, smooth pinkish-buff/cream, though it can be a red-orange and confusion with the Nene Valley oxidised fabrics might occur without careful examination. All the forms are bowls or open jars; Young types: C44/55 [132], C18 [132], and C81 [179].

Oxfordshire Red Colour-coated Ware
Like the Nene Valley Ware, a major fine ware industry leaped into wide-scale distribution

from the mid-third century onwards with a range of colour-coated vessels, and is extensively dealt with by Young (1977). The fabric is fine and smooth, red-brown to orange-brown (sometimes with a grey to buff core), with abundant mica and very fine sand, and very occasional coarse, irregular limestone and medium-sized black and red particles (ironstone ?). Most vessels are bowls; Young types C78 [118], [122], C51 [132], C55 [129], and C45 [129]. Also present was a colour-coated mortaria with angular flange; Young type C100, fourth century [114], [168]. FORMS: 58(C52) [179], 59(C77) [177], [118].

Parchment Ware
Probably Oxfordshire — fine white fabric with red paint. Not common.

Red Painted Ware
Fairly coarse orange fabric with grey core, moderate medium-sized sub-angular quartzite and very occasional larger inclusions of angular flint, grog and limestone. Only one vessel was identified which is of a very archaic form and has a white colour-coat and red-painted decoration. It is probably a local ware, and early. FORMS: 19 [105].

Hadham Red Ware
The kilns at Hadham appear to have been productive since the late second century, but wide-scale distribution only began later reaching a peak in the mid-fourth century with a range of fine wares including imitation Samian and Romano-Saxon style decorated vessels. A fine orange to red-orange fabric, sometimes with a grey core, abundant fine sand and black ironstone particles, sparse to moderate mica, and occasional medium-sized sub-angular translucent quartzite grains. Self-coloured slip and frequently burnished with linear-horizontal strokes. Most of the vessels are bowls, with some jars. Several interesting sherds were also recovered, one was a base that had been trimmed to a disc and perforated slightly off-centre [103]; two sherds with Romano-Saxon motifs, one with girth grooves and diagonal slashes, Roberts type x.1 [132], probably later fourth century, and the other, a boss with a dimple in, Roberts type x.21 [132]. Also a vestigial reeded handle was found that would have been applied to a flagon or jug but no longer functional since it is flattened [177]. FORMS: 3 [122], 18 [118], 20 [118], 43 [114], 44 [114], 60 [177], 61(A.30) [177].

Hadham Grey Ware
The fabric, surface finish and decoration, and range of forms are very similar to the Hadham Red Ware, except in grey instead of orange colour. Practically all vessels are bowls or open jars. Two other interesting sherds (not illustrated) were from a bowl with Romano-Saxon motifs of bosses and six-dimple triangles (Roberts type x.14 [177]), and a sherd with bounded rouletting [177]. FORMS: 4 [138], 21 [155], 45 [134], 62 [177], 63 [132], 64(A.20) [104], 65 [177].

Grey Colour-coated Ware
A fine buff fabric, though varying from pale grey to pinkish cream, with sparse to moderate mica and moderate medium-sized grains of translucent, sub-angular quartzite, and with occasional coarser inclusions of limestone, grog and angular flint. Surface covered with a pale to dark grey colour-coat. It is probably from a local source, but does not appear to resemble anything from known kiln sites. Most vessels are bowls with some dishes and jars. FORMS: 46 [114], 66 [177], 67 [177], 68 [177], 69 [177].

East Gaulish? Colour-coat
A few sherds appear to derive from the East Gaul, in two fabrics — one in very fine and hard, clean white fabric, probably from Cologne, and another in an equally fine and hard sandwich of dark red and grey, probably from Trier; both with dark colour-coats. Their similarity to fine colour-coated vessels from the Nene Valley or Colchester must also be considered as an alternative source.

Coarse Wares

BB1
Coarse dark grey to black fabric with a thin reddish-brown layer just beneath the surface; abundant rounded to sub-angular 'milky' quartzite grains; handmade and burnished with lattice or wavy-line decoration. The original product was made in Wareham–Poole, Dorset, though BB1 wares also appear to have been manufactured elsewhere such as Rossington Bridge, Yorkshire and the Lincoln Racecourse kilns. The source of the Wimpole BB1 is probably from Dorset. All forms are either bowls, including a Gillam type G330 [179], or dishes. FORMS: 22(G329) [172], 23(G225) [105], 70(G228) [128].

BB2
A moderately coarse to fine red-brown to

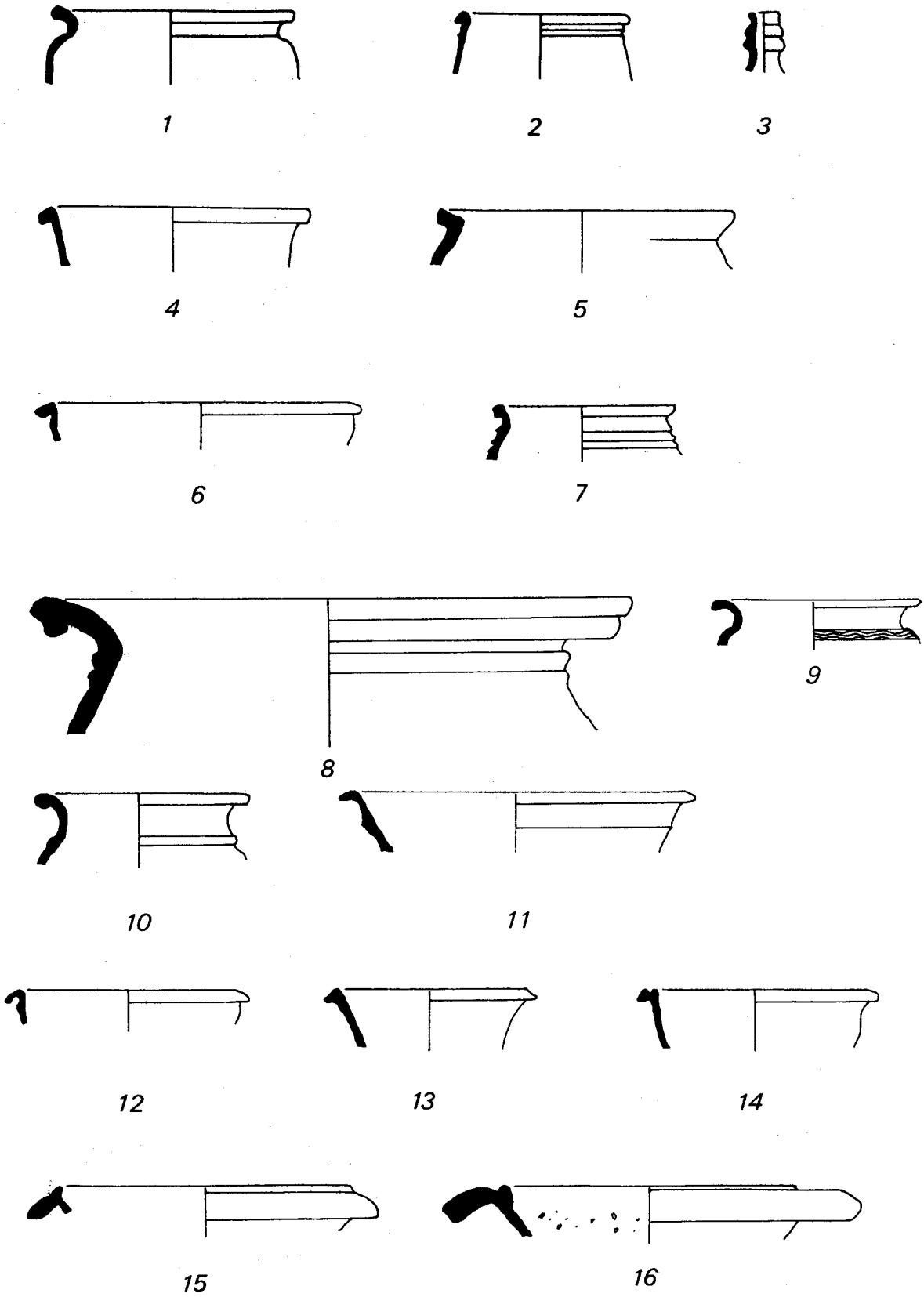


Figure 11. *Pottery forms.*

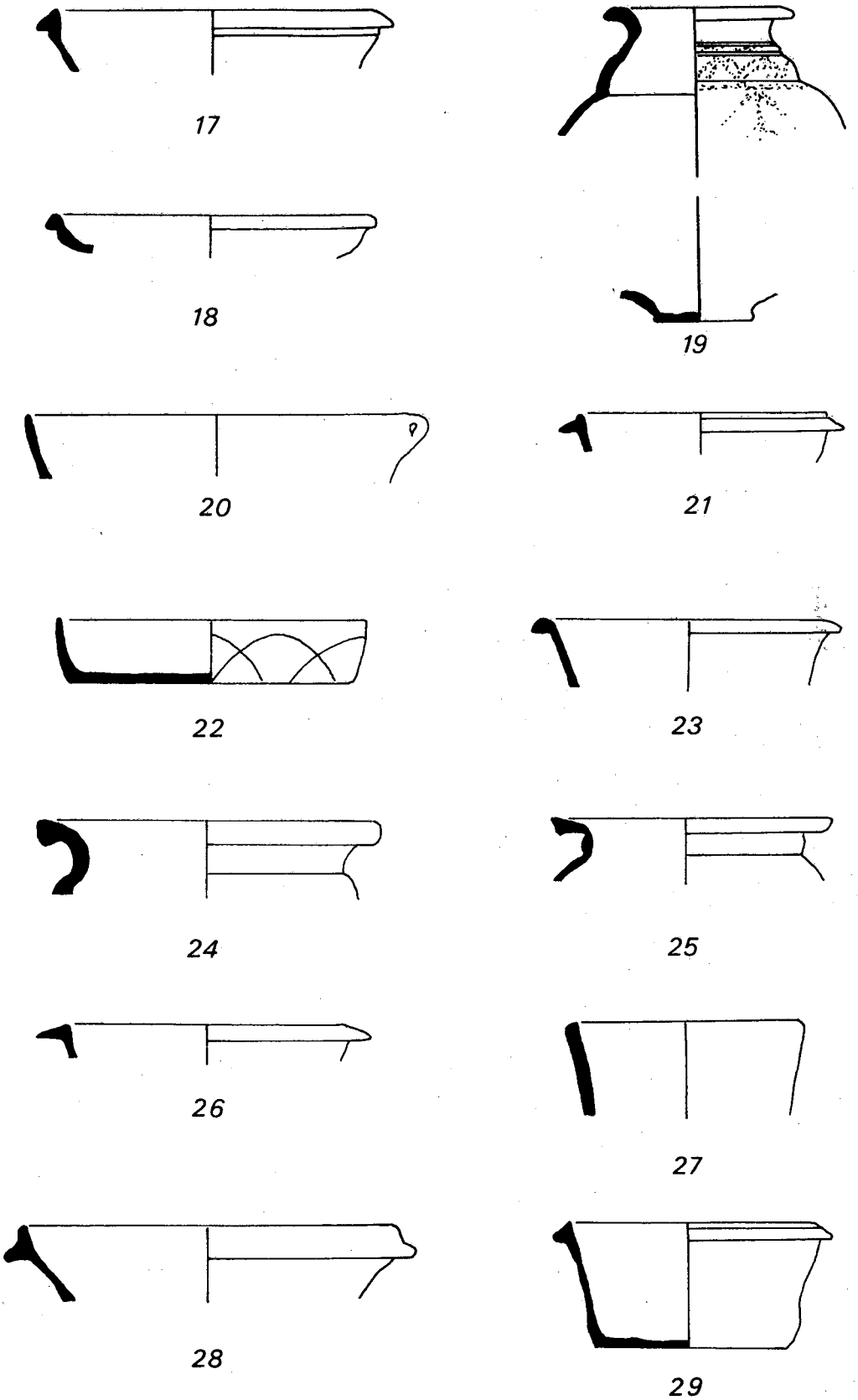


Figure 12. *Pottery forms.*

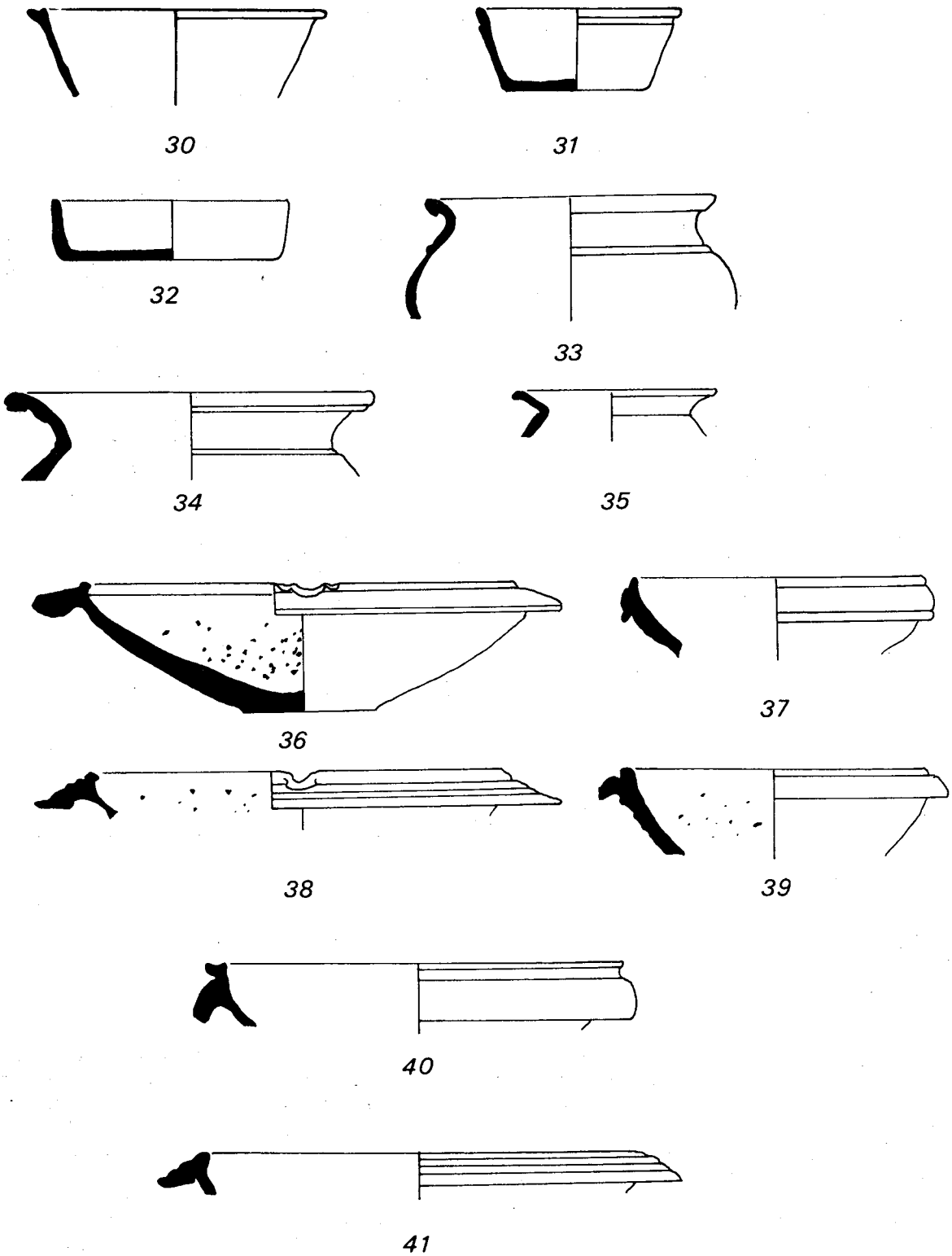


Figure 13. *Pottery forms.*

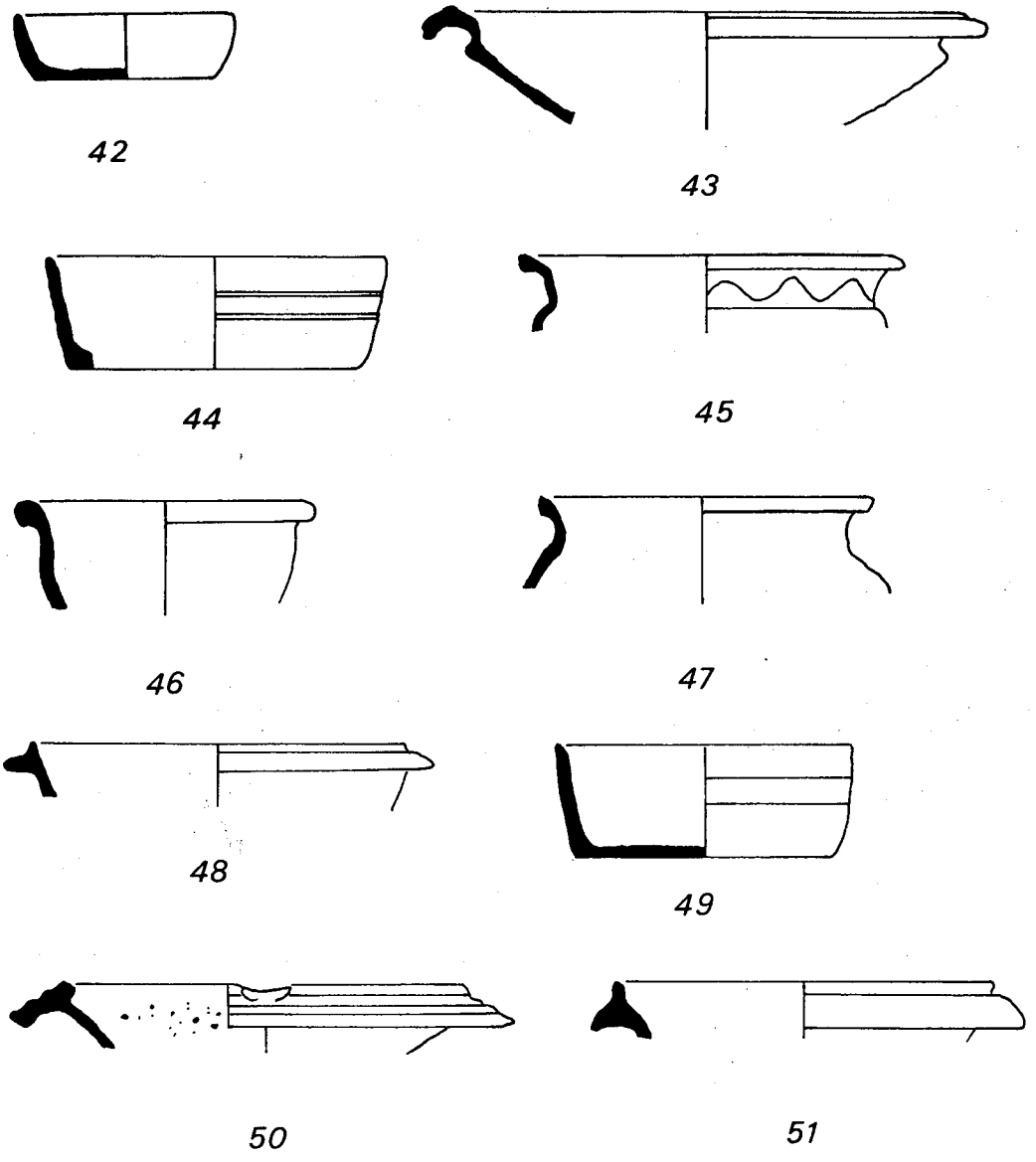


Figure 14. *Pottery forms.*

black fabric, sometimes with a grey-buff core, with abundant mica and fine sand, and occasional medium-sized quartzite grains and grog; lattice decoration and burnished to a silky finish. Probably from kilns in Essex. All bowls or jars, including Gillam types G225 and G331. FORMS: 71 [177], 72(G142) [177], 75 [177].

Shell-tempered Ware

Soft brown to orange fabric with a dark grey core, sparse mica, moderate fine sand, occasional grog and abundant coarsely crushed fossil shell. The vessels are predominantly wide-mouthed jars with square, everted rims, often undercut, and a few bowls. This is a characteristic of late Roman ware, though there are some earlier beaded jars in the assemblage. The sources of shell-tempered ware are not well known, though it is thought that the Nene Valley was producing them on the basis of a Trajanic kiln, though other sources such as Harrold, in Bedfordshire are possible (*cf.* Going 1987: 10). It is more than likely that this fabric derives from more than one source. In feature [172], there were two large bases that had been trimmed to discs and perforated. FORMS: 5 [138], 24 [105], 25 [105], [122], 26 [172], 27 [105], 28 [105], 47 [134], 74 [177].

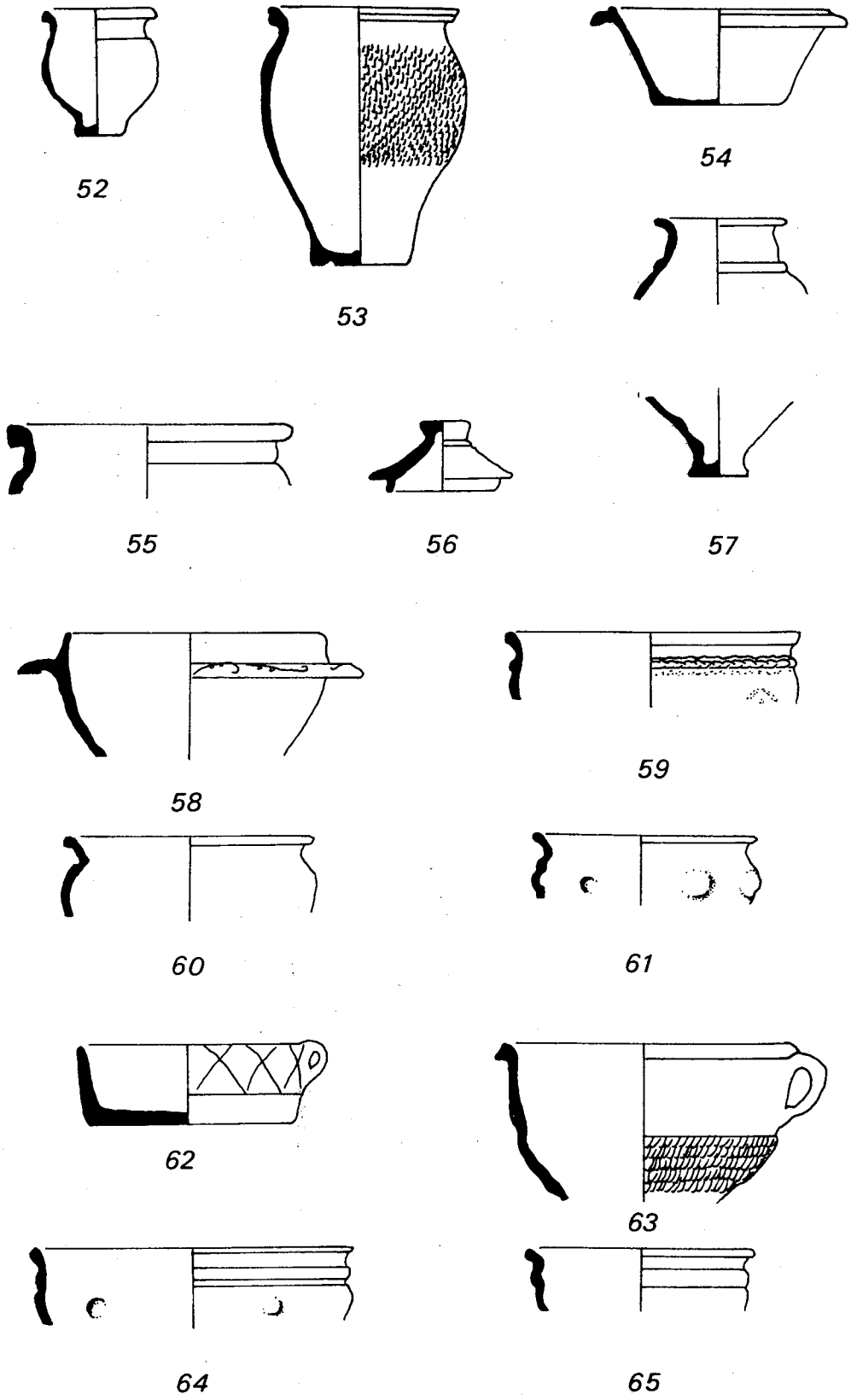


Figure 15. *Pottery forms.*

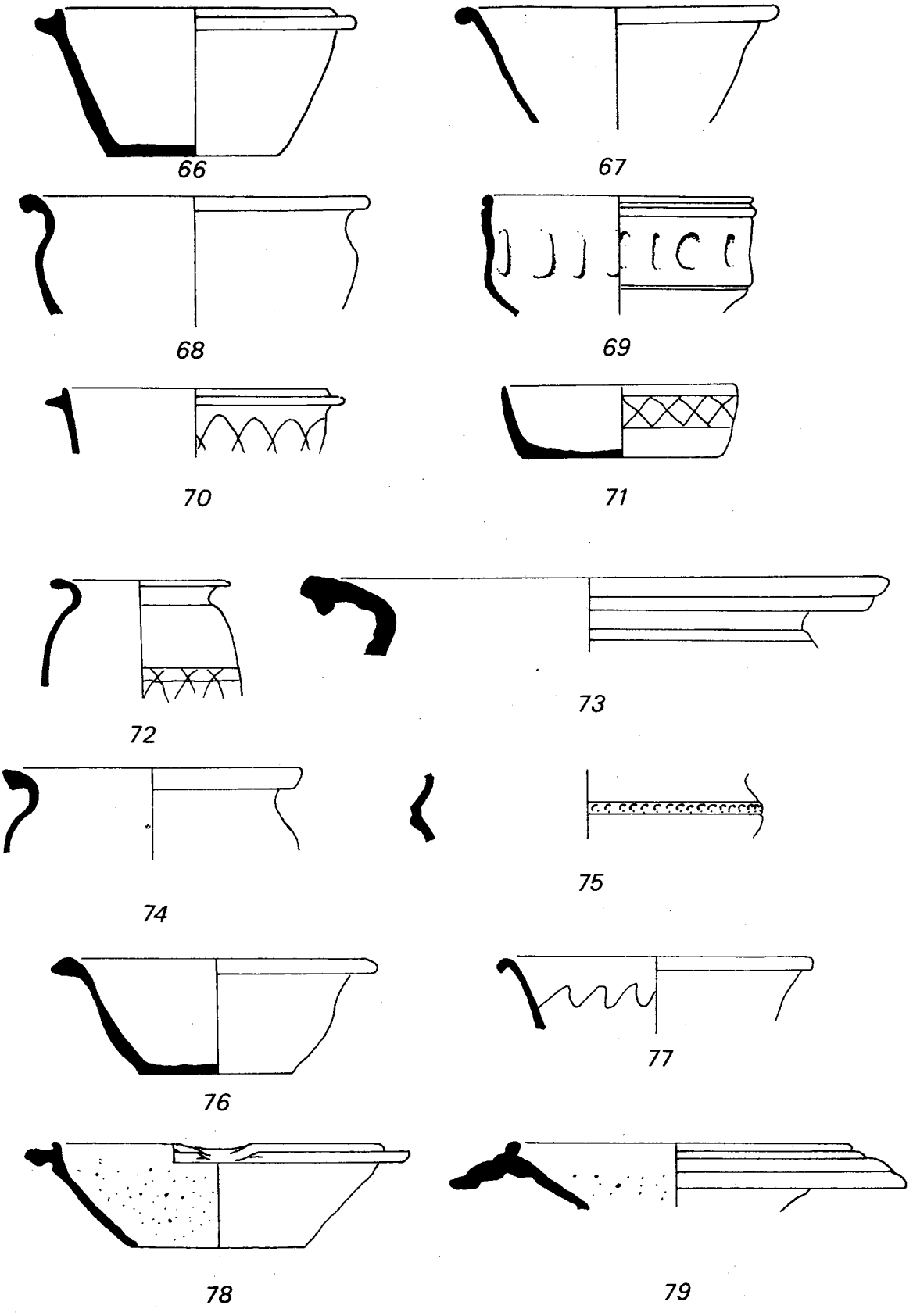


Figure 16. *Pottery forms.*

Sandy Grey Wares
Between 30 and 40% of all the pottery consisted of a sandy grey ware which exhibited a similar fabric, finish and forms, although clearly local coarseware fabrics are often notoriously difficult to differentiate and source. Quite a hard fabric with moderate mica, abundant medium to coarse grains of translucent, sub-angular quartzite, and occasional coarse inclusions of grog, limestone and angular flint. The surface of the vessel is almost invariably reduced to a grey colour and covered with black to dark grey slip over most the exterior and just below the rim of the interior, and less commonly, there is burnishing. The chief variability is due to the firing, producing buff, orange-brown, oxidised with a grey core, and all grey fabrics. Whether these differences are intentional or relevent is a another problem. Much of this ware almost certainly comes from the Horningsea kilns, which produced the usual general range of kitchen ware vessels, although its most distinctive form is the large storage jar with a cordoned rim, and obliquely slashed base, which here, occurs mainly in the oxidised fabrics, and is often white-slipped and combed. The life-span of these kilns has generally been underestimated — the presence of these wares in such late contexts demonstrates that the kilns were active probably from the second century onwards. Bowls and jars are the commonest forms and more or less in equal proportions, with some dishes and lids and storage jars in lesser quantities. In feature [177], a grey fabric base has been perforated. FORMS: 6 [138], 7 [138], 8 [138], [163], 10 [163], 11 [176], 29 [172], 30 [153], 31 [172], 32 [122], [172], 33 [172], 34 [153], 48 [114], 49 [114], 73 [103], 76 [177], 77 [177].

Grog-tempered Ware
Only few sherds of very coarse manufacture were recovered (less than 1% of the total), probably from vessels produced on or near the settlement at Wimpole. The fabric is a hard, brown-grey, tempered with coarse particles of ironstone, quartzite and grog, with a very rough and uneven finish. It seems to occur mainly in the later contexts, and is either residual Iron Age or Late Roman/ Early Saxon. Unfortunately no forms were recovered for this fabric.

Flint-gritted Ware
As rare as the coarse handmade ware, this seems to have mainly consisted of thick-walled vessels, and is perhaps also handmade. The fabric is a very hard, red-brown, tempered with coarsely crushed angular flint and shell. It seems to occur mainly in the later contexts, with a peak in the early fourth century. There are no forms for this fabric.

Grass-tempered Ware
A fine, grey fabric with frequent fine sand temper, occasional coarse sub-angular quartzite and sparse mica, with some coarse organic (grass or straw) matter. All thick sherds, probably storage jars. No forms — rare and probably late.

Fine Grey Ware
A hard, pale grey fabric, often with a buff surface, with abundant fine sand and tiny ironstone particles, sparse mica and occasional coarser grains of sub-angular quartzite. Usually covered with a self-coloured slip, though also occasionally with black or white paint. Possibly from Essex. Vessels are chiefly jars and bowls, in similar amounts. In feature [103], there is a base trimmed to a disc but not perforated. FORMS: 9 [138], [163], 12 [138], 13 [197], 14 [138], [163], 35 [105].

Amphorae

South Spanish (Baetican)
A fine-textured, pink-red to orange-pink fabric with frequent fine to moderate sub-angular quartzite grains, and moderate finely ground calcite. Quite thick sherds, almost certainly from Dressel 20, though no forms were recovered.

Mortaria

Nene Valley Mortaria
a) Hard creamy white or orange fabric with black ironstone trituration grits. FORMS: 15 [138], 36 [172], 38 [153], 50 [114].
b) Hard orange fabric with grey core, tempered with frequent medium to coarse quartzite grains and occasional limestone and flint, black ironstone trituration grits and yellow-slipped. Although much coarser than the typical Nene Valley mortaria, the trituration grits, form and slip, are all distinctive of the Nene Valley. If not made in the Nene Valley itself, perhaps by a local potter copying Nene Valley styles? FORMS: 79 [177].

Oxfordshire Mortaria
Hard, creamy white to pink fabric with distinctive multi-coloured quartzite trituration grits. Includes Young type M17 [166]. FORMS: 78(M22) [132], [177].

Table 1. *The number, weight, evrep and percentage of sherds for each ware.*

	Sherd Count	%	Sherd Wt.	%	Evrep	%
Fine Wares						
Samian	195	2.2	1560	1.6	12	2.2
E. Gaulish	29	0.3	148	0.2	2	0.4
Nene Valley	1020	11.7	7937	7.7	41	7.5
Harston CC	38	0.4	220	0.2	7	1.3
Oxford CC	155	1.8	1221	1.0	11	2.0
Grey CC	209	2.4	2603	2.5	27	5.0
Hadham Red	541	6.2	5473	5.2	32	5.8
Hadham Grey	383	4.4	3435	3.3	62	11.4
Coarse Wares						
BB1	128	1.5	1525	1.5	6	1.1
BB2	79	0.9	1255	1.2	19	3.5
Fine Grey	1234	14.2	11,245	11.0	71	13.1
Shell-temp.	1303	15.0	18,531	18.0	104	19.1
Sandy Grey	3083	35.4	37,659	37.3	161	29.6
Grog-temp.	74	0.8	830	0.7	0	0.0
Flint-grit.	40	0.5	778	0.7	0	0.0
Amphora						
Baetican	49	0.6	1225	1.2	0	0.0
Mortaria						
Nene Valley	36	0.4	1630	1.6	16	2.9
Oxfordshire	16	0.2	780	0.7	4	0.7
Verulamium	3	0.2	95	0.2	3	0.6
Others	9	0.1	250	0.2	6	1.1
Total	**8699**	**99.7**	**101,292**	**100.0**	**544**	**107.3**

Table 2. *Incidence of fabrics and forms by phase, based on evrep.*

PHASES	**I** AD 180–240		**II** 240–300		**III** 300–360		**IV** 360+	
FABRICS								
Samian	3	(3%)	7	(4%)	1	(2%)	1	(0.5%)
E. Gaul	0	(0%)	1	(0.6%)	0	(0%)	1	(0.5%)
Nene Valley	4	(4%)	8	(4%)	8	(14%)	20	(10%)
Hadham Red	5	(5%)	6	(2%)	8	(14%)	15	(8%)
Hadham Grey	3	(3%)	8	(4%)	8	(14%)	30	(15%)
Oxford CC	0	(0%)	6	(3%)	0	(0%)	4	(2%)
Harston CC	0	(0%)	0	(0%)	0	(0%)	6	(3%)
Grey CC	0	(0%)	13	(7%)	1	(2%)	16	(8%)
Fine Grey	20	(22%)	27	(15%)	3	(5%)	17	(9%)
Sandy Grey	35	(37%)	61	(35%)	17	(30%)	39	(20%)
BB1	0	(0%)	2	(1%)	0	(0%)	2	(1%)
BB2	0	(0%)	4	(2%)	1	(2%)	12	(6%)
Shell-temp.	20	(22%)	32	(18%)	9	(16%)	34	(17%)
FORMS								
Cups	2	(2%)	4	(2%)	1	(2%)	1	(0.4%)
Beakers	2	(2%)	5	(3%)	2	(3%)	1	(0.4%)
Jars	43	(48%)	85	(46%)	24	(40%)	113	(52%)
Bowls	27	(29%)	50	(27%)	17	(28%)	59	(27%)
Dishes	5	(5%)	14	(8%)	9	(15%)	23	(11%)
Lids	2	(2%)	7	(4%)	2	(3%)	1	(1%)
Flagons	1	(1%)	1	(0.5%)	0	(0%)	1	(0.5%)
Storage Jars	8	(9%)	7	(4%)	1	(2%)	3	(1%)
Mortaria	2	(2%)	10	(5%)	4	(7%)	13	(6%)

Verulamium Mortaria
a) Hard creamy white to pink with a grey core with white quartzite and flint trituration grit. FORMS: 40 [155].
b) A fine but granular fabric with abundant medium-sized grains of sub-angular quartz and occasional ironstone particles. Pale grey with buff exterior, gritted with crushed medium-sized grey and red flint. Potters stamp on form 16 reads CIIIII/VICIII; these letters may in fact be the herringbone stamp typical of Colchester mortaria. FORMS: 16 [194].

Colchester Mortaria
Hard and coarse yellow-buff fabric with abundant medium to coarse, multicoloured quartzite and ironstone particles and gritted all over with white quartzite and angular flint. FORMS: 37 [105].

Unsourced Mortaria
A fine but granular fabric, abundantly tempered with medium-sized rounded to sub-angular, translucent quartzite grains, and occasional angular limestone and flint. Trituration grit, when present, is a dull grey or black ironstone. The colour varies from pink-orange through pink-buff to pink-grey, occasionally with a black core. It is probably of local fairly manufacture (*cf.* Nene Valley fabric b above). Includes an incipient hammerhead type [179]. FORMS: 39 [105], 41 [105], 51 [134].

Discussion

The ceramic assemblage from Wimpole offers a glimpse at the range of wares and vessels from a small roadside settlement in the later Roman period; the overall ratio of fine to coarsewares is about 1:3, and 90% of the vessels are bowls, jars and dishes, with beakers, cups and flagons making up less than 10%. Based on independent ceramic phasing, the assemblage has been divided into four periods.

Phase I. c. AD *180–240*

The earliest phase has three fine wares, almost all coming from either Hadham or the Nene Valley; these production centres dominate the finewares throughout the life of the site, particularly Hadham. Samian is also present in a small amount. Of the coarse wares, sandy grey wares predominate, chiefly from Horningsea while Fine Grey Ware and the Shell-tempered fabric are present in about equal proportions. Most vessel types are represented, except platters which do not occur at all, and jars and bowls dominate the assemblage, and to a lesser extent, storage jars.

Phase II. c. AD *240–300*

The later third century sees a huge rise in pottery on the site by at least double the amount in the previous phase. Also new fabric types occur. With the fine wares, the usual sources are still present, with Hadham still dominating, but the arrival of Oxfordshire colour-coated vessels appear to give some competiton with the Nene Valley products. Black Burnished Ware also occurs for the first time, both BB1 from Dorset, and BB2, probably from Essex, the latter of which is twice as common. Another new fabric is the Grey Colour-coated Ware, probably from a fairly local source in Cambridgeshire. The other grey wares all decline slightly, while the shell-tempered fabric increases its percentage of the coarse wares, at their expense. In this period jars rise slightly, particularly the open type, though the large storage jars drop by a half, while dishes, mortaria and lids all show a slight but marked increase as a proportion of the overall assemblage.

Phase III. c. AD *300–360*

The early fourth century sees a very sharp drop in ceramic activity, to lower than the levels in Phase I. The main victim of this decline seems to be the coarse wares, for the fine wares rise to compose nearly half of the total assemblage, although Oxfordshire products are no longer present, neither BB1, suggesting that the more distant exporters could not maintain a market here at this time. Of the more local coarse wares, the Fine Grey Ware fabric shows the greatest fall, of a half, while shell-tempered fabrics show some increase.The sandy grey wares, from Horningsea, maintain a fairly consistent dominance of the coarse ware assemblage, though overall they have shown a gradual decline since Phase I. Jars show a decrease, while dishes continue to increase as do mortaria while storage jars have dropped to a minimal presence.

Phase IV. c. AD *360+*

The final phase on the site sees a resurgence of activity back to the level of Phase II.

Oxfordshire products and BB1 return to the site, and red colour-coated fine wares from the nearby kiln at Harston make a presence. Also, from an unstratified context, came a large storage jar from Alice Holt in Surrey. Hadham though, still dominates the fine ware market, followed by the Nene Valley, which no longer seems threatened by the Oxfordshire products. Fine wares in general maintain a quite high percentage of the assemblage compared to the first two phases. The grey colour-coated ware remains at a similar amount, though BB2 has a quite dramatic increase on its previous peak. The other coarse grey wares never quite recover their third-century levels, and the sandy grey ware reaches its lowest levels ever, pratically in equal amounts now to the shell-tempered fabrics. On the other hand, in terms of vessel types, jars do show a revival, back to their former levels, particularly open jars, while storage jars remain negligible. Dishes, mortaria and lids drop.

Summary c. AD *180–360+*

The collection of pottery from the Roman settlement at Wimpole has shown some interesting patterns; the first is the fluctuation of quantities of pottery on the site over time, with quite minimal presence in Phases I and III, in distinction to Phases II and IV. Relating these to the stratigraphic phasing indicates that the periods of low ceramic activity are associated with the highest feature activity in terms of ditches etc.. If the ceramic activity can be taken as an indicator of economic activity on the site, then it might suggest that the site was used for dumping during more prosperous times, with field systems further out, while at others, field ditches/boundaries came closer up to the settlement. Recent work in trade patterns in Roman Britain suggests a cyclical movement of booms and troughs (Going 1992); this pattern is visible too if the total number of settlements is looked at over time, with peak density in Cambridgeshire occurring in the Antonine, later third, and mid-fourth centuries AD (Elrington & Wilkes 1978). These periods match the peaks in Going's cycles. They also match the peaks at Wimpole, Phases II and IV occurring in the later third and mid-fourth centuries AD.

One of the consequences of this cycle relates to problems of dating pottery — Going suggests that in the troughs, there will be less pottery, and a higher proportion of residual material, more worn — indeed, the pottery forms may be longer-lived. All of this could cause problems when trying to date assemblages. Curiously enough, although the Wimpole assemblage does show increases in quantities during 'booms', the greatest date variation of the pottery also occurs in these phases (ie. II & IV). This, however, may be due to the fact that most of the features in these phases are in fact re-cuts of earlier ditches, which would entail a high degree of contamination. Residual pottery is always a problem, and perhaps the most secure way of taking this into account is noting the degree of use wear and repair on vessels. Unfortunately this was not carried out in this case.

If we look at the sources of the pottery over time, most of it would seem to come in to Wimpole from within a 50–60 km radius, except during the boom phases, when Dorset BB1, Oxfordshire colour-coated wares and Alice Holt are also present. Otherwise, *c.* 80% of the fine wares appear to derive from Hadham or the Nene Valley, which lie at opposite ends of the main north–south Roman road, Hadham Ware being perhaps twice as common, and closer to Wimpole by *c.* 20 km than the Nene Valley. Also, if we look at the ratio of red to grey coloured fine wares, we find that in Phase I red wares are three times more common, but by phase II, they have equalled, and by the final phase, greywares are twice as more common than the redwares. Turning to the coarse wares, these are much harder to source, but if most of the sandy grey wares derive from Horningsea, *c.* 25 km distant on the main road to Cambridge, then they account for half, though this drops to nearly a third by the final phase. Fine grey ware shows a similar decline over time. Conversely, shell-tempered fabrics, which probably come from a number of sources, including Harrold in Bedfordshire (*c.* 40 km away) for the later material, show a steady rise over the period.

Over time, in terms of fabrics/wares, there does seem to be a noticeable shift from preference for red fine wares to grey fine wares, and from grey coarse wares to orange shell-tempered coarse wares. It is as though there is a certain avoidance of mixing categories here between special and everday pottery vessels, in that it was deemed wrong to have the same coloured fine ware as your everyday ware. Whether it was the preference for grey fine wares which forced a switch to the shell-tempered coarse wares or vice versa

is difficult to say, but the data does indicate that the former change earlier. In general, for all phases, one might also say that fine wares tend to come from sources over *c.* 40 km distant, while coarse wares from within *c.* 40 km.

Looking now at vessel types, jars dominate the assemblage, but show a slight decline over time until a revival in the final phase; however, in particular, open type jars show a steady increase over time, while large storage jars show just the opposite. Open vessels in general, such as dishes and mortaria show an increase, peaking in the early fourth century. Bowls, cups and beakers are by far the most stable types, showing very little variation as part of the assemblage through time. Lids are strongest in the later third and early fourth century.

Six cases of re-use of vessels were noticed, all of bases. Three variations were identified, though they may represent three stages of one process. One example of a base fragment with a perforation at the bottom was recovered; three examples of bases trimmed to discs with central perforations were found, and finally two examples of unperforated but trimmed bases. The original vessel seems to be irrelevant (except perhaps size) to their re-use, as these were found on fine ware and coarse ware alike. Examples come from both the earliest and latest contexts. Possibly they are lids, but gaming pieces may be more likely.

A study of the pottery from Wimpole has shown some interesting patterns, some local and others more widespread; it is hoped that similar work in the future on Roman pottery, particularly in the Cambridge region, may corroborate or extend them; little has been done on distribution and chronology for this area, particularly for the local wares such as Horningsea, and it is hoped that future excavators can lend the time and resources to this undeveloped field.

References

DARLING, M.J. 1989. Nice fabric, pity about the form, *Journal of Roman Pottery Studies* 2: 98.

ELRINGTON, C.R. & J.J. Wilkes (ed.). 1978. *Victoria County Histories*, vol. VII: *Roman Cambridgeshire*. Oxford: Oxford University Press.

FULFORD, M. 1977a. Pottery and Britain's foreign trade in the late Roman period, in Peacock: 35–84.

GOING, C.J. 1987. *The Mansio and other Sites in the South-eastern Sector of Caesaromagus: The Roman Pottery*. (CBA Research Report 62.) London: Council for British Archaeology.

GOING, C.J. 1992. Economic 'long waves' in the Roman period? A reconnaissance of the Romano-British ceramic evidence, *Oxford Journal of Archaeology* 11: 93–117.

GOING, C.J. Forthcoming. *The Hadham Roman Pottery Industry: Excavations at the Pottery Manufacturing Ssite at Bromley Hall, Much Hadham, 1951–69*.

HARTLEY, K.F. & B.R. HARTLEY. 1970. Pottery in the Romano-British fenland, in C.W. Phillips (ed.), *The Fenland in Roman Times*. (RGS 5.) London: Royal Geographical Society.

HODDER, I. 1974. Some marketing models for Romano-British coarse pottery, *Britannia* 5: 340–59.

HOWE, M.D., J.R. PERRIN & D.F. MACKRETH. 1980. *Roman Pottery from the Nene Valley: A Guide*. (Peterborough City Museum Occasional Paper 2.) Peterborough: City Museum and Art Gallery.

PULLINGER, J. & C.J. YOUNG. 1981. Obelisk kilns, Harston, *Proceedings of the Cambridge Antiquarian Society* LXXI: 1–24.

ROBERTS, W.I., IV. 1982. *Romano-Saxon Pottery*. (BAR 106.) Oxford: BAR.

SWAN, V.G. 1984. *The Pottery Kilns of Roman Britain*. London: RCHM.

WALKER, F.G. 1911. Roman pottery kilns at Horningsea, Cambridgeshire, *Proceedings of the Cambridge Antiquarian Society* XVII: 14–69.

YOUNG, C.J. 1977. *The Roman Pottery Industry of the Oxford Region*. (BAR 43.) Oxford: BAR.

YOUNG, C.J. (ed.). 1980. *Guidelines for the Processing and Publication of Roman Pottery from Excavations*. (DAMHB Occasional Papers 4.) London: HMSO.

The Human Burial [168]

By Tristan Wilson

The human skeleton recovered during the excavation was complete *in situ* (Fig. 8). Unfortunately the clayey nature of the subsoil modified this situation. None of the long bones were recovered whole, many of the more fragile anatomical elements were reduced to fragments and many of the smaller bones were lost completely.

This caused particular problems when it came to sexing the skeleton. The most reliable distinctions between male and female are usually to be found on the pelvis. However the fragmentary pelvis failed to produce any clear-cut result. Instead indications of sex were derived from the jaw and skull. The conclusion reached was that the individual was female, which would tend to be corroborated by the nature of the grave goods.

Ageing the body proved less problematical. The vertebral column was of particular use. The cervical vertebrae are the most mobile in the spine and the neck region thus tends to be the first part of the spine to be modified with old age. In this case no such modifications had taken place, the cervical vertebral articular facets being in good condition. The lower lumbar vertebrae, however, exhibit pathological changes consistant with a fairly arduous life. Therefore it is suggested that death took place at some point during middle age.

Although ageing by attrition on the teeth is viewed warily, this evidence tends to support the spinal observations. All the molars show patterns ranging from moderate to extreme wear. Three chronic abcesses would have made any chewing action extremely painful, if not impossible. These are in the upper left anterior molar, the lower left anterior molar and lower left second molar. Alveolar bone recession occurred in both the maxilla and the mandible. This involved the lowering of the jaw bone around the roots of the teeth, leaving progressively more and more of the roots exposed.

To summarise, the complete inhumation from Wimpole was probably a middle-aged adult female who performed some kind of physically strenuous labour.

The other adult human remains were extremely fragmentary and incomplete. Context 122C (an east/west ditch) revealed a human mandible and context 124 (an east/west gully) produced a large amount of typically spongy human bone, little of which was identifiable.

The following neonatal material was recovered; one humerus, five tibiae, one pelvic fragment, three femorae and a fibula. The tibiae point to a minimum of three individuals as having been present. A metrical investigation showed that the bone belonged to very young infants, probably newly born.

The Skeletal Material from the Watching Brief

By Corinne Duhig

Post mortem disturbance had intermingled adjacent parts of two principal skeletons: that of a mature adult man lacking only the feet, and the remains of an adolescent with both lower legs and feet missing. There were also two femoral fragments from two further adults individuals. Some bones were much broken, notably the skulls, but their robust condition facilitated reconstruction (Fig. 9).

Skeleton 1

Features of skull, pelvis, sacrum, and long bones all enabled this individual to be identified as male. His age could not be closely determined, and can only be placed in the category 'mature adult': the condition of the pubic symphysis is that of the Suchy-Brooks stage VI, which covers a range from mid-adulthood to old age; the dental wear conforms to Brothwell's third stage, 35–45 years; the minor arthritic in the spine suggest an age of more than 35 years. Four long bones were complete, and could be measured for an estimation of stature. However the variation of height estimates obtained was too great (6.2 cm) to provide a useful figure. Leg bones are known to provide closer approximations to actual height, so it is suggested that the height of this individual was probably at the lower end of the range, around 170–71 cm.

Apart from the slight signs of degenerative arthritis in the spine, shown in osteophytic 'lipping' of three of the vertebrae, the other evidence of heavy manual work causing disc degeneration (Schmorl's nodes on three thoracic vertebrae), this man appears to have been, at least skeletally, healthy. His teeth are less so: two teeth had been lost before his death, with severe recession of the gums

around them resulting from inflammation. The wear on the molars is considerable and slightly unusual, and might show the habit of tooth grinding (bruxism), either as a cause or a result of the evident malocclusion. One first molar had been worn down so far as to expose the root canal and had, unsurprisingly, developed an abcess.

Skeleton 2

Almost all the upper part of this skeleton was preserved, but the lower part of the left femur and both lower legs and feet were missing. The skeleton is that of an immature individual, in which all the long bone epiphyses are unfused, the third molars unerupted, showing that the age was less than 18 years, and the absence of wear on the second molars would suggest that it was not long since erupted, at approximately the twelfth year.

Other Bones

A left femur and part of a right femur, both adult, were mixed with the bones of the other skeletons. They were not a pair, and so indicate the presence of two other individuals. Also present were a few rib fragments which could not be attributed to either of the 'complete' skeletons, and which might belong to one of these additional adults.

The Faunal Remains from Wimpole Hall

By Tristan Wilson

The excavations at Wimpole Hall produced 19 boxes of bone. The stratified bone sample consists of the following mammalian species: cow, horse, sheep/goat, pig, dog, roe deer and hare. Chicken, goose and amphibian remains are also represented. Human material was recovered in the form of one complete adult inhumation plus bones from at least one other adult and partial neonatal burials.

Levels of bone preservation on the site were fair, though an appreciable number of contexts included skeletal elements covered in a concrete-like accretion, which tended to make identification difficult. A good indicator of preservation is the ratio of the number of proximal to distal humeri fragments. Distal humeri survive better than proximal humeri since the latter are more spongy in nature and have a higher specific gravity.

Most of the contexts yielded easily identifiable bone, since bone fragments of less than 5 cm in length rarely occurred. This was most likely due to the lack of implementation of a sieving programme due to pressures of time.

This lack of sieving will also have generated another bias pointed out by Payne (1975: 7–17). Even conscientious excavators will tend to miss smaller bones thus producing a bias towards large mammals like cow and horse, whilst sheep, goats, small mammals, birds, fish, amphibians may be under-represented. This may have been further exacerbated by the clayey conditions on the site.

Methodology

The methodology employed in examining any faunal deposit will depend on two areas of consideration: first what sort of information is to be extracted from the bone sample. A very basic example being what did the local population eat? Others are concerned with both temporal and spatial variations. For example how, if at all, does animal utilisation change through time and also whether different areas of the site were used for different aspects of animal exploitation at any one time. The second consideration is that of resources available to the analyst. This essentially involves consideration of information potentially available in a bone assemblage against the difficulty involved in extracting it. Quite often there is little point in examining every single fragment since the relatively small amount of information thus derived would be extremely expensive in terms of time and money.

Obviously a balance has to be achieved. With the Wimpole material this balance was achieved by looking in each context for a certain range of anatomical indicators. These bones were concentrated on since they could readily be fitted into a scheme of carcass utilisation. For example the scapula, humerus, pelvis, radius and femur can be viewed as the main meat-bearing elements, whilst phalanges, particularly of cattle, are often used to produce glue. For any bone to be recorded it had to be at least 50% present. The elements chosen were; horn-core, jaw, glenoid of the scapula, proximal and distal

humerus, distal radius, distal metacarpal, first phalange, acetabulum of the pelvis, distal femur, distal tibia, distal metatarsal, and radial carpal astragalus.

It was felt that by looking for these particular skeletal elements a good overview of the site could be achieved in the limited time available. This would give a clear picture of species present and also indicate possible variations through time and space.

The overall results can be seen in Table 4, with incidences of gnawing and butchery in Tables 5 and 6. It should be noted that no estimate of minimum numbers of individuals will be attempted since the small sample size would preclude any degree of accuracy. It is also appropriate to mention temporal and lateral variation at this point. All the indicators were plotted by phase and site location. From this it was hoped that temporal and spatial variations would be visible. Unfortunately no real patterning was seen. To a certain extent this can be linked to the relatively small assemblage size. It was therefore decided to examine the assemblage as a single body of material in order to derive as much information as possible.

Cow

In terms of indicators, cattle are the most common species found on the site. An attempt was made to see if the cattle bone represented meat-bearing or non-meat-bearing elements. The scapula, humerus, pelvis, radius and femur were regarded as the main meat bearing bones (though it must be remembered that in certain butchery techniques the scapula and pelvis are treated as waste). Mandibles, metapodia, distal tibiae and phalanges were taken as non-meat-bearing. The numbers of metapodia and phalanges were weighted to take into account their skeletal frequencies. The following results were obtained.

1.	meat-bearing bones	54
2.	non-meat-bearing bones	34

This is a very coarse index, taking no account of phasing or lateral variation, but it nevertheless points to a distinct bias towards meat-bearing bone. Two possible explanations for this may be postulated. Firstly the animals could have been slaughtered elsewhere, with the lower legs being removed prior to the carcasses being brought on site. Alternatively butchery could have taken place on or near the site with the skulls and lower limb bones being taken off the site (or at least outside the area of excavation) for disposal. Realistically both possibilities may well have happened, since rarely, if indeed ever, does Man pursue one exploitation or utilisation strategy in total isolation of others. Whilst suggesting an emphasis on meat-bearing elements, it should also be remembered that non-meat-bearing bones are in evidence on the site, such as the ox skull from context 161. Also butchery marks should be noted in this context. The horn core which exhibits butchery has cut marks in the form of horizontal cuts around the base of the core. These are diagnostic of horn removal. Horn was a widely worked industrial raw material, being used in the production of containers, knife-handles and combs.

Other butchery marks occur on both meat- and non-meat-bearing elements. On bones such as the radius these cuts are most probably linked with meat removal. The marks on the scapulae and pelves too are most likely connected with meat removal, though some could be the result of disarticulation of the joint. Disarticulation could also account for the marks which appear on the astragalus and the calcaneus. The metapodials, phalanges and tibia are bones which have minimal quantities of meat on them, so the marks visible on them are not generally thought of as being connected with meat removal but more with skinning.

The butchery marks and distribution of skeletal elements on the site show that the cattle were being exploited in a variety of ways. This, presumably, shows an attempt to utilise the carcasses to the full thus ensuring as little waste as possible.

Only eight cattle mandibles were recovered and, of these, five had complete molar rows. Using Grant's method of relative age estimation (Grant 1982) these produce mandible wear stages of 30, 42, 46, 51, and 56. The remaining three jaws with incomplete molar rows had mandible wear stages of 27, 30–31, and 39. This would suggest an older rather than a younger population, though this is obviously a very small sample.

Horse

For the size and period of occupation of the site, the horse remains comprise a surprisingly large proportion of the total assemblage. Also of interest are the butchery marks which

appear on two of the bones. These were in the form of small knife cuts. One tibia had two small incisions towards the distal epiphysis, with one near the proximal end, whilst a metacarpal had two horizontal incisions, again distally. For the same reasons as have been outlined relating to the cow metapodials, tibia and phalanges, these marks are most likely related to skinning activities.

Only three horse jaws were recorded in the assemblage. This again represents rather too small a sample to be of particular use. The three gave ages of 11–13, 10–13 and 12–17 years using Levine's method of horse age estimation based on tooth crown height measurements (Levine 1982).

Sheep/Goat

Sheep and goat remains are notoriously difficult to differentiate. Many ways have been devised, for example by measurement on the metacarpal distal epiphysis but the sample size precluded any such exercise being performed. Payne's distinction of juvenile sheep and goats based on the mandibular second and third deciduous molars was attempted on four mandibles (Payne 1985). These four jaws revealed three sheep and one goat. The remaining sample was treated as sheep/goat.

A similar exercise of meat- to non-meat-bearing elements as that performed with the cow bone produced the following results.

1.	meat-bearing bones	6
2.	non-meat-bearing bones	62

This shows a very distinct bias towards non-meat-bearing elements, which contrasts markedly with the cow remains. This could be explained almost in reverse terms to those used for the cow, namely that the site represents a primary butchery area with the main meat-bearing elements removed elsewhere. Alternatively, the site could have been a dump for the non-meat-bearing bone from carcasses butchered elsewhere. Again, as with the cattle, both strategies are likely to have been pursued simultaneously.

However, as pointed out above, it must be remembered that differential recovery will tend to bias an assemblage such as this so as to result in the underrepresentation of sheep/goat remains as compared to the larger mammals such as cow and horse.

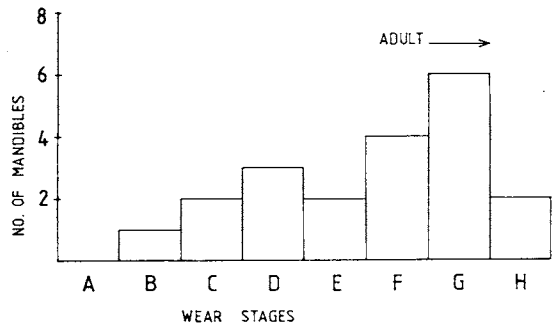


Figure 17. *Histogram of sheep/goat mandibles.*

Within the group of non-meat-bearing elements is a sizeable group of thirty-five mandibles. With these it was possible to produce a histogram of age at which death occurred based on Payne's tooth eruption and wear pattern scheme (Payne 1982). Only the twenty mandibles which could be assigned to a specific stage were used.

As can be seen, a peak occurs at stage 'G', with a lesser one at 'D'. The kill-off pattern of adult animals (stage 'F' onwards) is most likely representing a combination of slaughter for meat and for wool, two strategies which are likely to have been followed simultaneously. The smaller peak between 'C' and 'D' represents sub-adults and can be related to meat too, possibly in the form of lamb.

The sheep/goat remains thus show a combination of exploitation strategies. The lack of meat-bearing elements remains something of an enigma, until one notes the shell deposits discussed below. These, presumably were transported a reasonable distance from their marine collection points. Given the existence of such transport it would not be unreasonable to postulate a reciprocal movement of meat from the Wimpole area.

Other Large Mammals

Little can be said of the pig, dog and roe deer remains, other than to note their existence on the site, since the numbers involved are so small. That dogs were reasonably active in the area is also witnessed by the frequencies of gnawing which occurred on the site.

The Bird Bone

The following avian elements were recorded.

Chicken	
Tarsometatarsus	5
Tibiotarsas	5
Femur	8
Carpometacarpus	1
Radius	3
Goose	
First phalange	1

Unfortunately all that can be said of these bones is that they point to the exploitation of chicken and goose on the site. The bird bone will have suffered from differential recovery in much the same way as the sheep/goat discussed above.

Amphibian and Shell Remains

Three main types of molluscs were recovered from the site. 885 upper and lower valves of the native oyster, of which 475 were complete halves (with over 75% of the valve being present), were the largest group. Also present were 190 mussel valves (of which 108 were complete) and 54 land snails (mostly *Cepaea nemoralis* which generally inhabit areas such as woods and hedges). Of these, 10 were complete. In addition one cockle shell was recorded.

Amphibian remains were seen in the form of 6 bones. As with the bird bone these would have suffered particularly from differential recovery.

Conclusion

The faunal remains from the Wimpole Hall excavation include the following species human, cattle, sheep, goat, horse, pig, dog, roe deer, chicken, goose and amphibian. Of the animal bone indicators, cattle are the most common. These exhibit a marked bias towards the meat-bearing elements of the carcass. Sheep/goat bones are also relatively abundant, though these show a greater emphasis on non-meat-bearing elements. Horse bone is the third most numerus species on the site.

I would like to acknowledge the invaluable assistance of Dr Luff and I. Mainland.

Table 3. *Humeri bone fragment counts of the main domesticates.*

	cow	sheep/goat	horse
proximal humerus	5 (38%)	0 (0%)	1 (20%)
distal humerus	8 (62%)	1 (100%)	4 (80%)
Total	**13 (100%)**	**1 (100%)**	**5 (100%)**

Table 4. *Frequencies of anatomical indicators recorded according to species.*

	cow	horse	sheep/goat	pig
horn-core	6	0	0	0
jaw	8	3	35	2
scapula	24	4	1	1
proximal humerus	5	1	0	0
distal humerus	8	4	1	0
distal radius	8	3	2	1
radial carpal	1	6	0	0
distal metacarpal	11	7	6	0
first phalange	33	7	4	0
pelvis	6	7	1	0
distal femur	3	4	1	0
distal tibia	8	6	13	0
distal metatarsal	3	5	3	0
astragalus	12	3	2	0
metapodials	10	2	1	1
Total	**146**	**62**	**70**	**5**

Table 5. *Frequencies of butchery marks by species.*

	cow	horse	horse/cow	sheep/goat	roe deer	Total
horn-core	1	0	0	1	0	**2**
jaw	3	0	0	0	0	**3**
scapula	3	0	1	2	0	**6**
humerus	0	0	1	0	0	**1**
radius	0	0	0	2	0	**2**
metacarpal	3	1	0	1	0	**5**
first phalange	1	0	0	0	0	**1**
pelvis	2	1	1	0	1	**5**
femur	0	0	1	0	0	**1**
tibia	1	1	0	0	0	**2**
astragalus	2	0	0	0	0	**2**
calcaneus	1	0	0	0	0	**1**
Total	**17**	**3**	**4**	**6**	**1**	**35**

Table 6. *Frequencies of gnawing by species and anatomical element.*

	cow	horse	horse/cow	sheep/goat	pig	roe deer	Total
scapula	3	2	2	1	1	0	**9**
humerus	2	0	2	0	0	0	**4**
radius	2	0	0	5	0	0	**7**
metacarpal	8	1	0	3	0	0	**12**
first phalange	4	0	0	0	0	0	**4**
pelvis	0	0	1	0	0	1	**2**
femur	1	0	1	0	0	0	**2**
tibia	0	1	0	0	0	0	**1**
metatarsal	8	0	0	6	0	0	**14**
astragalus	1	0	0	0	0	0	**1**
calcaneus	7	1	0	2	0	0	**10**
Total	**36**	**5**	**6**	**17**	**1**	**1**	**70**

References

GRANT, A. 1982. The use of tooth wear as a guide to the age of domestic ungulates, in Wilson, Grigson & Payne (ed.): 91–108.

LEVINE, M. 1982. The use of crown height measurements and eruption-wear sequences to age horse teeth, in Wilson, Grigson & Payne (ed.): 223–50.

PAYNE, S. 1975. Partial recovery and sample bias, in Clason, A.T. (ed.), *Archaezoological Studies*: 7–17. Amsterdam: North Holland Publishing Company.

PAYNE, S. 1973. Kill-off patterns in sheep and goats: the mandibles from Asvan Kale, *Anatolian Studies* 23: 281–303.

PAYNE, S. 1985. Morphological distinctions between the mandibular teeth of young sheep, *ovis* and goats, *capra*, *Journal of Archaeological Science* 12: 139–47.

WILSON, B., C. GRIGSON & S. PAYNE (ed.). 1982. *Ageing and Sexing Animal Bones from Archaeological Sites*. (BAR 109.) Oxford: BAR.

The Small Finds

By Gerald A. Wait

Introduction

A total of 411 small finds were recovered from the 1989 excavations at Wimpole (see catalogue below). Due to the relatively small scale of the excavations no clear patterns of distribution of objects across the site were observed, and therefore the assemblage will be discussed as a whole. However, it is interesting to note that some 29% of the objects came from unphased contexts, a reflection of the efficacy of a cooperative group of metal-detectorists who worked with the excavation team (Figs. 18–22). The Anglo-Saxon burial will be discussed separately (Fig. 23).

Dress and Personal Ornaments

Compared with other Roman settlement sites, unusually few objects of dress or personal ornaments were recorded. These include a single Hod Hill type brooch *c.* 45–75 AD (158) and two ball-headed pins (162, 400) which could be second or third century (all three of bronze). Small find 384 is a strigil of sheet bronze, and number 385 is a tiny pair of links from a necklace, while 407 is a badly damaged belt buckle, and 72 is a cosmetic spatula. Other objects include a possible bracelet of iron (9; unusually large), a razor (412) and 78 hobnails. To these latter should be added a pair of iron boot heel-plates with hobnailed rivets (87). There are three fragments of rather crude bone clothing pins (78, 137, 402) and a button (57) all of bone.

Domestic Objects

A wider variety of objects from a domestic context were recovered. In bronze these include fragments of sheet trim from a vessel (81, 406). In iron a variety of fragments of plate and other fittings may be included here, as well as rods, strips, and rings. Object 52 is probably a strap handle off a bucket, and 404 is a section from a hoop around a staved vessel. There are several fragments of knife blades (none sufficiently well preserved to allow identification of type). A single straight key to a bob-spring padlock (375) probably derives from a door. Also from a door are fragments of two strap hinges and hinge pins (368, 374). There were nails in a variety of sizes ranging from 3 cm long to huge nail/spikes 16–18 cm long (a total of 211 nails and 4 spikes). Two fragments of lead cramp from windows indicate a glass window nearby. Many fragments of both brick and roof and floor tiles were recovered, but have not been studied due to lack of resources. Numerous small and usually abraded fragments of glass vessels were recovered, all of colourless or blue-green glass. A fairly large number of fragments from quern stones may be considered in a domestic context. Most were from a secondary deposit in the cobbled surface where they were reused after being broken. None were large enough for certainty, but the wear surfaces are consistent with rotary querns, and undoubtedly represent grinding of grain in individual households.

Agriculture and Animal Husbandry

Surprisingly few objects can be classified as pertaining to either agriculture or animal husbandry, especially considering that this part of the site appeared to be gardens or paddocks beside and behind houses. Some of the many large unidentifiable plates and fragments of iron may represent iron tools and fittings. Object 124 appears to be a fragmentary tool socket. The single reaping hook (127) is nearly complete but is, unusually, socketed rather than tanged. A small series of retaining or linch pins (156, 171, 199; looped head) complete the selection. An unusual object (175) may be part of a hipposandal.

Craft and Industry

There are no indications of any industrial processes on site. Small-scale craft may be represented by the leatherworker's slicker (387; used in curing and tanning hides). Also of iron is a single iron chisel (152) probably for woodworking. The rather crude bone pins may be of local manufacture. A single spindle-whorl (386) was recovered. Lead dribble was not uncommon, and a single pot-rivet for repairing a broken pot (118) indicate small simple lead melting. A more elaborate process involving firing in a furnace to high temperatures is indicated by the 'waste'. Some of this appears to be iron slag from smithing operations (101, 112, 123, 139, 170) while the rest should be called 'furnace lining reaction product' (FLRP in catalogue) and derives from any operation involving a furnace at high temperatures (such as pottery firing, iron smithing, bronze smithing, glass melting etc.)

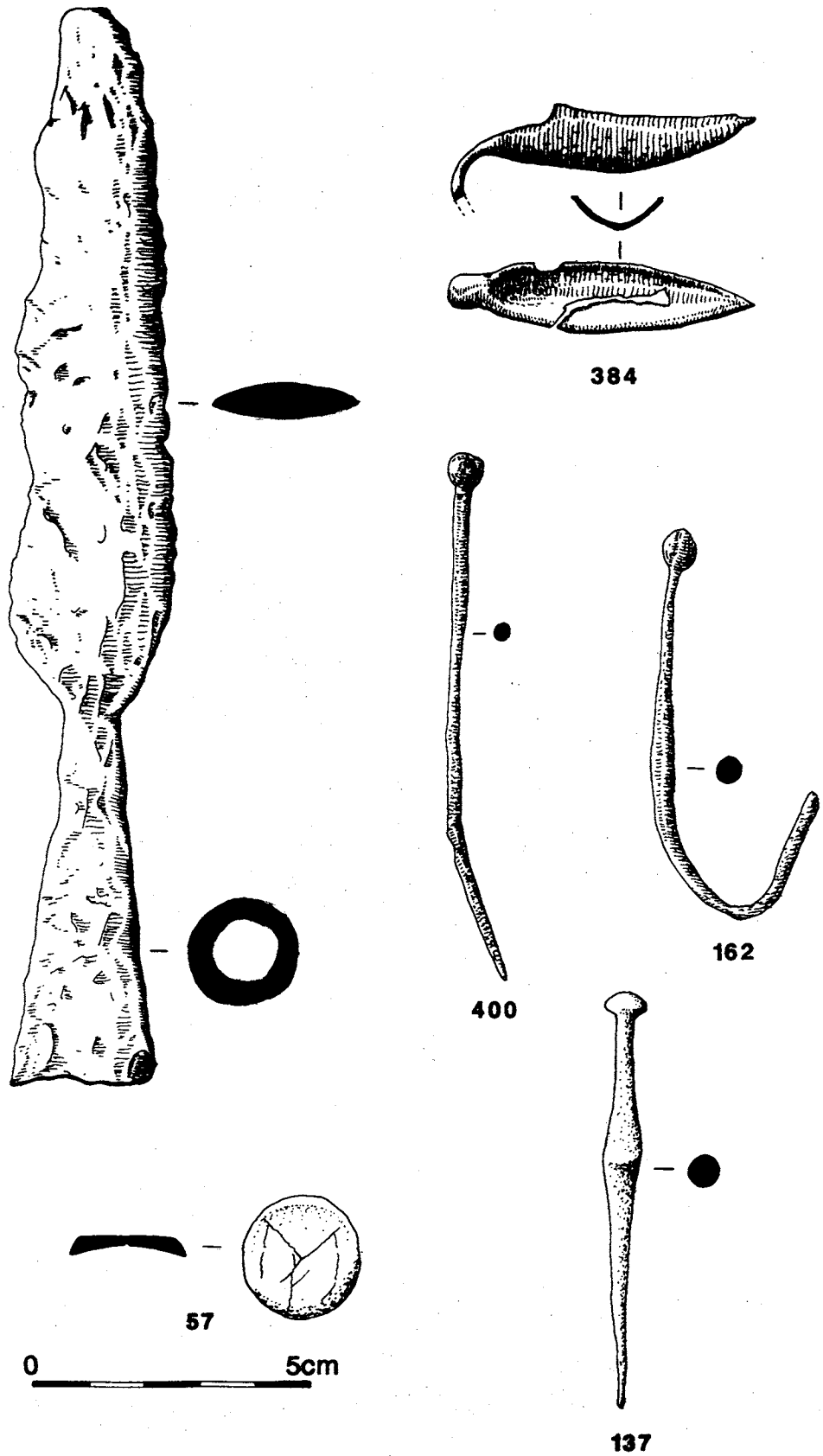


Figure 18. *Small finds.*

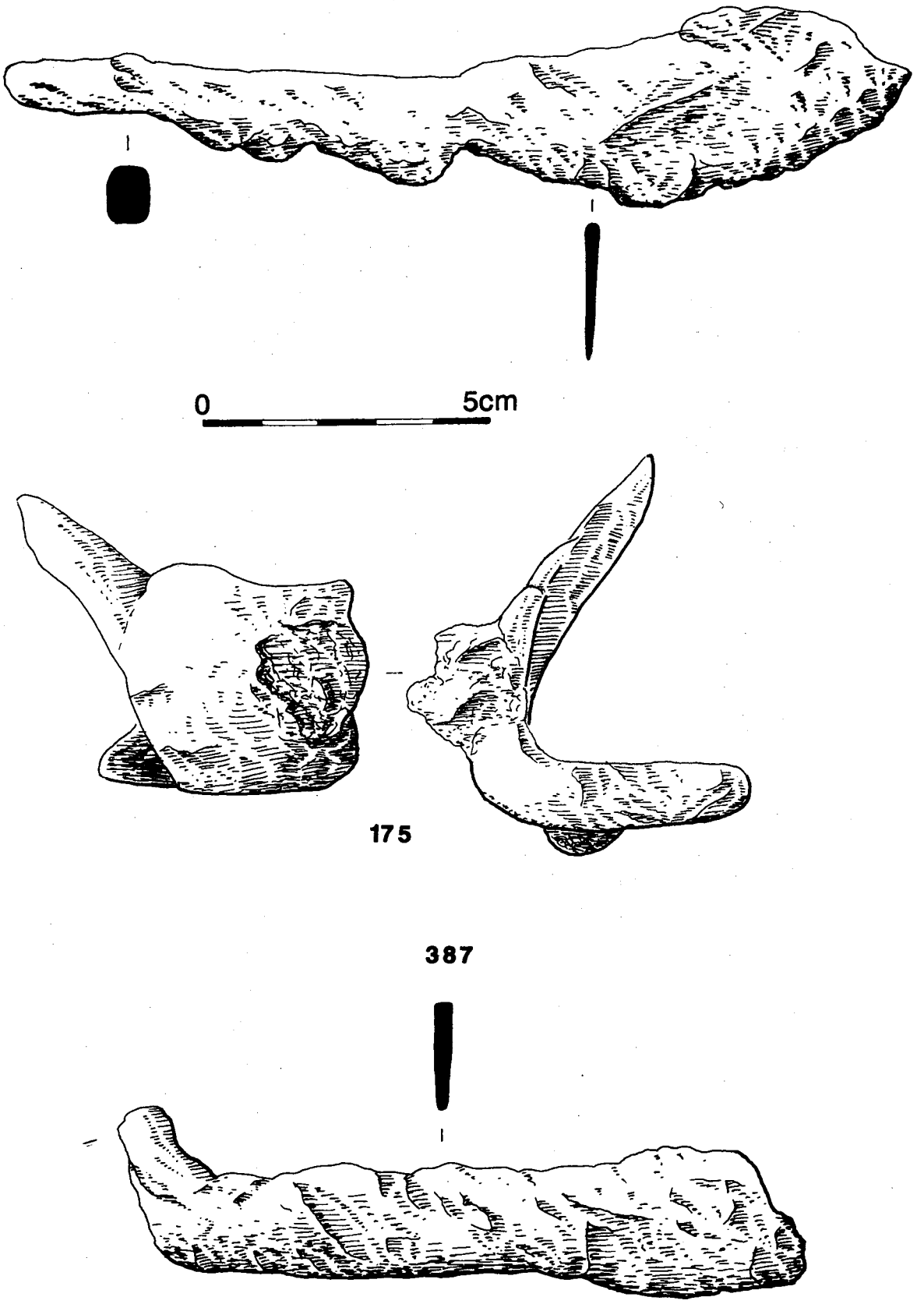


Figure 19. *Small finds.*

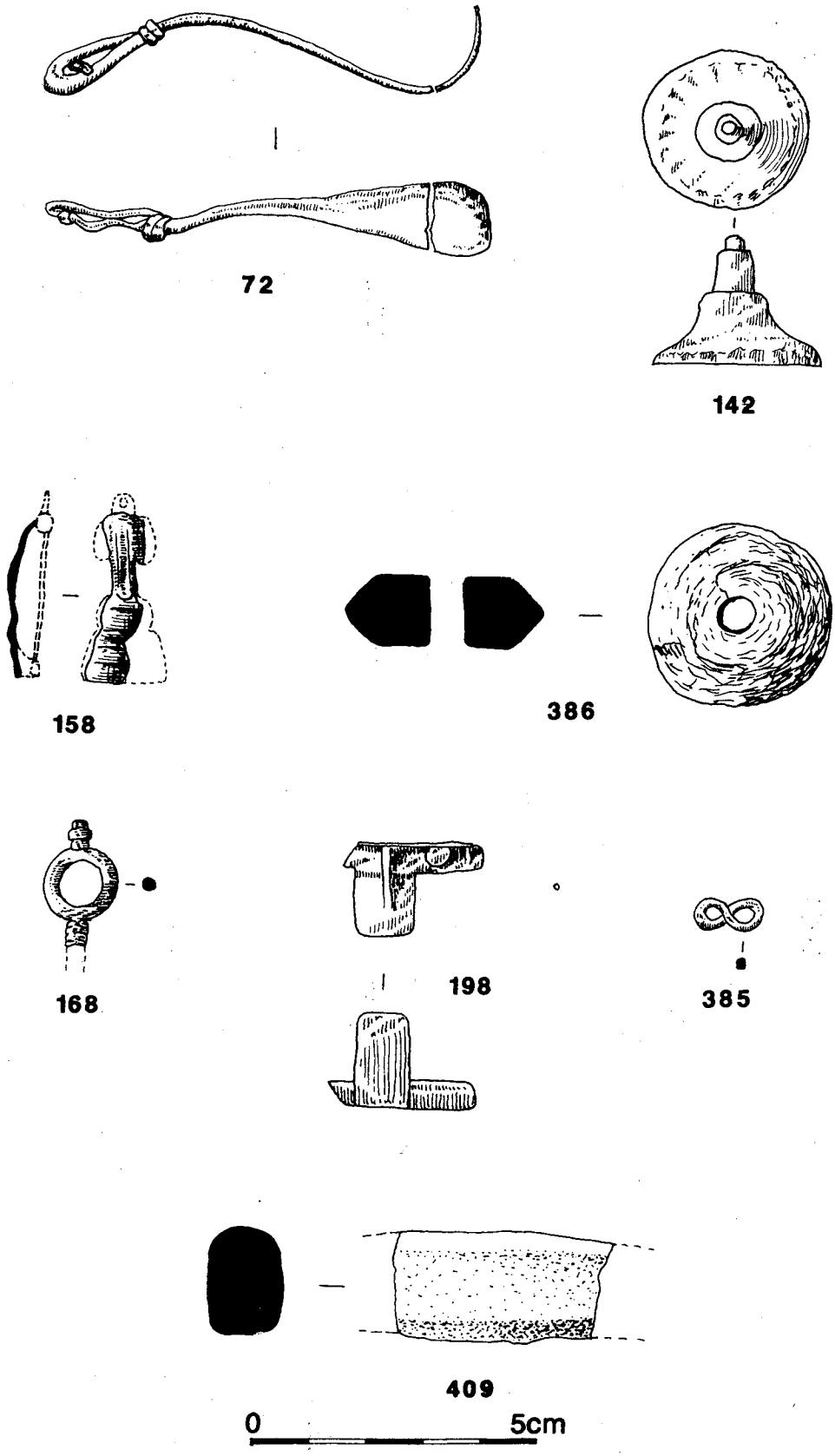


Figure 20. *Small finds.*

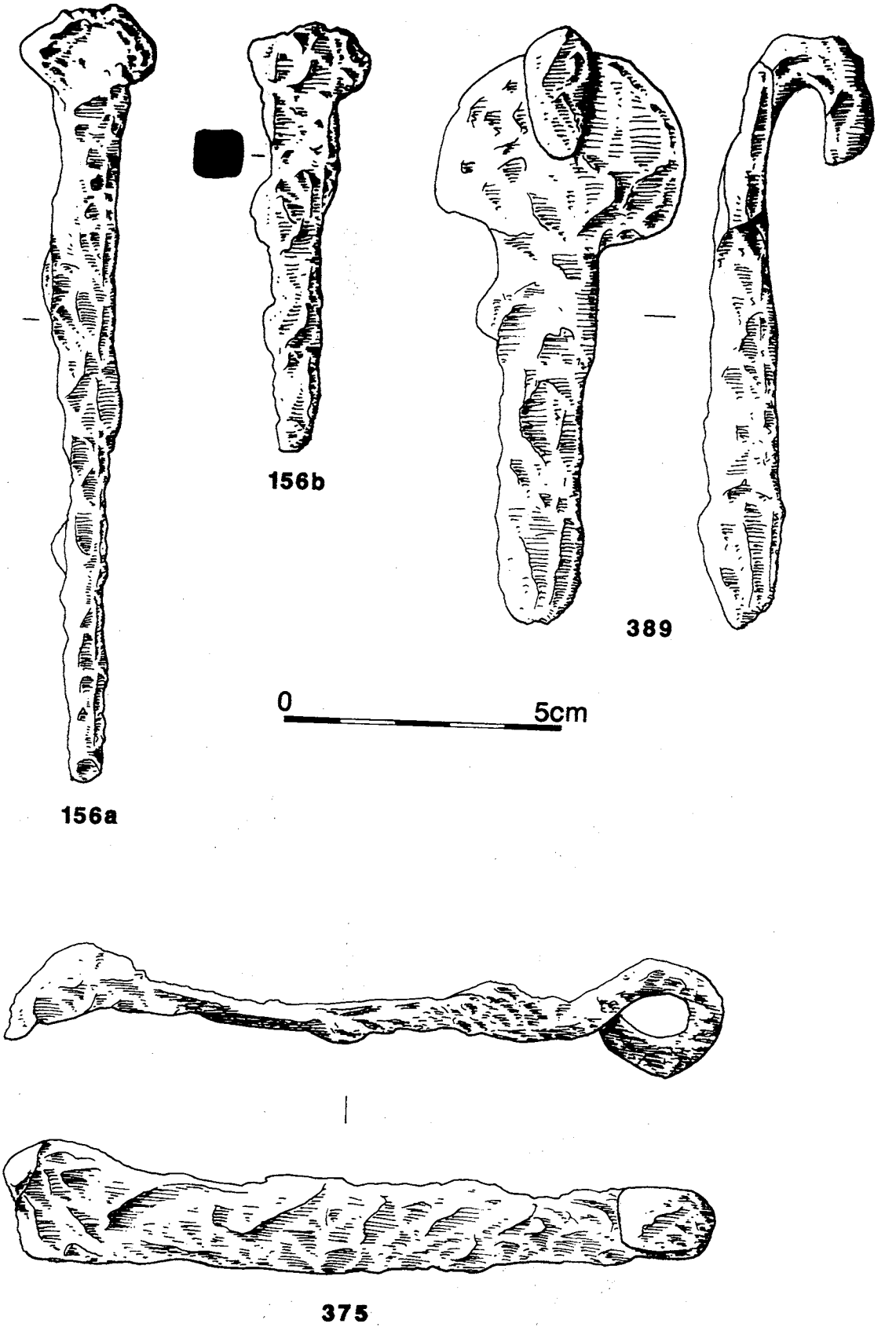


Figure 21. *Small finds.*

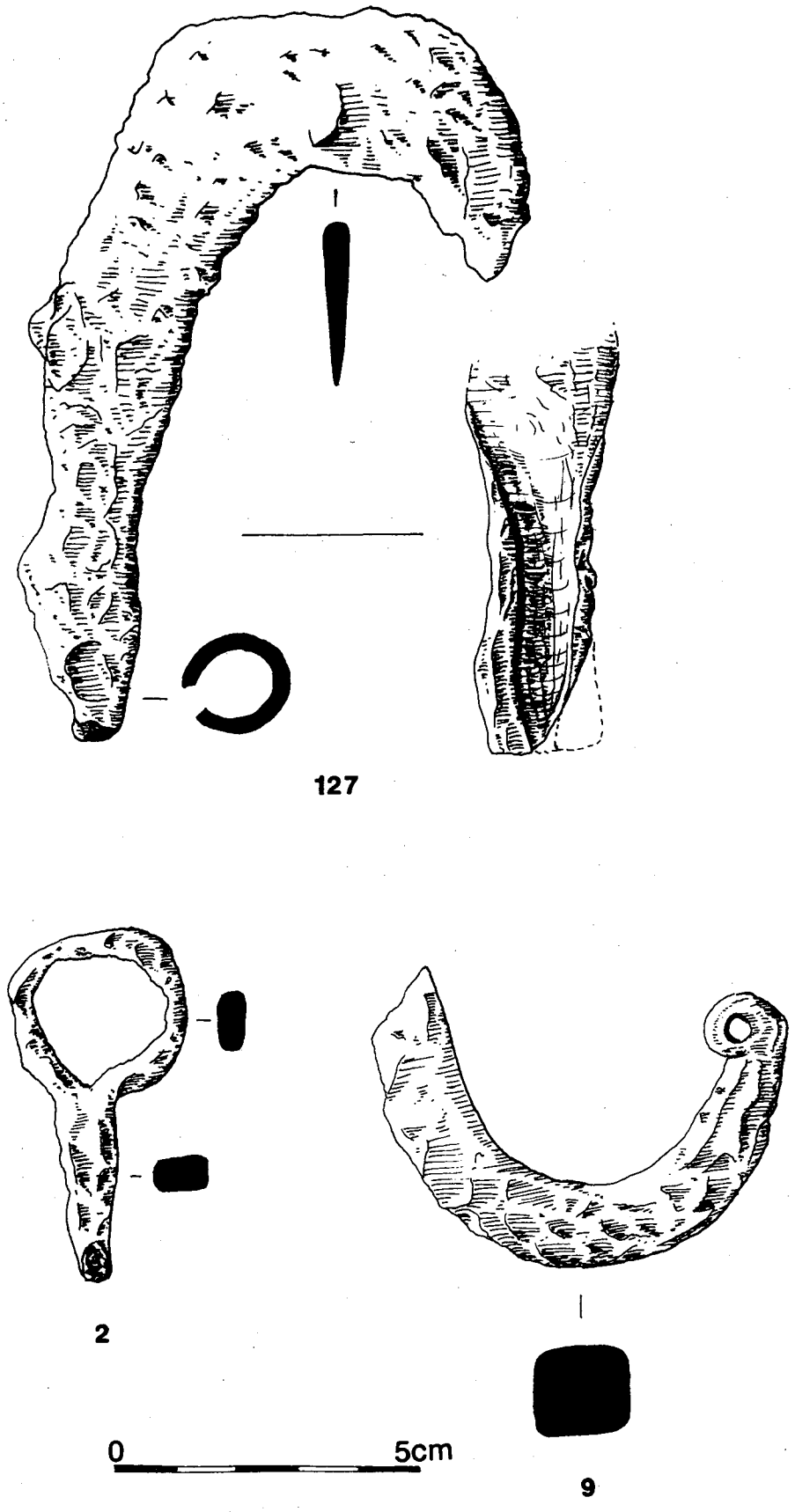


Figure 22. *Small finds.*

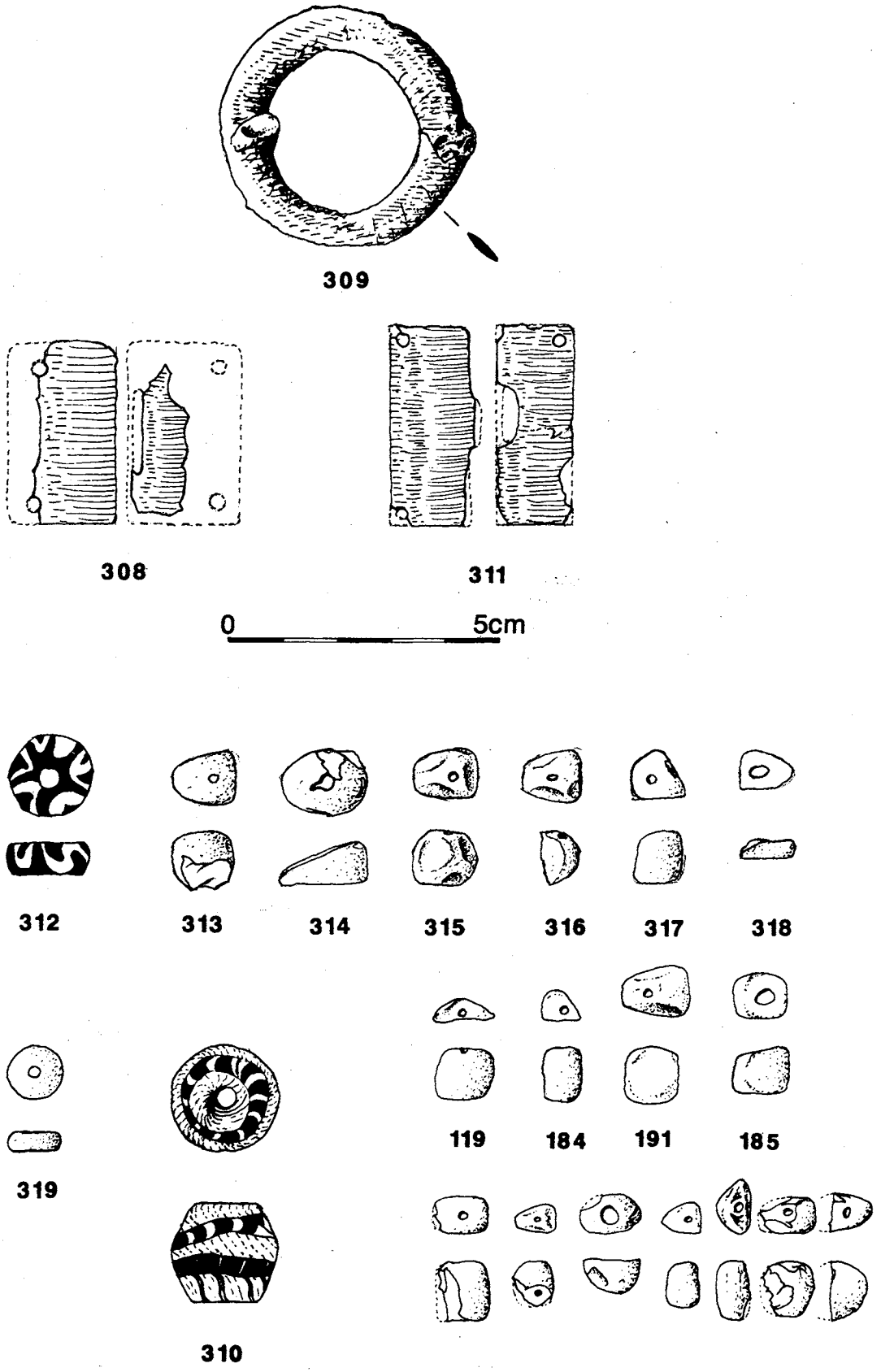


Figure 23. *Anglo-Saxon burial [168] small finds.*

Evidence of Trade

The small finds collection is in general very rural and parochial in nature. Virtually none of the objects need have originated more than a few miles away, although the raw materials such as bronze and iron may have been from more distant areas. The quern stones are the only exceptions to this generalization (and see the pottery report by Lucas). The identifiable quern fragments derive from three sources: Old Red Sandstone (from the Mendip Hills or south Wales?), Millstone Grit (from Derbyshire or Staffordshire) and from the Neidermendig lava quern production centre in the German Rhineland. Curiously, the more locally produced puddingstone querns (from Bedfordshire and Hertfordshire) do not appear in this collection, while the other three sources are of course well known as major producers in the first to third centuries.

The Coins

There were a total of 114 coins recovered during the excavations, of which 58 are identifiable or at least datable (identifications courtesy of K. Butcher and Celia Honeycombe, of the Fitzwilliam Museum, Cambridge). While there are no coins of great intrinsic interest, the collection as a whole is very useful. The date range begins with Domitian (81–96) and ends with Honorius/Arcadius (390–400). Within this span the distribution of coins by periods of issue is close to that of small towns/rural sites generally (eg. Reece 1972). The distribution by date periods of the identified coins is given below (Table 7).

Table 7. *The Wimpole coins by date periods.*

	No.	%
–AD 41	–	–
41–54	–	–
54–69	–	–
69–96	1	1.7
96–117	1	1.7
117–38	2	3.4
138–61	3	5.1
161–80	–	–
180–92	–	–
193–222	–	–
222–38	–	–
238–59	1	1.7
259–75	4	6.9
275–94	5	8.6
294–317	–	–
317–30	2	3.4
330–48	15	25.8
348–64	10	17.2
364–78	12	20.6
378–88	–	–
388–402	2	3.4

The Anglo-Saxon Burial

The Anglo-Saxon burial [168] which marks the last use of the site contained 18 beads of amber and two of glass. One glass bead is biconical in shape, pink in colour with yellow and green/grey stripes. The second glass bead is a flattened sphere of black glass with a swirling white pattern. On the right shoulder was a bronze plate annular brooch, while a small group of iron objects comprising an iron brooch occurred on the left shoulder. These objects all appear to date to the sixth century AD.

The Excavation of a Fourth-century AD Villa and Bath-House at Great Staughton, Cambridgeshire, 1958 and 1959

The late Ernest Greenfield, Jeany Poulsen & Pamela V. Irving

with contributions by R.C. Alvey, the late F.W. Anderson, L. Biek, D. Bramwell, S.A. Butcher, R.A.G. Carson, the late D. Charlesworth, R. Cullen, D.F. Cutler, J.W. Haldane, R. Harcourt, B.R. Hartley, K.F. Hartley, E. Healey, the late J. Liversidge, J. May, G.C. Morgan, P.R. Payne, R. Powers & D.J. Smith

Summary

Two adjacent sites were excavated by Ernest Greenfield in 1958 and 1959 respectively. Site 1 (TL 13486310) was first occupied in the late Iron Age. In the first half of the fourth century AD two contemporary, winged-corridor type buildings were constructed apparently representing a villa, Site 1, and its bath-house, Site 2 (TL 13466304). Both buildings contained mosaics. Site 2 was heated by channelled hypocausts and contained a small bath-suite, the whole building had been adapted from part of an earlier, possibly second-century AD, much larger structure, whose full extent (suggested by earthworks) was not ascertained. The fourth-century occupation appears to have ceased around the AD 360s, and at some unknown date thereafter at least seven inhumation burials were inserted into the demolition rubble covering the Site 1 house.

Preface

This report was compiled in 1985 by Jeany Poulsen, with funding from the Inspectorate of Ancient Monuments as part of the Pre-1972 Backlog Programme, from text and drawings previously prepared by Ernest Greenfield; reports on material not otherwise credited are her work. Her text and artwork have been further revised, edited, amended, and finalised by Pamela V. Irving during 1987–8, and 1993–4. Specialist reports are mostly as provided in the 1970s. Bibliographic references have not been updated since 1985.

Introduction

Sites 1 and 2 are in a 16 acre (6.5 hectare) field known as Rushey Meadow, part of Pastures Farm in the parish of Great Staughton, Cambs. (Fig. 1). It is near the base of a gently falling, north-facing slope on the south side of the Kym Valley. Whitley Brook, a tributary of the River Kym, passes the site approximately 400 ft (122 m) away on the west side. The site lies on the 100 ft contour (30.5 m OD) on Boulder clay over Oxford clay. It is surrounded by 'rises' and streams feeding the River Kym, *c.* ½ mile (800 m) due north, where *Mill View* indicates a suitable site for a water mill. At St Neots, some 5 miles (8 km) ESE, the Kym reaches the Ouse which in turn flows into the Wash. In such a terrain one would expect a heavy soil, less suited to arable use than for pasture, and with a natural background of woodland. The charcoal remains (p. 124) indicate much hazel which, like oak, would regenerate easily; Rook (1978) has calculated that efficient coppicing might have supplied fuel for a bath-house almost indefinitely. The line of the Roman road (173d), linking Dorchester-on-Thames and Ermine Street at Alconbury probably ran between the site and Whitley Brook, but this has not been ascertained (information from R.W. Bagshawe).

The subsoil is greenish-yellow clay with an overlying topsoil of brown, clayey loam 9–12 in (228–304 mm) thick. The archaeological potential of the site was first recognised by Chris F. Tebbutt in 1949 when the field was still under pasture. Many banks and hollows were then

Proceedings of the Cambridge Antiquarian Society LXXXIII pp. 75–127.

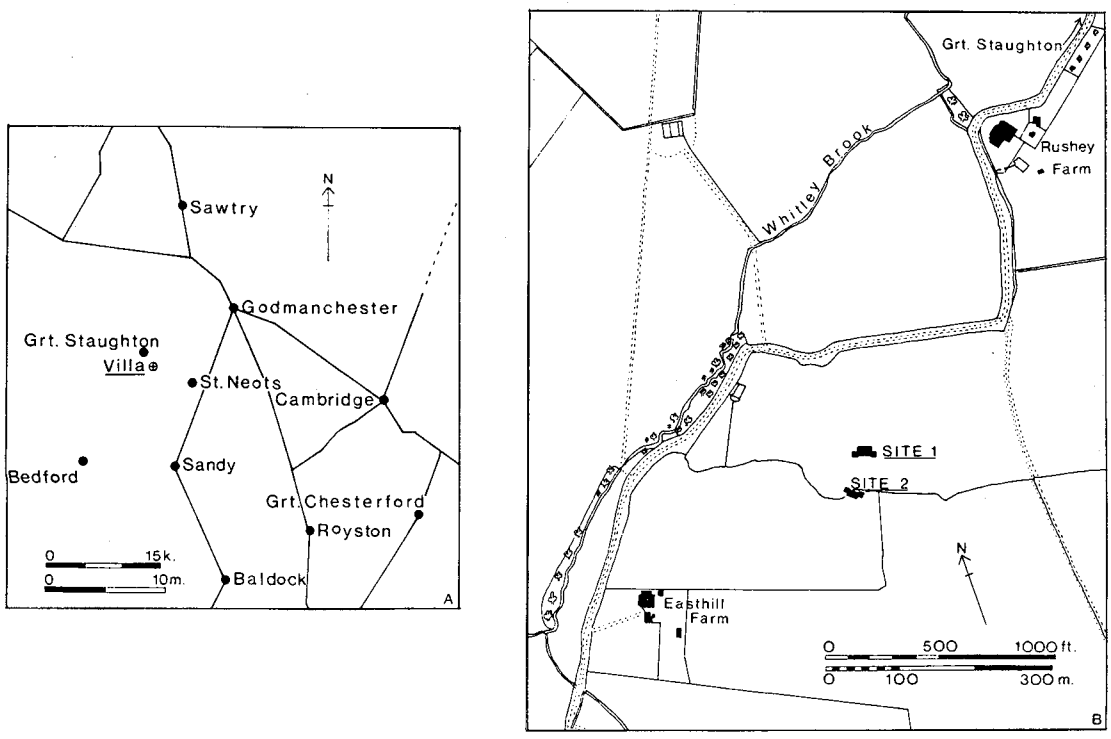


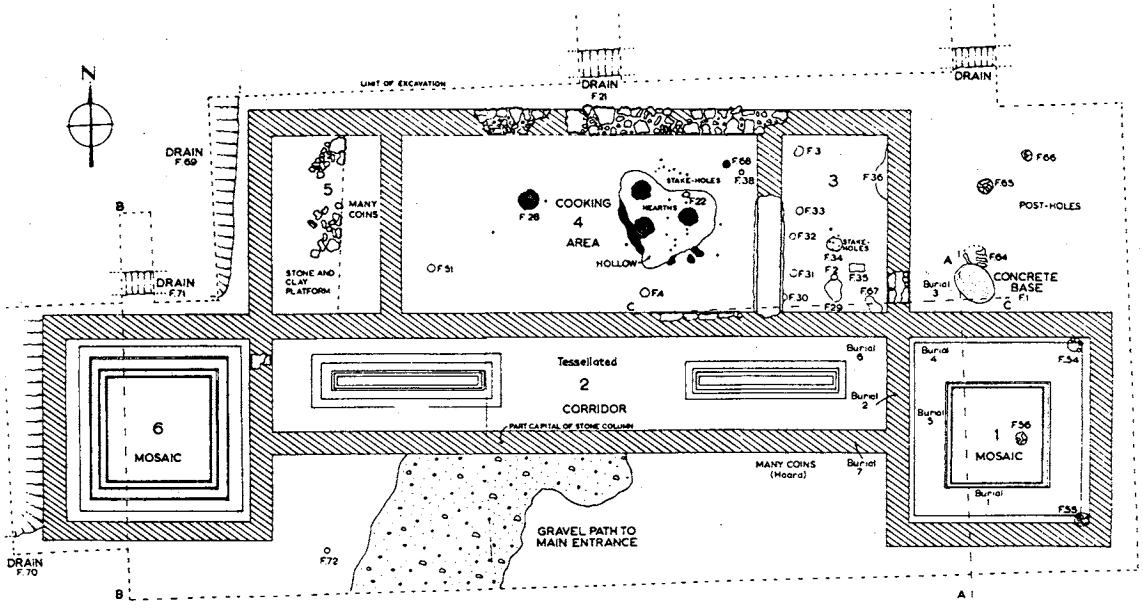
Figure 1. *Site location.*

visible in the field, as well as two large mounds which were occupied by rabbits and, in the case of Mound 1, by small trees and bushes. After drainage and ploughing in the 1950s Mr Tebbutt notified the Ordnance Survey of a surface scatter of limestone rubble, roof-tile, and pottery, indicative of Romano-British occupation, and the site was subsequently shown on the 1 inch O.S. map. Mound 1 was 150 ft (47.7 m) in length, east to west by 105 ft (342 m) north to south, and was sub-rectangular with a roughly flattened top. Mound 2 was smaller, though roughly the same shape, being about 120 ft (36.5 m) east to west, by 90 ft (27.45 m) north to south. An R.A.F. aerial photograph shows the west end of Mound 1 to have been encircled by a bank. On both mounds there was a surface scatter of limestone and mortar rubble, small gravel, roofing tiles, and slates, pottery, painted wall plaster, and tesserae.

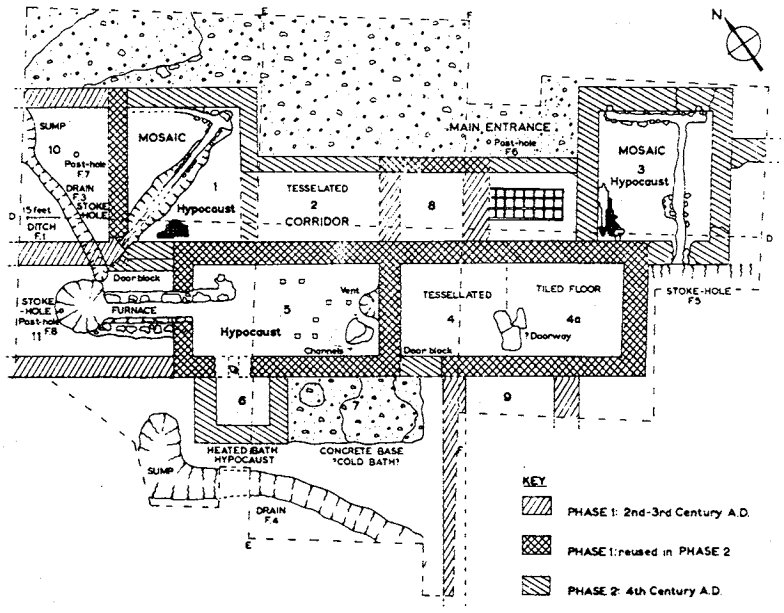
Following a threat of destruction of the mounds by bulldozing the then Ministry of Works arranged for the excavation of Mound 1 between June and August 1958, and of Mound 2 between April and May 1959, by kind permission of the owner, Mr Kidman. Mound 1 was examined by a grid of 16 ft (4.88 m) whole and part squares with trench extensions on the north and south, Mound 2 by a grid of six 20 ft (6.1 m) whole and part squares with small trench extensions on the south and west sides. Interim reports with plans of both sites were published by the excavator (Greenfield 1959: 118; 1960: 224–5).

Site 1; Excavated Features
(Figs. 2 & 3, Pls. I, IV, VII & IX)

The surface of the subsoil (green clay, Layer 9) was uneven and had received a certain amount of grit and gravel, clearly in preparation for, or as a result of, occupation. A patch of spread charcoal in the southeast corner of the area examined suggested the close proximity of a hearth. Layer 9 was cut by a small pit/gully which was filled by mixed green-yellow and grey clay. This was sealed by a spread of charcoal-flecked, greyish, gritty loam (Layer 7) containing Iron Age pottery and flints, which was sealed beneath the old ground surface (Layer 5). Layer 7 was found to extend northwards from the limit of the excavation on the south side to where it tailed off below the pavement of Room 6, just beyond the limits of a small depression. Feature 74 was larger, cutting and absorbing a pit (Feature 73). Both features contained Iron Age material, the fill of Feature 74 being the same as, or equivalent to, Layer 7.



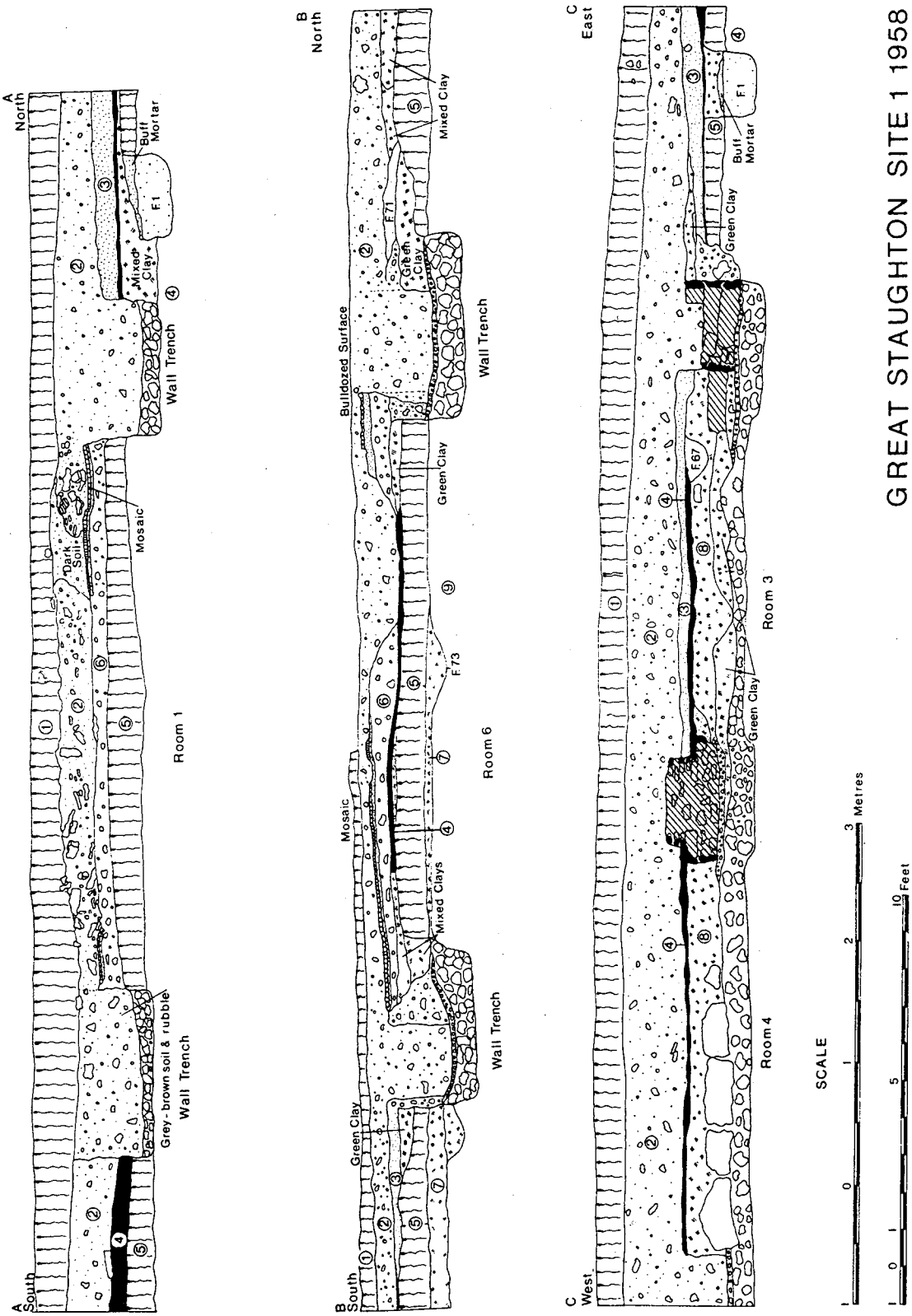
SITE 1 1958



SITE 2 1959

GREAT STAUGHTON, CAMBS.

Figure 2. *Plan of Sites 1 and 2.*



GREAT STAUGHTON SITE 1 1958

Figure 3. *Site 1, sections.*

The old ground surface (Layer 5) was composed of dark brown, clayey loam, and where examined, was devoid of artefacts. This level spread throughout the site and was intact except where features had been cut, and where it had been removed in part or entirely during the erection of the villa. Its surface showed indentations and was charcoal-flecked. The whole foundation of the villa was traced throughout (cutting Layers 5, 7 & 9) and was found to be continuous and consistently of the same stratification. Upcast from the foundation trenches had been used in three different ways: 1) to consolidate the glacial stones in the foundation trenches, 2) dumped on the surface of Layer 5 to make up floor levels, and 3) to seal ragged tops and bevelled edges of wall trenches both inside and outside the building, after the erection of the walls. Internally this had been done before the laying down of the floors. In both instances, this 'sealing' most probably served as an effective caulking, to prevent or discourage the percolation of water. Glacial stones with an occasional large flint and loose, green clay had been rammed hard into the foundation trenches. On top of this was spread a thin layer of flint gravel and clay which had also been rammed hard. The two levels formed a very solid and compact foundation on which the walls were constructed. These were badly robbed, but two-thirds of the north–south wall between Rooms 3 and 4 survived, standing six courses in height above the foundation level. It was constructed of limestone slabs and hard, buff-brown mortar. Other small sections of wall, one, two, and three courses in height survived in Rooms 3, 4, and 6. The wall fragments showed the lowest course to be laid horizontally on the foundation. In Room 4, in both the north and east walls, the second course was laid both herring-bone pitched and horizontally. This wall, which had an average width of between 2 ft 3 in (686 mm) and 2 ft 6 in (762 mm), from the fourth course above the foundation was placed centrally on a much wider base comprising the lowest three courses. This resulted in an offset on both sides. Large and small blocks, and slabs of stone had been used for the wall faces, the interior being filled with ragged pieces of stone and coarse mortar containing a great deal of small flint gravel. All surviving wall fragments and wall trenches showed an average width of between 2 ft 3 in (686 mm) and 2 ft 6 in (762 mm). The plan of the house was recovered by removing the rubble and mortar fillings of the wall trenches (see Fig. 2). The excavations revealed the plan of a small corridor house of simple compact design, comprising six rooms, on an east to west alignment. The front of the house (facing south) consisted of an east room (1) and a west room (6) linked by a corridor (2). The north side

Plate I. *Site 1 (1958) looking west across Rooms 3 and 4. (Photo: RFN 26)*

contained a large central room (4) flanked by a smaller room (3) on the east side and a similar room (5) on the west. Rooms 1 and 6 form offset wings.

Room 1

The floor in Room 1 consisted of a floor make-up (Layer 6), an orange-brown, sandy, mortary rubble, containing chalk, tile, and limestone fragments. This overlay Layer 5, and was immediately below the pavement matrix of sandy-brown mortar (Mo 2) and, where the pavement had been robbed out, below Layer 2. The pavement consisted of a central mosaic (Plate IV) with wide inner and outer borders of fired clay and limestone tesserae respectively (see Smith below). The joint between floor and walls was sealed by a quarter-round moulding of pink cement (*cf.* Mo 9 in Room 6) which remained in fragments on all sides of the room. The coarse, tessellated surround to the mosaic showed traces of a pink cement grouting. The pavement was cut by three post-holes (Features 54–6) which were covered by Layer 2.

Feature descriptions:

Feature 54 was in the northeast corner of the room. It comprised a roughly circular group of stones with a core 7 in (177 mm) in diameter with straight sides and rounded base. The fill was of dark grey-brown, silty soil with small rubble above.

Feature 55 was in the southeast corner of the room. The core was 9 in (228 mm) in diameter, and surrounded by large stones. The depth from the top of the stones was 1 ft 7 in (482 mm). After the removal of the stones the sides were found to be vertical and the base flat. The fill of the lower half of the core was brownish-grey, lightly charcoal-flecked soil and rubble.

Feature 56 was on the east side of the mosaic pavement. Roughly rectangular in plan, 1 ft 1 in by 9 in (330 by 228 mm) along the northwest to southeast axis. There was a packing of tile and flat stones standing vertically on the northeast and southwest sides. The depth from the surface was 7 in (177 mm) and the base was flat. The fill was of dark brown-grey soil and rubble.

Room 2

Here, Layer 5 was overlaid by a hard surface of crushed limestone (Layer 4) which provided a base for a layer of gingery-brown sand ('make-up', Mo 5), 1 1/2 in (38 mm) deep, overlain by a pavement matrix (Mo 3) of fairly hard, coarse buff mortar 1 in (25 mm) thick.

The floor itself, which was much disturbed, was of coarse tesserae, large areas having been totally destroyed (see Plate V & Smith below). A thin spread of black silt was seen under the tesserae in the southeast corner of the room but was not examined. A destruction level lay over the pavement, consisting of blackened silt containing many large pieces of oak and elm charcoal (CH 4 & 5; see similar evidence in Room 6).

Room 3

A group of features (A) cut Layer 5 in Room 3 area, post-holes (Features 3 & 30–33), stake-holes (Features 58–62) plus a patch of rubbish (Feature 29), and a patch of burnt clay (Feature 36) which both overlay Layer 5.

The group of features (A) cutting or above Layer 5 appears to have been overlaid by a floor of crushed limestone (Layer 4), which had a large number of fourth-century coins, pottery (Fig. 14, no. 37), glass (Fig. 7, no. 35), nails, and a fragment of wall plaster embedded in its surface. However, in the part of Room 3 shown by Figure 3, Section CC, Layer 4 overlay brown-green clay Layer 8 (the exact relationship between Layers 5 and 8 was not recorded), which in turn was cut by a shallow pit (Feature 67). Layer 4 lapped over the western edge of the fill of Feature 67, the other edge was sealed by Layer 3 which continued on over Layer 4.

Feature 67 was roughly pear-shaped, with its long axis north–south 1 ft 6 in (457 mm), and with sides sloping to a rounded base. The rubble fill contained five fourth-century coins (nos. 349–59). Layer 4 was cut by a second group of features (B): stake-holes (Features 5–11 & 37) in and around the limits of a small pit (Feature 34), a post-hole (Feature 2), and a small rectangular pit (Feature 35). This group of features (B) was sealed by Layer 3, a heavily charcoal-flecked, greyish, clayey soil, average thickness 3–4 in (76–101 mm) containing fourth-century material.

Feature descriptions:

Group A Post-holes (Features 3 & 30–33): possibly scaffold-pole holes. Feature 3 was oval, with a long axis roughly east to west, 1 ft 2 in by 1 ft (355 by 304 mm) wide, Features 30–33 were circular and 11 in (380 mm) in diameter. The depth of Feature 3 was 10 in (254 mm) with the sides sloping to a rounded base. The fill comprised gravelly rubble containing 19 small chalk fragments. The depths of Features 30–33 were 4–5 in (101–27 mm), and their sides sloped steeply to rounded bases. The fills were grey-brown, gravelly clay containing chalk pieces.

Stake-holes (Features 58–62): These were all circular in plan with sides sloping to pointed bases, and varied in diameter from 1 1/2 to 2 1/2 in (38 to 63 mm) and in depth from 1 1/2 to 3 1/2 in (38 to 78 mm). Fills were of dark grey-green clay, slightly charcoal-flecked.

Feature 29 was a roughly pear-shaped patch of charcoal-flecked soil containing 12 oyster shells. The long axis was northwest to southeast, size 1 ft 9 in by 1 ft 6 in (533 by 457 mm), depth 1/2 in (12 mm) with the shells pressed into Layer 5.

Group B Stake-holes (Features 5–11 & 37): These were either oval or circular in plan varying in depth from 1½ in to 5½ in (38 to 140 mm). All the sides sloped to pointed bases and the fillings were consistently the same: a grey-brown, greasy, clayey, charcoal-flecked soil, containing a few small stones.

Pit: Feature 34 was roughly oval in plan, 1 ft 8 in east to west by 1 ft 3½ in north to south (508 by 393 mm). The depth was 11 in (280 mm) from the surface of Layer 5, and the sides sloped down to a flat base. The fill was a mixture of brown-green sticky clay, with chalk, mortar and gravel rubble, plus six chalk fragments. There was a large stone mid-way down the centre. Fourth-century coins (nos. 308–29) were found scattered throughout the filling, many standing vertically and at angles (see Site Archive for full coin list).

Post-hole: Feature 2 was roughly circular, 9 in (228 mm) in diameter, the sides vertical, and the base flat, with a depth of 4½ in (114 mm). The fill was a sticky, grey-green clay, with a few small stones and broken oyster shells in the top 2 in (50 mm).

Pit: Feature 35 had a long axis east–west, and was 1 ft 3 in (381 mm) by 8 in (203 mm) wide; the sides were near vertical, and the base roughly rounded, with a depth of 5 in (127 mm). A piece of flat limestone occurred halfway down the fill, which was of mortary rubble.

Room 4

A floor of crushed limestone (Layer 4) overlay Layer 5 and was in turn covered by an occupation level (Layer 3) although Figure 3, Section CC shows that in the southeast corner, the clay (Layer 8) underlay Layer 4. As in Room 3, both the floor (Layer 4) and Layer 3 contained fourth-century occupation debris, but here also slag, and charcoal fragments. Green clay make-up against the north wall interior contained an iron object (Fig. 7, no. 19) and a similar deposit against the east wall in the southeast corner of the room contained 18 white chalk tesserae and mosaic waste. (N.B. The relationship between these last two deposits and Layers 3 and 4 was not recorded.)

Features in the room were mainly confined to a large hollow of irregular shape, which through use was worn through the floor (Layer 4) into Layer 5 below. Within the hollow were three hearths (Features 25–7) and stake-holes (Features 22, 21–49 & 61). Other stake-holes (Features 40, 50 & 62) occurred on the south and east of the hollow, and another group (Features 13–20) between the hollow and the north wall. Post-holes (Features 4, 38 & 51) were possibly scaffold-pole holes. Smaller patches occurred on the fringe of this hollow, and another (Feature 68) in the northeast corner of the room; a separate hearth (Feature 28) with stake-holes (Features 52 & 53) occupied the west side. (N.B. The relationships between these features, their fills and Layer 3 were not recorded. The section shows Layer 4 as being directly overlain by Layer 2 in that part of the room.)

Feature descriptions:

Hearths: Features 25–8 were all of roughly circular plan, slightly concave, and showed as burnt patches. The average width was 2 ft (610 mm).

Patch: Feature 68 was circular in plan, 9 in (228 mm) in diameter. All the stake-holes were either circular or oval in plan, and varied in diameter from 2 to 4 in (50 to 101 mm). Their sides sloped to pointed bases, and depths varied from 2 to 5 in (50 to 127 mm). Fills were consistently the same, dark grey-brown, greasy soil, sometimes charcoal-flecked, but Features 45 and 46 were filled almost entirely with charcoal. Features 13, 15, 16, and 20 each contained a nail.

Feature 17 contained two pieces of charcoal.

Feature 22 had a long axis east to west, was 7 by 5 in (177 by 127 mm) in plan, and 2 in (50 mm) deep, with vertical sides and a flat base. The fill was of dark grey-brown, greasy, charcoal-flecked soil.

Post-holes:
Feature 4 was roughly circular in plan, 8½ in (216 mm) in diameter, depth 5 in (127 mm), with vertical sides, and flat base. The fill was of dark grey-brown, clay soil containing two tesserae and four pieces of chalk.

Feature 38 was roughly circular in plan, 5½ in (140 mm) in diameter, with a depth of 5 in (127 mm). It had vertical sides and a rounded base. The fill was of dark grey-brown, greasy, charcoal-flecked soil.

Feature 51 was circular in plan, 8 in (203 mm) diameter, depth 4 in (101 mm) with vertical sides, and a flat base. The fill was of soil and small rubble.

Drain: Feature 69 was a large drain, containing fourth-century pottery (Fig. 14, nos. 42–4; Fig. 16, no. 66), glass fragments, an iron object (RF664 unpublished), nails, tesserae, wall plaster, animal bone, charcoal, a limpet shell, 4 whelk shells, 4 mussel shells and 715 oyster shells.

Room 5

Layer 5 was overlain by the limestone floor (Layer 4). On the floor was a layer of occupation silt, dark in colour and containing fourth-century material. On the west side of the room was an erection of stones and clay with the edge revetted in mortar. This stood 6 to 9 in (152 to 228 mm) above the floor surface, leaving a floor space of 28 in (711 mm) on the east side. The occupation silt extended under the erection. A large number of fourth-century coins (a scattered hoard?: see supplementary coin list in site archive for details) were found in the occupation layer and in the surface of Layer 4, but no coins were found sealed under the clay and stone erection.

Room 6
(Fig. 3; Section BB)

Layer 5 was overlain by crushed limestone (Layer 4) and green clay (unnumbered layer). Over these was Layer 6, a mortary rubble layer

similar to the make-up material under the floor of Room 1. On this was laid the pavement matrix of sandy-brown mortar (Mo 10), which varied in thickness from 1 in to 4½ in (25 to 114 mm). As in Room 1 the mosaic itself was centrally placed with a surround of large, red, clay tesserae, and a border of limestone tesserae (see Plate VII). Walls and floor junction were sealed by a quarter round moulding of pink cement (Mo 9) which still survived on the north and south sides. A patch of red brick dust (Mo 11) was found adhering to the pavement in the southeast corner. The surface of the pavement showed evidence of burning, also recorded in the adjacent corridor Room 2 (see above).

The Exterior

The entrance: A cambered pathway about 13 in (330 mm) in width and 6 in (152 mm) in thickness, composed mainly of gravel but including mosaic tesserae and 46 pieces of waste from the manufacture of pavements, fragments of roof slates and tiles, was found mid-way between Rooms 1 and 6, and terminated against the wall of the corridor. A fragment of a capital or stone 'column' or pillar (Fig. 10, no. 42) was found in the rubble filling of the wall trench close to the pathway. The occupation silt overlying the pathway contained fourth-century pottery sherds, glass fragments, copper alloy fragments, wall plaster, and animal bone. The silt on both sides of the pathway, but mainly on the east side, where it was 6 in (152 mm) in depth, contained fourth-century coins, probably representing a scattered hoard (see supplementary coin list in site archive for details). Many were found against the wall of the corridor close to the angle between the corridor and Room 1, together with pottery sherds (e.g. Fig. 14, no. 36), glass fragments (e.g. Fig. 9, no. 36), a piece of blue pigment (which, although not analysed, Justine Bayley suggests is likely to have been a pellet of Egyptian blue), and melted bronze ?coins (see p. 125). A post-hole (Feature 72) was found close to the pathway. South of Room 1, crushed limestone (Fig. 3, Section AA, Layer 4) was found to overlie Layer 5, and this extended westwards on the exterior of the building, to where it petered out close to the east side of the entrance pathway, east of Room 1. A very narrow strip of this was examined superficially. A gritty surface containing two coins (nos. 820 & 821) was found beneath the rubble.

Feature description:

Post-hole: Feature 72 was oval in plan, with a long axis northwest to southeast, 1 ft by 10 in (304 by 254 mm), depth 6 in (152 mm). The sides were vertical, with a rounded base. The fill was grey, charcoal-flecked ash containing two burnt oyster shells, a large blue tessera and a piece of wall plaster.

Northeast of Room 1 and Room 3 stratification showed a layer of occupation silt (Fig. 3, Section AA, Layer 3) overlying crushed limestone (Layer 4) laid on Layer 5. A few fourth-century coins were found in Layer 3, together with pottery sherds, glass fragments, ?fused tesserae (see p. 125), charcoal, animal bone, oyster shells, nails, and wall plaster.

Feature descriptions:

Feature 1 had an oval-shaped base of hard white concrete (Mo 1: see supplement below for analysis) with a capping of soft, buff mortar. It was 4 ft by 3 ft (1.22 by 0.91 m) in plan, with the long axis southeast to northwest. The depth in the centre was 2 ft (0.61 m). [Its content of crushed brick (p. 116) would make it a suitable base for a water tank. L. Biek]

Post-holes: Features 64–6 were all roughly circular in plan, with fills of rubble composed of stone and mortar.

Drain: Feature 21 was an open ditch of small size, 2 ft 6 in (762 mm) wide, with sloping sides and a rounded base. It contained fourth-century pottery, wall plaster, a nail, and an oyster shell.

The area north of Room 4 was examined in a trench extension northward and alongside the north wall. The occupation level here was the gritty surface of Layer 5 which contained a few pottery sherds, with broken and whole roofing tiles of red clay and blue-grey slates (p. 103). These concealed a drain (Feature 21) which took the form of a small, open ditch, here about 4 ft wide (1.22 m).

North of Room 6, Feature 71 was found in a trench extension northwards. The feature had little shape and was little more than a shallow hollow, probably draining into Feature 69. It contained fourth-century pottery, wall plaster, tesserae, animal bone, nails, and 78 oyster shells.

West of Room 6, Feature 70 was a ditch similar to Features 69 and 21. The entire site was eventually covered by rubble (Layer 2), although at some stage, possibly prior to this, the walls were almost completely robbed out (see Fig. 3, Sections AA, BB, CC). Layer 2 was composed mainly of limestone rubble, small flint gravel and fragmentary roofing materials, and was fairly compact and relatively undisturbed except where mole-drainers and other agricultural machinery had penetrated, and where various recent tests had been made. Layer 2 also contained numerous Roman artefacts and was cut by seven human burials (see supplementary report for details); the date of these insertions is unknown. They were concentrated in an area over the west side of Room 1 and the east side

of Room 2. Scattered groups and individual bones were found throughout Layer 2.

Feature description:

Ditch Feature 70: Contained fourth-century pottery (Figs. 14 & 15, nos. 45–52), glass (Fig. 9, no. 37), copper alloy (Fig. 6, no. 5), iron, tesserae, coal (see p. 103), wall plaster, animal bone, hazel, ?willow and ?*Sorbus* sp. charcoal (CH 17, 18: p. 124), 695 oyster shells, a cockle shell, and a mussel shell.

Burial 1: A female adult, in rubble over the pavement of Room 1, head to west.
Burial 2: An unsexed adult, laid across the wall trench between Rooms 1 and 2, head to southwest.
Burial 3: Probably a male adult, on the surface of the occupation level on the northeast exterior of Room 1, head to west, laid on back fully extended.
Burial 4: Probably a female adult, on the pavement of Room 1, head to southwest.
Burial 5: Parts of male and female adults, on the pavement of Room 1, orientation east to west.
Burial 6: A juvenile, on the pavement of Room 2, head to west, laid on back fully extended (Plate IX).
Burial 7: An unsexed adult, on the occupation level of the south exterior of Room 2, orientation northwest to southeast.

Layer 2 was overlain by Layer 1, the plough soil. This was composed of greyish-brown, clayey loam, fairly evenly mixed with rubble ploughed up from the mound, and contained Roman artefacts.

Discussion

Archaeological techniques and constraints have changed considerably since this excavation was carried out in the late 1950s; it is therefore not surprising that the extent of recording appears, by present standards, somewhat limited (but see p. 91). The site was badly damaged by rodent activity, and as a result of both these factors, there are various anomalies in the site record which it is not now possible to clarify. What follows must therefore be a necessarily brief review of the stratigraphy and the phases of activity suggested by it.

Although Layer 7, Features 73 and 74, clearly represent Iron Age occupation, there is, unfortunately, no structural evidence for this period. This phase was sealed by the old ground surface (Layer 5) perhaps denoting a period of cultivation if not actual abandonment, prior to the construction of the villa.

Since the nature of the villa foundation was consistent throughout, it is most likely that the villa represents a single building phase. However, the relationships between the phases represented by the floor surfaces in the different rooms present serious problems, especially those of the rear rooms (Rooms 3, 4 & 5) to those at the front (Rooms 1, 2 & 6). With the exception of the Group A features cutting Layer 5 in, or below, Room 3 (which may denote pre-building activity), the one constant factor which may provide links is the presence of the crushed limestone surface (Layer 4). This was seen to overlie Layer 5 in all the rooms (except Room 1) and externally (notably on the north and south exterior of Room 1). Layer 4 also occurred externally to the east of Room 3, where it sealed an enigmatic base of concrete (Mo 1) of unknown function cutting Layer 5. The presence of Layer 4 in Rooms 2 and 6 is of particular interest because both these rooms were subsequently provided with pavements: it is tempting to suggest that this represents the original floor surfaces prior to their insertion. However, in contrast to Room 3 (where there were fourth-century coins), there was no evidence of occupation debris either embedded in or overlying the surfaces of Rooms 2 and 6. It may be of relevance that the mosaic floor in Room 1 was laid (on Mo 2) directly over the rubble make-up of Layer 6, which was directly above Layer 5; clearly, in this instance at least, Layer 4 was not regarded as essential for stabilising or levelling prior to the insertion of the pavements. The exact functions of Layer 4 in Rooms 2 and 6 must therefore remain in question, but stratigraphically, they appear to belong to the same activity phase as Layer 4 in Rooms 3, 4, and 5.

Rooms 1 and 6 were subsequently spread with the rubble make-up of Layer 6, prior to the laying of the mosaic pavements in their matrices of sandy-brown mortar (Mo 2 & Mo 11 respectively). In Room 2, there was no rubble make-up but simply a layer of ginger sand (Mo 5), followed by the pavement matrix of coarse, buff mortar (Mo 3). Despite this difference it is quite possible that all three mosaics were laid at the same time and by the same craftsmen (see Smith below). This is also supported by the analysis of the matrices (see supplement below).

Layer 4 in Rooms 3, 4, and 5 continued in use as the floor surface alongside the new pavements, but it was worn and cut into by various hearths and pits, suggesting domestic and possibly manufacturing activities, particularly in Rooms 3 and 4. An occupation silt, containing fourth-century material, was above Layer 4 in Rooms 3, 4, and 5 but its relationship to the hearths is not entirely clear. The function of Room 5 with its later stone and clay erection (i.e. over Layer 3) is unknown.

The insertion of the three post-holes (Features 54–6) through the pavement in Room 1 may relate to a need to support weakened roof

timbers. The charcoal-bearing destruction level on the pavement of Room 2, and the signs of burning in the adjacent Room 6, show that the corridor had been damaged, if not destroyed by fire at some stage. Apart from these hints, the manner in which the demise of the villa occurred is hard to ascertain. However, the virtual absence of evidence for collapsed roofing; the fact that occupation Layer 3 and the mosaic floors are directly overlain by the rubble (Layer 2) and the thorough robbing of the walls (apparently prior to the demolition resulting in Layer 2), all suggest that the building was deliberately demolished, rather than being left to decay slowly. The dating of the villa is examined more fully in the general discussion below. It is most unfortunate that there was no dating evidence for the human burials inserted into Layer 2.

Site 2: Excavated Features
(Figs. 2 & 4, Pls. II & VIII)

Phase 1

The first activity on Site 2 appears to have been the digging of the Phase 1 foundation trenches through the old ground surface (Layer 12, Layer 5 on Site 1), and into the natural clay (Layer 13) beneath. The foundations (Fig. 4, Section EE, Layer 15, and Section FF, Layer 14) were constructed in exactly the same manner as were those of the Site 1 villa, above. A surviving fragment of the Phase 1 wall (reused in Phase 2) consisted of two courses of horizontally-laid limestone blocks; another fragment was represented by a single course of pitched limestone slab (northeast wall Phase 2, Room 3).

The area excavated on Site 2 only recovered a part of the Phase 1 structure (Rooms 4, 5, 8, 9, 10 & 11: see Fig. 2). A mound some 300 ft (91.5 m) in length east to west, by 50 ft (15.3 m) and *c.* 150 ft (45.7 m) south of Site 2 probably covered a range of rooms at right angles to Room 9 and parallel with Site 2. It is not clear which layers shown in the sections (Fig. 4) represented floor levels in Phase 1.

Room 4

The series of gritty, green, clay lenses overlying Layer 12 in Room 4 (Layers 7–11) are something of an anomaly. The lower lenses, i.e. Layers 10, 11, and possibly Layer 9 may represent Phase 1 levels (floors?) (*cf.* Layer 8A, Fig. 4, Section DD, in Room 8). However, the upper lenses, Layers 6, 7, and 8, contain finds (especially Layers 6 & 8, with five coins dated to *c.* AD 355: coin nos. 895, 896, 898, 903 & 904) which suggest they may relate more convincingly to the Phase 2 occupation.

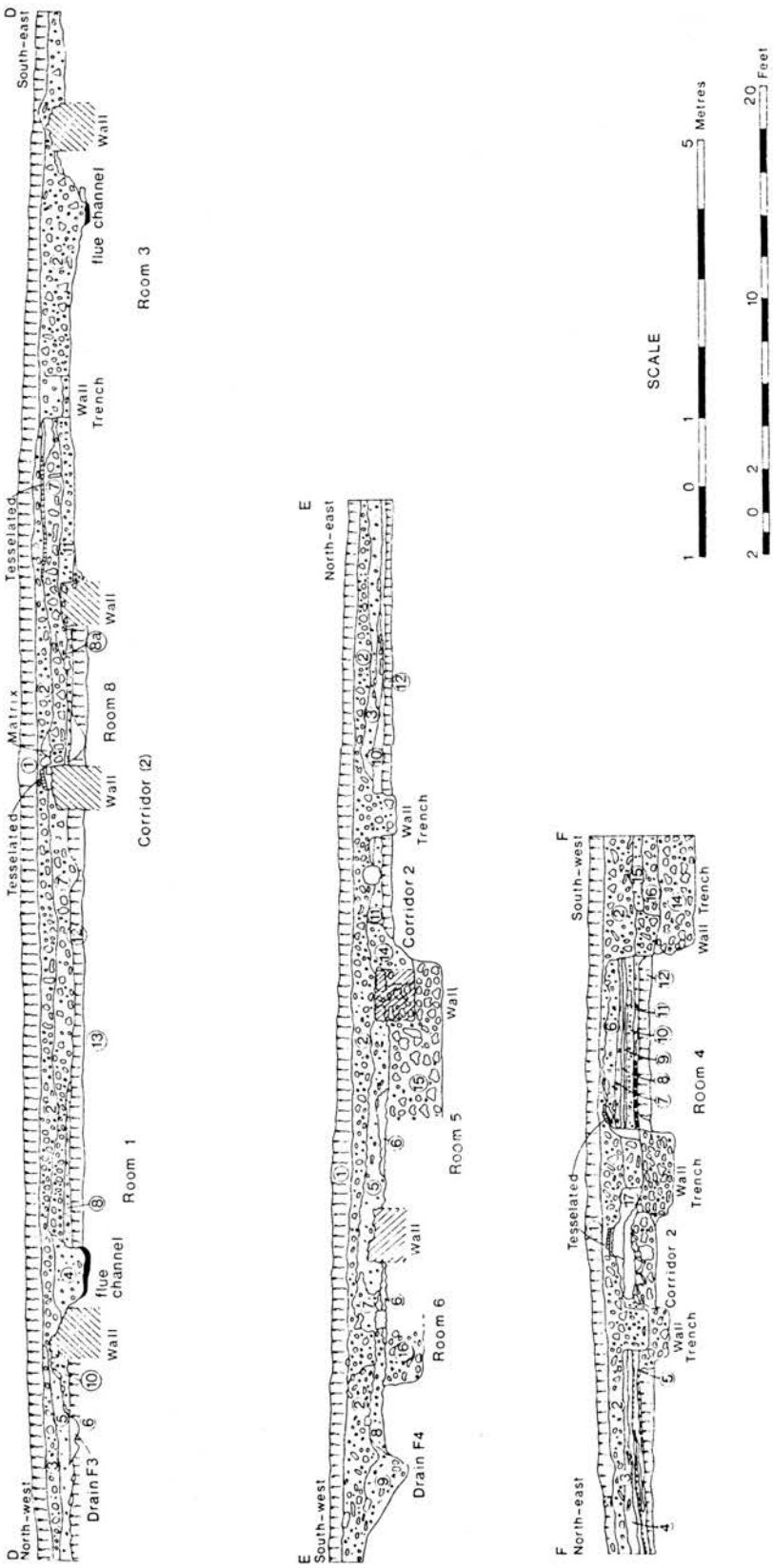
Room 8

In Room 8, Layer 12 was also cut by a small hollow which was found to contain brick dust (Layer 9, Fig. 4, Section DD). It is not known whether this feature and its fill are earlier or later than the Phase 1 construction; they are sealed by a thin layer of green clay (Layer 8A, Fig. 4, Section DD) which may represent a Phase 1 floor level. (There are no finds from any of these layers.) [However, assuming that brick dust was specially prepared for *opus signinum* work (see p. 116 below), this is unlikely since no evidence of such work can be linked to Phase 1 (*cf.* hypocaust, p. 88). L. Biek]

Room 9

In Room 9, which had retained two parallel wall foundations, there was no apparent floor level, but gritty rubble levels produced pottery sherds dateable to the late third or early fourth century, a few glass fragments, nails, and a fragment of wall plaster.

Plate II. *Site 2 (1959), general view looking southeast. (Photo: RFN 95)*



GREAT STAUGHTON SITE 2 1959

Figure 4. *Site 2, sections.*

Room 10

A trench extension, dug northwest from the west corner of Room 10, failed to locate a northwest wall, but 15 ft (4.57 m) from the limit of the main excavation, a small V-shaped ditch (Feature 1) on a northeast–southwest alignment was found. This was filled with sooty clay and contained two pieces of antler tine.

Behind the northeast side of the furnace wall were the remains of the steps of a Phase 1 doorway into Room 11. The surface of these showed they had been burnt. The lowest step could no doubt have been burnt in tending the furnace stoke-hole to Room 1, but the top step was under the southwest wall of Room 1 during the occupation of the bath-house, so it seems it received its burnt surface before the construction of Phase 2.

Room 11

The floor surface was apparently the surface of Layer 12 as in Room 10. The base of a post-hole (Feature 8), possibly of Phase 1, was found in the slope of the stoking pit.

Feature descriptions:

Post-hole: Feature 8 was rectangular in plan with its long axis east–west, 1 ft 4 in by 1 ft 1 in (0.41 by 0.33 m) with sloping sides and a concave base. The depth was 5½ in (140 mm) and the filling was mixed blackish-green sooty gritty rubble.

The Exterior

It is difficult to establish which of the levels shown on the sections were present in Phase 1. In Figure 4, Sections EE and FF, Layer 12 survived in the northeast exterior, but Layer 12 is not shown on Section DD either underneath, or even to the southeast of, what later became Room 3. In this area the natural (Layer 13) is directly overlain by Layer 2. However Layer 12 survives in Room 8 and was possibly its floor surface.

In Phase 2 the northeast area probably represented the entrance: the northeast exterior showed a number of gritty rubble levels beneath the rubble spread of Layer 2: Layer 3 on Figure 4, Section EE, was a cream-coloured, sandy, gritty, rubble containing four coins (nos. 857 & 905–7), pottery, glass fragments, and wall plaster. Layer 4 on Figure 4, Section EE, was grey, gritty rubble and silt containing three coins (nos. 869–71). In Figure 4, Section FF, Layer 5 was a level, grey, gritty silt with pebbles (in the field report Section FF, it is described as 'pebbled entrance surface Phase 2' and containing four coins, nos. 897, 899, 900 & 902). There were two gritty levels on the northeast exterior of Room 1. A post-hole (Feature 6), which was possibly a scaffold-pole hole, appeared when Layer 3 was being removed.

Phase 2

All Phase 1 walls and footings not incorporated in the Phase 2 plans were demolished at the time of reconstruction, i.e. the northeast and southwest walls of Room 10, the southwest wall of Room 11 and two parallel walls of Room 9. The Phase 1 walls of Room 8 were intact except for the part reused in Phase 2, and this had been robbed. Where examined, the Phase 2 foundations used glacial stones and sandy gravel. Fragments of walling in Room 3 stood to a height of two courses of horizontally-laid blocks in the south corner, and part of a single course of pitched slab represents the northeast wall. Make-up layers appear to have been put down over the Phase 1 levels as a base for the mosaic floors, e.g. Room 1, Layer 7 (Fig. 4, Section DD), Room 2, Layer 11, and Layer 7 (Fig. 4, Section DD), Room 4, Layers 6–8, and possibly Layers 9–11 (Fig. 4, Section FF).

Room 1

Formed in Phase 2 by the erection of walls on what was formerly an exterior area. The site record does not state which layers the hypocaust channel was cut through — but Figure 4, Section DD suggests that it cuts through the natural clay of Layer 13 and the green clay of Layer 8, as well as the clayey, gritty, mortary rubble of Layer 7 (the floor make-up over which the mosaic was laid), and the southwest wall of Room 1.

The hypocaust channel was laid diagonally across the room from the stoke-hole in the west corner to the east corner, where it joined a narrow channel parallel to the northeast wall. The stoke-hole was originally an aperture approximately 1 ft (306 mm) in width, between the end of the northwest wall of the room and the oblique end of the southwest wall (built on the surface of the top step of the Phase 1 doorway). No evidence was found of a partition wall between the room and the corridor, Room 2. The main mosaic pavement was totally destroyed but 11 fragments were found in the fill of the hypocaust channel (Fig. 4, Section DD) Layer 4, and in Layer 2. A fragment of the coarse, tessellated surround to the mosaic was found in the southwest of the room. This was of 1½ in (35 mm) grey tesserae, with part of a pink cement quarter-round moulding (as seen

elsewhere) to seal the junction between wall and pavement. The matrix under the surround was soft, sandy, brown mortar (Mo 15, see supplement below).

Feature description:

Hypocaust: The main channel was narrow, barely 6 in (152 mm) wide and was originally edged with stone slabs, probably capped with large stone slabbing. Most of the sides were found broken down, with only two courses of limestone edging remaining. There were probably vents in the flue channel similar to those in the flue to the Room 3 hypocaust, but robbing had destroyed their positions.

Room 2

In Phase 2, Room 8, the northwest and southwest walls were demolished to form the long frontal corridor (Room 2). At the northwest end and the area defined by Room 8 (Fig. 4, Section DD), Layers 12 and 8A (the latter probably Phase 1) were overlain by the make-up of Layer 7 (rubble and grey-brown, gritty, clayey soil as elsewhere). At the southeast end, Layer 7 overlay Layer 11, described as 'mixed levels'. In Figure 4, Section EE, Layer 11 overlay Layer 12 but directly underlay Layer 2, whereas in Figure 4, Section DD, the sequence was Layer 2 above the mosaic (see Plate VIII), which was itself above Layer 7, which overlay Layer 11, which was overlying 'unexcavated' layers.

As elsewhere, the pavement matrix (over the rubble make-up Layer 7) was soft, sandy, brown mortar (Mo 13, see supplement below) about 2 in (50 mm) thick. From the three pavement fragments remaining, the basic tesserae were brown in colour, of fairly large size, and the largest patch at the southeast end of the corridor contained a grid design in blue. The original size of this design was at least 7 ft 9 in (2.37 m) by 3 ft (0.91 m).

Room 3

This seems to have been very similar to Room 1, being of Phase 2 construction. Figure 4, Section DD shows only the flue channel (filled by Layer 2) cutting an unexcavated surface, probably Layer 12. The hypocaust channel was cut from the stoke-hole (Feature 5) through the wall footing on a northeast to southwest alignment, across the southeast side of the room to the northeast wall, where it joined the flue channel parallel to the wall.

There was a rubble make-up layer consisting of mortary, clayey, limestone rubble, containing tile and roof slate pieces (probably equivalent to Layer 7, Fig. 4, Section DD in Rooms 1 & 2) underlying the pavement matrix which was, as elsewhere, of soft sandy brown mortar (Mo 12, see supplement below). A piece of the coarse, tessellated surround of large, blue tesserae with blue stripes survived in the west corner of the room. The mosaic itself was totally destroyed, but 48 pieces were found in the fill of the hypocaust channel, possibly Layer 2. A wall (shown on the plan as Phase 2) protrudes southeastwards from the exterior southeast wall of Room 3. Its full extent and relationship to the overall Phase 2 plan were not ascertained.

Feature description:

Hypocaust and flue channels: Both channels were narrow and stone-lined and varied in width from 6 in to 1 ft (152 mm to 304 mm). Charcoal (CH 22: ?Blackthorn and ?Spindle; p. 124) and soot were found on the base of the main channel. Vents were found at each end of the flue channel. The stoke-hole was examined in part but its whole plan was not obtained. The base sloped from the wall edge to the southwest where it was 3 ft 3 in (0.99 m) wide at the excavation limit. Its length, southeast to northwest, was not ascertained. The filling was of greenish-brown, charcoal-flecked, clayey soil and rubble containing a great deal of wall plaster (see Plate III and Liversidge below) and pottery sherds (e.g. Fig. 16, no. 68) as well as glass fragments, seven oyster shells, and a nail.

Room 4

This was entirely Phase 1 reused. The clay lenses overlying Layer 12 (Fig. 4, Section FF, Layers 9–11) have been discussed above. The upper group of this series (Fig. 4, Section FF, Layers 6–8), to judge by the fourth-century finds, probably relate to Phase 2. Figure 4, Section FF, Layer 6 was of greenish, clayey soil with tile and limestone rubble, and contained six coins (nos. 896, 898, 901, 903–4 & 910). Above Layer 6, Room 4 was divided into two, Rooms 4 and 4A. A doorway between the two rooms was suggested by eight pieces of slabstone, four of which fitted together. The uppermost surfaces were worn smooth and the edges roughly tooled. In Room 4, the pavement matrix was again soft, sandy, brown mortar (*cf.* Mo 13 and Mo 12 respectively), with medium-sized brown tesserae similar to those used in Rooms 2 and 3. A fragment of this was found on the northeast side of the room where a red clay tile had been inserted into the pavement. Room 4 probably served as a *frigidarium* to the bath suite; both portions were in a very wrecked state. The floor of Room 4A was represented by a few fragments of red clay bricks or tiles, laid originally on a pink cement matrix (Mo 14).

Room 5

[Groups of small tesserae in *opus signinum* (?*cf.* similar to Mo 4) and a fragment of special 'mor-

tar', tesselated and painted (see Smith below: 'from a vertical surface'), were found here. L. Biek]

The hypocaust systems in Rooms 1 and 3 belong to the Phase 2 build (Rooms 1 & 3 were both Phase 2), but the hypocaust in Room 5 (Phase 1 reused) might be a Phase 1 feature; the section does not clarify this. However, if it is true that in Phase 1 the other floor surfaces were provided by Layer 12, a hypocaust is perhaps unexpectedly sophisticated for this phase, and it is therefore more likely to relate to Phase 2. The layer forming the surface on which the *pilae* were constructed was of hard clay and glacial stones (Fig. 4, Section EE, Layer 15). It was burnt reddish-blue in places, especially through the centre longitudinally from the furnace to the vents at the southeast end. Figure 4, Section EE shows this layer as being of some considerable depth, about 2 ft 8 in (812 mm) and apparently integral with the foundations below the northeast wall of Room 5.

The furnace supplying heat for Rooms 5 and 6 is not shown in section. The furnace was a slightly tapering channel between walls of stone 8 ft (2.44 m) in length, laid through a hole knocked in the northeast wall of Room 5 and, for most of its length, contained in a shallow trough scored in Layer 12 and the subsoil. The stoking pit was a shallow scoop at the northwest end of the channel. There was much evidence of use and the throat of the furnace showed two phases of construction. The southeast end of the northeast side of the furnace extended into the hypocaust for a distance of 4 ft (1.22 m). There was a deposit of soot and charcoal on the base of the furnace channel.

The fill of the furnace (mainly sooty rubble with four pieces of burnt pillar incl. Fig. 10, no. 45, pottery etc.) and the sooty rubble that filled the area between the lowest step and the side of the furnace channel were probably the same as the rubble levels of Figure 4, Section EE, Layers 5 and 7 seen in Rooms 5 and 6. They probably represented post-occupation collapse or demolition.

Feature description:

Furnace: In the original construction the channel was of an average width of 3 ft (0.91 m), but a refacing of the southwest side with large tooled blocks of stone reduced the width to about 2 ft (0.61 m).

The filling was mainly of sooty rubble and contained four pieces of burnt pillar or column shaft, two pieces of millstone, two glass fragments, and a pottery sherd. A quantity of ?Hawthorn charcoal (CH 21: p. 124) lay in a deposit of soot on the base of the furnace channel.

Room 6, the Heated Bath Hypocaust
(Pl. IV)

This was attached to the southwest wall of Room 5 at the west corner of worn wall blocks of limestone. Only part of the lowest course remained and this was laid on a foundation of glacial stones and gravel (Fig. 4, Section EE, Layer 16). Isolated blocks of stone in the corners of the hypocaust probably indicated the bases of *pilae* to support the floor of the bath, but this could not be proved. The aperture to admit heat from the hypocaust of Room 5 was about 3 ft (0.91 m) high. A central support in the aperture was indicated by a small patch of rubble. The floor was covered by sooty, charcoal-flecked, gritty soil (Fig. 4, Section EE, Layer 6) also seen in Room 5 overlying Layer 15, the floor surface. Layer 6 was overlain by rubble levels (Fig. 4, Section EE, Layers 5 & 7). Layer 5 contained a rim sherd and a fragment of wall plaster.

Room 7

An area between the southeast wall of Room 6, the southwest wall of Room 5 and just falling short of the northwest wall of Room 9 was occupied by a 'concrete base', of roughly rectangular shape 13 ft by 7 ft (3.96 m by 2.13 m), with a depth on the southwest side of 1 ft 3 in (381 mm). Formed of coarse, greyish-white concrete, it appeared to be more attached to the exterior of Room 5 than to the southeast side of the heated bath space. There was no direct evidence that it formed the base of a cold bath; but its material (?*cf.* Mo 1 p. 116) makes this quite likely.

The Exterior

In what was formerly Room 10 in Phase 1, a drain (Feature 3) was cut into Layer 12 from the stoke-hole of Room 1 where it terminated in a small sump (see Fig. 4, Section DD, Layer 10) below Layer 5, above Layer 12, with an uncertain relationship to Layer 6. The fill of Feature 3 was sooty clay and rubble piled against the outside of the Room 1 reused wall. Section DD, Layer 5, which overlay the gulley and Layer 12, consisted of sooty, clayey soil. Section DD, Layer 3 was the continuation of the general rubble spread (Layer 2 elsewhere), but here it was sooty. A small post-hole (Feature 7) occurred between Feature 3 and the Phase 1 northeast wall.

Feature descriptions:

Drain: Feature 3 was a small 'U'-section gully with a sharply defined 'V'-shaped cut on the west side. The gully varied in width from 9 in to 1 ft 6 in (228 to 457 mm). The filling was black, sooty, charcoal-flecked clayey soil and rubble (Fig. 4, Section DD, Layer 6) containing a piece of wall plaster and six oyster shells.

Post-hole: Feature 6 was roughly circular, 8 in (203 mm) in diameter. The sides were vertical and the base flat. The filling was greenish-brown, gritty silt containing a few small stones.

Post-hole: Feature 7 was a roughly circular patch of blackish clay containing gritty, sooty rubble. Its diameter when cleared was 11 in (280 mm), with a depth of 5 in (127 mm).

Room 6, Southwest Exterior, the Heated Bath

This area was stripped down to the surface of Layer 12. Feature 4, a drain on a northwest to southwest alignment, emptying into an oval-shaped sump, no doubt drained surface water and the bath.

Feature description:

Drain: Feature 4 and sump, this was a 'V'-section, open ditch between 3 in and 4 ft (0.9 to 1.2 m) wide and 2 ft (0.61 m) in depth. The filling of ditch and sump was dark grey, charcoal-flecked, clayey gritty silt and rubble, containing a pottery sherd, glass fragments, wall plaster, and a coin (no. 860) found on the base of the ditch. The filling of the sump contained a number of large stones.

Phase 3

This phase consists of the filling of Feature 4 (Fig. 4, Section EE) and the sump (though this could have taken place during Phase 2).

It is not always easy to distinguish between Phases 3 and 4, i.e. between layers backfilling formerly open ditches etc. (e.g. Feature 4 and the sump, Fig. 4, Section EE, Layer 4, Section DD, flue channel, drain, Section DD, Feature 3 etc.) and those consisting of robber trenches (Fig. 4, Sections DD, EE, FF) and the deposition of Layer 2, the general layer. In some instances (Fig. 4, Section DD, Phase 2 wall, northwest of Room 3; Phase 2 wall, northeast Room 2, Fig. 4, Section EE; and Section FF, Room 2 northeast wall Phase 1 reused), the walls seem to have been completely robbed out and the subsequent gap filled by Layer 2.

Elsewhere (Fig. 4, Section DD, Phase 2, wall, southeast Room 3 and reused walls in Room 5) the upper part of the wall only has been robbed, the stumps being covered either by Layer 2 or, in Section EE, by Layer 5. There also appears to be a trench cut into Layer 2, i.e. a final phase seen in Section EE, in the region where the southwest wall of Room 6 should be.

There are, however, problems in understanding the sections. Figure 4, Section DD shows the wall trench for the northwest wall of Room 3 as both cutting through and as filled by Layer 2. Layer 2 also fills the flue channel in Room 3 (Fig. 4, Section DD) immediately above the thin, sooty deposit, whereas in Room 1, the fill of the flue channel, Layer 4 is overlain by Layer 2 (Fig. 4, Section DD). In Section FF, the tessellated floor of Room 2 has clearly been cut through by the robbing trench for its southwest wall. Layer 2 overlies the tessellated floor and forms the fill of the robbing trench.

Discussion

Allowances must be made for serious rodent damage. In some respects the history of Site 2 is clearer than that of Site 1 because Phases 1 and 2 were (mostly) recognised at the time of excavation, but numerous problems remain, which make a fully detailed interpretation impossible. For example, on the plan (Fig. 2), the northwest wall of Room 1 is indicated as being reused in Phase 2 (i.e. at the same time as the hypocaust channel) whereas Figure 4, Section DD indicates the northwest edge of the hypocaust channel cutting this wall, thereby suggesting that the wall had already gone out of use, or went out of use when this channel was cut. Although Figure 4, Section DD would have cut the suggested Phase 2 wall dividing Rooms 1 and 2 at right angles (see Fig. 2), there is no direct evidence on the section to indicate its presence, or even a robbed-out ghost. The termination of Layer 8 (Fig. 4, Section DD) at the suggested point may, however, be of significance.

As a result of these problems it is not possible to be completely certain of the general relationships between phases in the different rooms or with the exterior levels. It is probably safest to accept only the general phasing (as suggested in the above description) on the understanding that there are probably several sub-phases. For the same reasons as were suggested for the Site 1 building, Site 2 was probably deliberately demolished rather than being left to decay slowly. For dating, etc., see general discussion below.

Painted Wall Plaster

By the late Joan Liversidge

Although the remains of wall-painting found in Site 1 are very worn and fragmentary, they are of interest because, unlike many such finds from Roman Britain, they can be dated. Dated, moreover, to the fourth century, a period to

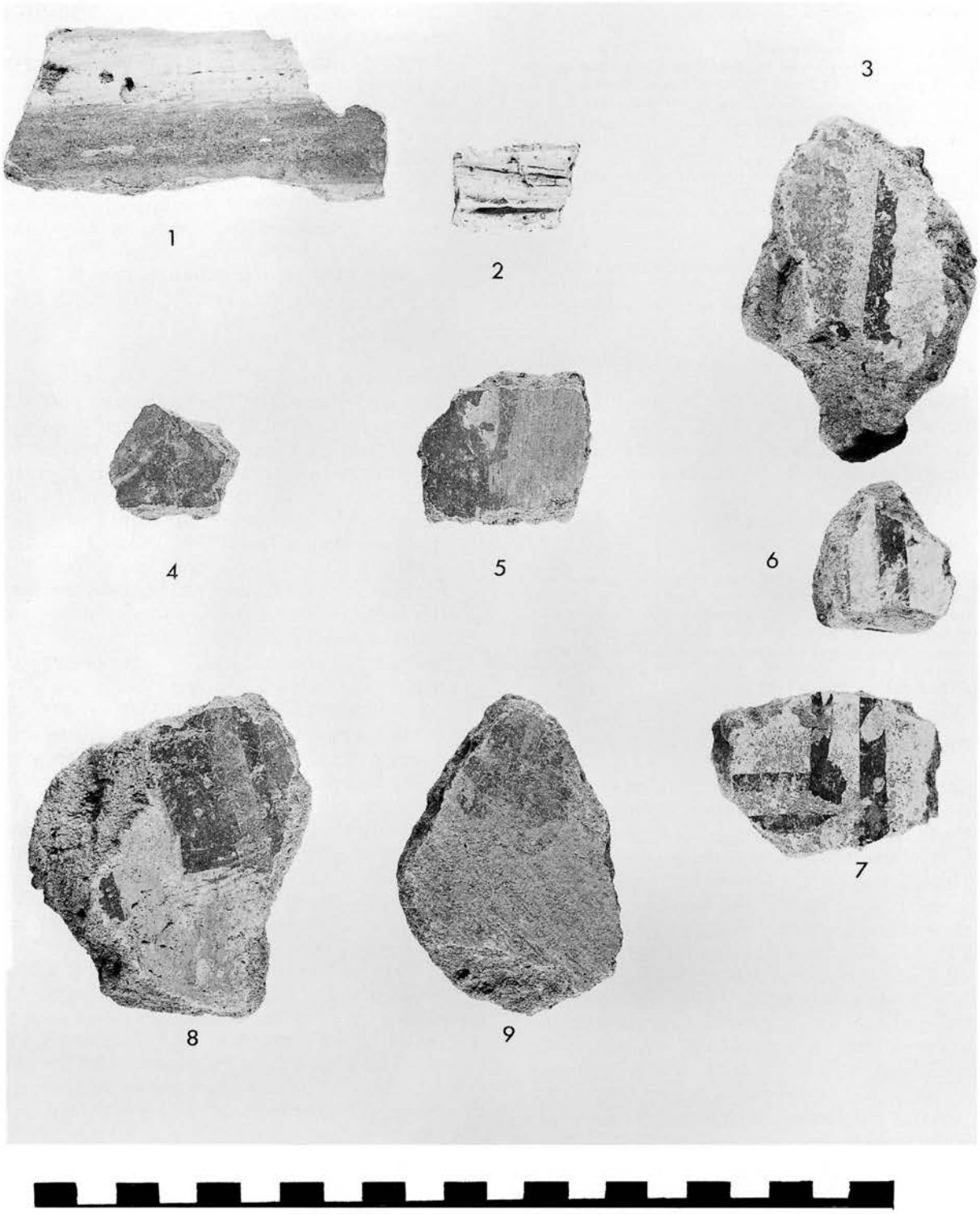


Plate III. *Wall plaster (metric scale). (Photo: A 8452/1)*

which so far, with the exception of Lullingstone (Meates 1987), and *Verulamium* (Liversidge 1984) we can assign very little material.

The predominant colour is a deep, rich, purple, obviously used as a ground for either panels or a dado, or both. There is no evidence to determine its position on the wall. It also occurs on a few pieces as a framework of two parallel lines *c.* 2 in (50 mm) wide, meeting at right angles in a bead (Pl. III, nos. 6 & 7) on a white ground, and here we probably have proof of panel decoration. A similar purple line painted on a light-red ground is distant, 3 in (76 mm) from more purple and another piece (Pl. III, no. 3) shows a narrow white line dividing red and purple. Perhaps we have evidence here for red and white panels, the white panel with a framework of purple lines, possibly set in a wider purple border.

We also find one piece with a delicate white floral design surviving faintly on the purple ground (Pl. III, no. 4), another with traces of white, painted over a deep red design on a ground partly light-red and partly purple (Pl. III, no. 5), and another with purple on a yellow ground with traces of red along the right hand edge (Pl. III, no. 8). Plate III, no. 1 has a black line on a white ground. Plate III, no. 2 may be a scrap of moulded white stucco, an unusual find which resembles the stucco from the Roman villa at Gorhambury (Neal *et al.* 1990).

Among the material not illustrated are fragments of plain red, red and yellow, perhaps from bands bordering the panels, greyish blue painted over red, and edged with a black line or stripe, the same blue on a white ground, and a few scraps of bright blue.

The wall-painting from Site 2 must also have belonged to a very colourful scheme of decoration, but again the condition is now too fragmentary for an attempt to be made to restore the designs. Material from both phases of occupation is believed to be present but is so similar in composition that it has proved impossible to discriminate between the two.

The most striking feature consists of swirls or scrolls of purple, mauve, or pink paint, sometimes highlighted with bright blue or bordering an area of bluish green. It is difficult to determine to what type of design these belonged; drapery or the capital of a column came to mind, but with very little evidence for either. With these pieces may, perhaps, be associated a scheme of deep rose and mauve separated by a white line, 0.8 in (203 mm) wide, probably part of a framework of lines and stripes or the edge of a panel. Fragments also occur with plain purple edged with a white line. The same deep rose is found next to a white ground, with a narrow black line, and in one case, the black line is enlivened with a mauve bud. Elsewhere blue or white grounds are edged by black stripes and one blue fragment has a pattern of small red leaves.

A collection of pieces painted red and pale yellow came from Room 4 and may belong to a splayed window of Phase 1 date. In some cases olive green and white lines *c.* 0.3 in (76 mm) wide separate the red and yellow. The same design also occurs in the stoke-hole filling (Feature 5) outside Rooms 3 and 4, and with it are pieces of white with an olive green stripe $^1/_4$ in (7 mm) wide. This may come from the same type of window decoration. One of these fragments also shows traces of a design in yellow and blue. Pieces painted white, from elsewhere on the site, may come from a ceiling. One is noticeably concave, and another shows signs of another layer of white decoration, belonging to an earlier period, underneath.

[Analysis of an unpainted fragment, from Layer 2 (rubble over exterior of the villa, p. 116: Mo 8) showed the plaster to have been carefully prepared and eminently suitable for the purpose: a 1:2 mix (by wt) of lime and very fine sand. The pellet of Egyptian Blue (p. 82) was evidently lost by the artist responsible for the blue decoration. For use of this colour, and others, see Davey & Ling 1982. L. Biek]

Mosaics

By David J. Smith

The excavations brought to light remains of patterned mosaic pavements in the east and west wings of the villa, Site 1, Rooms 1 and 6 respectively, the corridor connecting them (Room 2) and Rooms 3 and 8 of the detached bath-house (Site 2). All were more or less fragmentary, and it is *only thanks to meticulous recording* that five patterns can be described. The descriptions are based on colour transparencies, black and white photographs, actual samples, and detailed notes provided by Mr Ernest Greenfield, and in the case of the mosaics of Rooms 1 and 6 of the villa, on convincing coloured drawings by Mrs E.M. Minter (Rivet 1969: pl. 3.25).

Site 1; The Villa
Room 1, the East Wing
(Pl. IV)

This room measured 17 ft 3 in (5.26 m) east–west by 17 ft 8 in (5.385 m) north–south. Traces of a quarter-round fillet of *opus signinum* (*cf.* Mo 9 from Room 6, p. 116) which had sealed the junction between walls and pavement were found on the north, south, and west sides. Surrounding the room at the foot of the walls, and partly covered by the fillet, there

had been a band of white, five tesserae wide on the north and east sides, and four tesserae wide on the south and west, formed of cubes 1–1½ in (25–35 mm) square on the upper surface. Then came a broad band of red 24 tesserae wide (measuring 2 ft 4½ in (0.72 m)), composed of cubes averaging 1 in square on the upper surface.

Within this simple surround the patterned mosaic, 11 ft 5 in (3.48 m) square, had been laid centrally in the room (on a soft matrix Mo 2: p. 116). The pattern was elaborate but regular and symmetrical. Its basic motif, a 'star' formed of eight lozenges, was repeated sixteen times in four rows of four stars, except where four lozenges of each of the four centremost stars were omitted, to make room for a central octagonal panel. Between the stars were small interspaces of square, oblong and triangular shapes. The background was white.

The octagonal centrepiece had been framed with a simple guilloche, but all that survived within the frame was what appears to have been the foot of a cantharus flanked by twigs or sprays of leaves. This panel, and the stars and interspaces were all outlined in grey. In the stars each lozenge contained a smaller lozenge, alternately of solid grey outlined in red and *vice versa*. The four square compartments contiguous with the sides of the central octagon were decorated with a pattern of intersecting circles and semi-circles in grey. Each circle had a small curvilateral lozenge, and each semi-circle, half of a small curvilateral lozenge of red tesserae at its focal point. The segments formed by the intersections were filled with red. Each of the other four square compartments, of the larger size, contained a swastika-*pelta* with a guilloche knot at its centre, the *peltae* being of red with a grey outline. The knots of white were outlined on their outer sides in red and on their inner sides in grey. Six of the smaller interspaces were oblong and decorated with a length of straight-tongued double guilloche. Six others were oblong with a pattern of eighteen squares, bisected diagonally into grey and white triangles. Twenty-two were small squares, eighteen of them poised, each containing a guilloche knot, while sixteen were triangular and each contained a solid grey triangle on a white ground.

The entire pattern was surrounded first by alternating stripes of grey, ½ in (12 mm) (one tessera) wide: red 1 in (25 mm) (two tesserae) wide: and grey 1 in (25 mm) (two tesserae) wide: then by a simple guilloche in red, grey and white 5 in (127 mm) wide: then again by alternating stripes of grey 1 in (25 mm) (two tesserae) wide: red 1½ in (35 mm) (two tesserae) wide and grey 1½ in (35 mm) (two tesserae) wide. Then came the broad red surround already described.

Room 2, the Corridor
(Pls. V & VI)

The corridor measured 58 ft 10 in (17.93 m) in length and 8 ft 10 in (2.69 m) in width. It was paved throughout in large grey tesserae approximately 1½ in (35 mm) square (on a similar matrix, Mo 3: p. 116), relieved by a very simple pattern at either end. The pattern to the east, at a distance of 4 ft (1.22 m) from the end wall and almost central between the north and south walls, consisted merely of an oblong measuring 15 ft 8 in by 3 ft 10 in (4.77 by 1.17 m) and containing three smaller oblongs, one within the other. The outermost oblong was formed of a band of red 7½ in (19 mm) wide, the next of a band of grey (the background) 6 in (152 mm) wide: the next of a red band 4 in (101 mm) wide: and the innermost of a block of grey (the background) 6 in (152 mm) wide. The pattern to the west, 2 ft 11½ in (0.90 m) from the end wall and almost central between the north and south walls, consisted of an oblong measuring 19 ft by 5 ft (5.79 m by 1.52 m) and containing four smaller oblongs, again one within the other. The outermost was formed of a red band 10½ in (266 mm) wide, the next of a band of grey (the background) 9 in (228 mm) wide, the next of a white band 3 in (76 mm) wide, the next of a red band 3 in (76 mm) wide, and the innermost of a block of grey (the background) 9 in (228 mm) wide. Like the grey tesserae of the background the red and white averaged 1½ in (35 mm) square.

Room 6, the West Wing
(Pl. VII)

Room 6 was 17 ft 4 in (5.28 m) square. As in Room 1 there were remains of a quarter-round fillet of *opus signinum*

Plate IV. *Site 1 (1958), Room 1, mosaic. (Photo: RFN 29)*

Plate V. *Site 1 (1956), Room 2, tessellated pavement. (Photo: RFN 23)*

Plate VI. *Site 1 (1958), Room 2, tessellated pavement. (Photo: RFN 48)*

Plate VII. *Site 1 (1958), Room 6, mosaic. (Photo: RFN 62)*

(Mo 9: p. 116) at the junction of the walls and pavement which had partly covered the tesserae adjacent to the walls. Again, there had been a band of white at the foot of the walls, seven tesserae wide, average 8½ in (216 mm) wide on the north side, five tesserae (average width 9 in (228 mm)) on the east, ten (average width 12 in (304 mm)) on the south, and eight (average width 14 in (381 mm)) on the west. Next came a broad band of red, eight tesserae 12 in (304 mm) wide on the north, eight 14 in (355 mm) wide on the east, six 9 in (228 mm) wide on the south, and eight 11½ in (292 mm) wide on the west. Then came a grey stripe two tesserae 3 in (76 mm) wide, followed by another broad, red band nine tesserae 12 in (304 mm) wide on the east, eleven 16 in (406 mm) wide on the south, but nowhere surviving to its full width on the north and west.

Within this surround the patterned mosaic, just under 10 ft (3.05 m) square, had been laid centrally in the room (again, on a similar matrix; Mo 10: p. 116). The pattern was much less elaborate than that of Room 1, consisting only of a square, central panel with frame of simple guilloche surrounded by a double row of swastika-*peltae*. It was enclosed first by a white stripe two tesserae 1 in (25 mm) wide, then a single row of grey ½ in (12 mm) wide, then a band of three-strand guilloche in red, grey and white 6½ in (165 mm) wide, and finally by a row of grey ½ in (12 mm) wide, a white stripe two tesserae wide 1 in (25 mm), and another row of grey ½ in (12 mm) wide.

Nothing remained to indicate the content of the central panel. The surrounding swastika-*peltae* were identical with those in the pattern of Room 1, except for the small cross-piece by which most, if not all, were tied together at the tips of the *peltae*. A small, curvilateral lozenge of red tesserae occupied the centre of each space of the same shape formed by each group of four swastika-*peltae*, and a quarter of such a lozenge marked each angle of the pattern within the guilloche border.

Site 2; The Bath-house
(Pl. VIII)

In the bath-house the fourth-century corridor (Room 2) had been paved with 1½ in (37 mm) fawn tesserae (on a matrix, Mo 13, different from the ones above: p. 116). At the south-east end, opposite the main entrance, was a simple relieving pattern consisting of a rectangular grid *c.* 7 ft by 3 ft (2.13 m by 0.91 m) of grey bands two tesserae 3 in (76 mm) wide, enclosing twenty-four squares formed of the fawn background.

This was the only surviving pattern, but patterned pavements in four other rooms were indicated by loose tesserae and fragments of mosaic of several colours, the largest fragment measuring only 3 by 2¾ in (76 by 70 mm) (Fig. 5, no. 1). In Room 1 part of a plain surround of 1½ in (35 mm) grey tesserae and ½ in (12 mm) tesserae of red, white, and grey were found (on a matrix, Mo 15, similar to those in the villa: p. 116). Room 3 yielded, again, ½ in (12 mm) tesserae of red, white, and grey (on a matrix, Mo 12, similar to that in Room 2: p. 116), with a fragment from the hypocaust channel comprising tesserae of all three colours in a curving arrangement suggesting part of a guilloche (Fig. 5, no. 2), and also 1 in (25 mm) tesserae of red, while the west angle of this room preserved part of a brown or fawn surround relieved by bands of grey. From Room 4 came ½ in (12 mm) tesserae of white and grey, ½–1 in (12–25 mm) tesserae of red, grey, and fawn, and 1 in (25 mm) tesserae of red and yellow. Room 5 produced ½ in (12 mm) tesserae of red, white, and grey, ½ in (12 mm) tesserae of grey and brown together in *opus signinum*, and an interesting fragment of mortar 1½ in (35 mm) thick with ½ in (12 mm) grey tesserae and a chamfered edge, slightly convex and painted red, which must have come either from a low step in the pavement or from a vertical surface such as a dado (Fig. 5, no. 3).

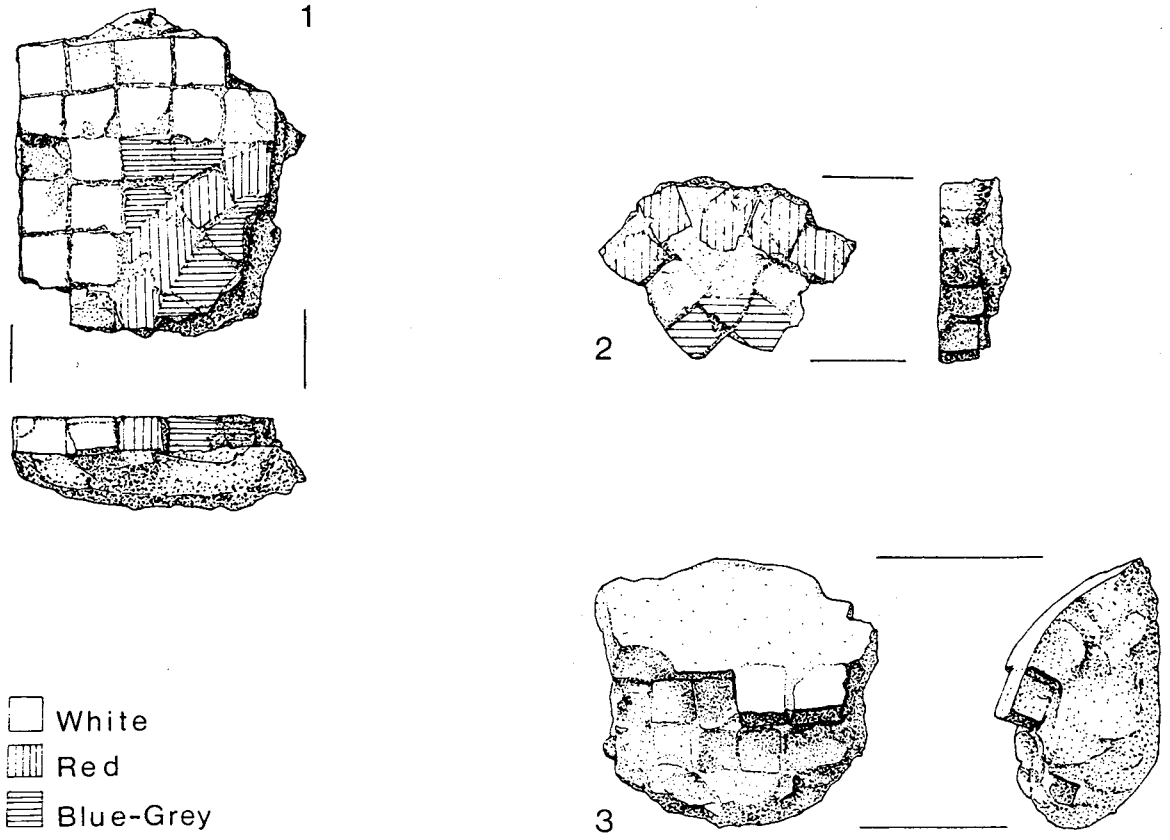


Figure 5. *Mosaic fragments.*

Discussion

The simple patterns in Room 2 of Site 1 (the villa) hardly merit comment beyond noting that similar patterns were recorded at the Greetwell Fields villa near Lincoln ('plate I' of the drawings by B. Ramsden, in the City and County Museum, Lincoln). That in Room 2 of the Site 2 bath-house is a little more interesting in that essentially identical grid-patterns are known in mosaics of several sites in the Midlands and eastern England, one at Denton (Lincs.) being dated to not earlier than AD 370 (Smith 1964: 86, 92, pl. 7). The mosaics of Rooms 1 and 6 (the wings) of the villa are considerably more important. This need not imply that they differ in date from the others; on the contrary, it is quite possible that all were laid at the same time and by the same craftsmen. Generally speaking, all the patterns are such as one would expect to find in fourth-century mosaics in the Midlands and eastern England.

One can go much further. To consider first the pavement of Room 6, the west wing of the villa. Swastika-*peltae* bordering or forming a frame for rectangular panels have been recorded in other Romano-British mosaics at Woodchester, Glos. (Lysons 1797: pl. XVIII), Medbourne, Leics. (VCH 1907: 214, pl. VII), Roxby, Lincs. (Fowler 1796–1818: no. 3; re-excavated and photographed in 1972 by Mr G.C. Knowles, then Curator of Scunthorpe Museum and Art Gallery, who kindly allowed it to be seen and photographed by this writer), Stonesfield, Oxon. (VCH 1939: 315, pl. XXIV A; Rivet 1969: pl. 3.15 A), and Newton St Loe, Som. (Lloyd Nichols 1838: pl.). At Newton St Loe, however, they bordered only one side of the panel and so cannot be regarded as offering a significant parallel for the pattern at Great Staughton. At Medbourne a single row of swastika-*peltae* bordered two opposite sides of a design comprising two oblong panels, one of which contained a grid-pattern and the other a pattern of eight-lozenge stars, both comparable with mosaics at Great Staughton. At Woodchester, Roxby and Stonesfield the swastika-*peltae* formed a square frame, one row wide, which at Woodchester inclosed a cantharus, at Roxby another type of lozenge-pattern, and at Stonesfield a geometric pattern with affinities in another mosaic at Woodchester. None of these pavements has been dated by excavation but on stylistic grounds all can confidently be assigned to the fourth century (Smith 1969: 95ff.; 1984: 366–74, *passim*).

The eight-lozenge star-pattern of Room 1 of the Villa (Site 1) invites comparison with those of mosaics from the Barton Farm, Cirencester, Glos. (see Buckman & Newmarch 1850: 32, VIII; Toynbee 1962: 198, no. 185, pl. 221; Rivet 1969: 1. 3.12); Medbourne, Leics. (VCH 1907: 214, pl. VII); Scampton, Lincs. (Fowler 1796–1818: no. 8, reproduced as a frontispiece in Illingworth, 1810, hence Rivet 1969: pl. 3.22); Great Weldon, Northants. (a coloured engraving dated 1739 in the *Topographical Collections, Northamptonshire* volume of the Soc. of Antiqu. of London, inferior copy in Lysons 1813: part IV, pl. VII, hence Rivet 1969: pl. 3.21); Mill Hill, Castor, Northants. (Artis 1828: pl. XIX, hence VCH 1902: 172, fig. 7; Rivet 1969: pl. 3.24); Nether Heyford, Northants. (VCH 1902: 196, fig. 24); Mansfield Woodhouse, Notts. (Fowler 1796–1818: no. 16, hence VCH 1910: 28, fig. 12; Rivet 1969: pl. 3.23); and Great Casterton, Lincs., formerly Rutland (Corder 1944: 36, pls. XIIb, XIIIb). At the Barton Farm the pattern occupied a square or an oblong panel. At Great Casterton and Great Weldon there were rectangular panels with almost identical patterns of eight-lozenge stars, the square interspaces containing alternately a swastika-*pelta* and a guilloche mat. At Nether Heyford and Scampton

Plate VIII. *Site 2 (1959), Room 2, tessellated pavement. (Photo: RFN 75)*

there were patterns similar to those of Great Casterton and Great Weldon, that at Scampton also includes swastika-*pelta* in square interspaces, but it is the mosaics of Mansfield Woodhouse and Mill Hill, Castor, that afford the closest comparisons with the eight-lozenge star-pattern of Great Staughton. At Mansfield Woodhouse there apparently remained half of a square complex lozenge-pattern, including four eight-lozenge stars, with a central octagonal panel containing concentric roundels of simple guilloche and a form of key-pattern. Finally, at Mill Hill, Castor, the cantharus in the octagonal panel with a frame of simple guilloche, set centrally in a lozenge-pattern reminiscent of that at Mansfield Woodhouse, confirms the identification of the largely destroyed centrepiece at Great Staughton, and it may be noted that axially placed in the surrounding chess-board pattern at Mill Hill were four square compartments, two of which contained a guilloche mat and the other two a swastika-*pelta*.

Simpler second-century patterns, formed by the regular repetition of an eight-lozenge star have been recorded in Britain at Caerwent, Colchester, and *Verulamium* (Smith 1975: 270–74). Those of Colchester ('can hardly be earlier than Antonine' on sealed evidence: Hull 1958: 78–79, pl. XVI), and *Verulamium* are probably both of the mid-second century (*Verulamium*, mid to second century: Wheeler 1936: 145, pl. XL; *cf.* Becatti 1961: no. 143, and especially Blake 1936: 192–3, pl. 23, no. 4 (second half of second century)). That of Caerwent (Ashby 1905: 304, pl. LXVIII; *cf.* Becatti 1961: no. 261, pl. XXIII, assigned to *c.* AD 130) could be a decade or two earlier. The mosaic of Colchester in particular, with its square shape and central octagonal panel, can be considered as representative of the type of eight-lozenge star-pattern which developed into, or was revived or copied in, patterns such as those of Mansfield Woodhouse, Mill Hill, and Great Staughton, and it may be recalled that a guilloche-framed cantharus in the central octagon of a lozenge-pattern is known in Romano-British mosaics of the second century (Hull 1958: pl. XXIII; Joyce 1881: 336 pl. XIII, Silchester).

Stylistically, the greater degree of elaboration indicates a much later period for the pavements at Mansfield Woodhouse, Mill Hill, Great Staughton, and the others mentioned above in conjunction with them. In fact, excavation established a *terminus post quem*, *c.* AD 350–65 for that at Great Casterton, which was not one of the original pavements there (Corder 1954: 37, n. 2; the phase in the history of the villa to which this mosaic was assigned may not have been as late as *c.* AD 370–80, as presumed in the report). This can reasonably be regarded as evidence for the period of the almost identical mosaic at Great Weldon, only twelve miles distant, and of the more or less similar mosaics at Nether Heyford, Medbourne, and Scampton. It is noteworthy that another pattern at Great Casterton, of large intersecting circles in red on a buff ground (Corder 1951: 15ff., pl. Ib; 1954, 35) was repeated in another mosaic at Mill Hill, Castor (Artis 1828: pl. XX; hence VCH 1902: 72, fig. 7) and as borders on opposite sides of the mosaic at Scampton (Fowler 1796–1818; Rivet 1969: pl. 3.22). Related patterns are recorded from Bancroft at Milton Keynes, Bucks. (Neal 1981: no. 5A, 6, excavation report forthcoming), the Norfolk Street, Cherry Orchard villa, Leicester (VCH 1907: 196–7), and further afield, Withington, Glos. (Lysons 1817: part ii, pl. XIX, F). (I am indebted to Mr David S. Neal for photographs taken by him during the re-excavation of Bancroft, which show the pattern of intersecting circles and also a grid-pattern like that in the bath-house at Great Staughton.)

To sum up, the mosaics of Great Staughton have affinities with those of at least a dozen other villas in the Midlands and eastern England. Two of them in particular, the mosaics of Rooms 1 and 6 in the villa, can be counted with those of most of the other sites which afford evidence for a fourth-century school of mosaicists in this part of Britain (Smith 1964: 86, 92, pl. 7). On the evidence of the dated mosaics of Denton and Great Casterton this school was active in the third quarter of the century, and from their relative complexity the lozenge-patterns of Mill Hill, Mansfield Woodhouse and Great Staughton can perhaps be regarded as amongst its later products.

It remains to observe that the embellishment of the wings and corridor, to which visitors and guests might be admitted, contrasts most strikingly with the workaday standard of the rooms behind the corridor, and also that the sideways as well as forward projection of the wings, presumably intended to make the house appear larger than it actually was, is a feature characteristic of the smaller villas of *Gallia Belgica* and the German provinces but not of those of Britain (Smith 1978: 137–41, esp. 140).

Description of Tessera Materials

By the late Dr F.W. Anderson

White	Chalk, oolitic limestone, shelly limestone
Grey (various shades)	Lias limestone
Pale cream or buff	Oolitic Lincolnshire limestone
Brown (pale and 'fawn' to deep red-brown)	Calcareous sandstone with an increasing ferruginous component
Red	Fired clay, red chalk

A single specimen of Niedermendig basalt (dark purplish grey)

[The nature of the matrices under the various floors, and their relationships in time, are discussed on pp. 116–19. L. Biek]

Coins

By R.A.G. Carson

(For the full coin list see Site Archive)

The excavation of Site 1 yielded a total of 850 coins of which only 368 were regular issues and the remaining 482 were imitations. The greater proportion of the regular coins was made up of issues of the Constantinian Dynasty between AD 330–48. There was a substantial but much smaller number of the earlier *Fel Temp Reparatio* coins of Constantius II and Constans of around AD 350, and of the issues of Magnetius and Decentius, but only a few coins of the Valentinian and Theodosian Dynasties.

Apart from a very few imitations of the AD 330–35 coinage and of the issues of Magnetius, the imitation coinage copied the *Fel Temp Reparatio* Horseman type. About half of these latter copies came from a hoard found on the south exterior of the house. These copies were all of small module with diameters ranging from 1 to 12 mm. Many other coins were of small module with diameters ranging from 1 to 12 mm. Many of these coins were too tiny or too corroded to show any recognisable type, but wherever a type could be seen it proved to be the *Fel Temp Reparatio* Horseman type. The tiny coins of this hoard are similar to those found at Lydney (Wheeler 1932: 116–31) and more recently at Brean Down (Boon 1962: 191f.), and there is now agreement that these small copies are to be dated not much later than AD 360.

The yield of Site 2 was much smaller — only 58 coins — but the pattern was very similar to that of the coins found in the previous year.

The coins have been listed, where possible, with reference to Carson, Hill & Kent, 1960 *Late Roman Bronze Coinage* (LRBC) or to the appropriate volumes of *Roman Imperial Coinage* (RIC).

Site 1, Regular Issues

Completely Identifiable

	LRBC I (AD 324–48)	
Mint of Trier:	48, 49 (6), 50, 51 (9), 52 (7), 57 (2), 59, 60 (2), 63, 65 (3), 66 (2), 67, 68 (2), 69, 70 (2), 71 (2), 89, 92 (2), 93 (2), 102, 104 (2), 106, 117, 120 (2), 124 (2), 130/1, 132, 133, 137/8, 138, 140 (3), 143/4, 144, 145 (3), 148 (2), 156, 158 (3), 162, 165/8	78
Mint of *Lugdunum*:	169, 180 (2), 182, 187, 188, 190, 191 (4), 193, 198 (2), 199, 200 (2), 204, 222, 236, 242	21
Mint of *Arelate*:	352 (2), 353, 371, 372, 381, 401, 438, 442, 453, 455, 455/7, 459	13
Mint of Rome:	533	1
Mint of Siscia:	780, 782	2
Mint of Thessalonica:	845	1
	LRBC II (AD 348–490)	
Mint of Amiens:	3, 5, 7 (2), 14, 19, 21, 26	8
Mint of Trier:	41 (2), 46, 49, 56, 64 (2)	7
Mint of *Lugdunum*:	211, 213, 217, 351	4
Mint of *Arelate*:	416, 455	2
	Total	**137**

Emperors and Types Certain, Mints Uncertain

Constantine I	*Gloria Exercitus* (2 standards)	4
	Gloria Exercitus (1 standard)	2
Constantine II	*Beata Tranquillitas*	1
	Gloria Exercitus (2 standards)	9
	Gloria Exercitus (1 standard)	3
Constantius II	*Gloria Exercitus* (2 standards)	1
	Gloria Exercitus (1 standard)	2
	Two Victories	10
	Fel Temp Reparatio (Horseman)	5
	Fel Temp Reparatio (Galley)	1
Constans:	*Gloria Exercitus* (2 standards)	1
	Gloria Exercitus (1 standard)	1
	Two Victories	8
Constantinopolis:	Victory	19
Urbs Roma:	Wolf and Twins	19
Magnetius:	*Felicitas Reipublice*	1
	Gloria Romanorum	1
	Salus	1
	Two Victories	10
Decentius:	*Salus*	1
Valens:	*Securitas Reipublicae*	1
	Total	**102**

Types Certain: Emperor and Mint Uncertain

Gloria Exercitus (2 standards)	6
Gloria Exercitus (1 standard)	16
Two Victories (Constantinian)	20
Fel Temp Reparatio (Galley)	3
Fel Temp Reparatio (Horseman)	4
Felicitas Reipublice	5
Salus (Magnentian)	1
Two Victories (Magnentian)	10
Salus Reipublicae (Theodosian)	1
Total	**66**

Uncertain Constantinian	29
Uncertain fourth century	21
Fragments	13
	63
Total regular issues	**368**

Imitations

Gloria Exercitus (1 standard)	5
Constantinopolis	1
Urbs Roma	1
Fel Temp Reparatio (Horseman)	51
Fourth-century minim	398
Uncertain fourth-century imitation	11
Felicitas Reipublice	5
Salus (Magnentian)	1
Two Victories (Mangentian)	9
Total imitations	**482**
Overall total	**850**

Site 2, Regular Issues

Completely Identifiable

Gallienus:	RIC VI, p. 146, no. 177	1
	LRBC 1 (AD 324–48)	
Mint of Trier:	48, 52 (3), 139/40	5
Mint of *Lugdunium*:	185, 191	2
	LRBC II (AD 348–490)	
Mint of *Arelate*:	516	1
Valentinian II	RIC IX, Aquileia 27	1
	Total	**10**

Emperors and Types Certain: Mint Uncertain

Constantine II	*Gloria Exercitus* (2 standards)	2
	Gloria Exercitus (1 standard)	1
Constans:	*Fel Temp Reparatio* (Phoenix-globe)	1
	Two Victories	1
Urbs Roma:	Wolf and Twins	1
Magnentius	*Salus*	2
Decentius	Two Victories	1
	Total	**9**

Type Certain: Emperor and Mint Uncertain

Securitas Reipublicae	1
Salus Reipublicae	1
Uncertain Constantinian	1
Uncertain fourth century	3
Total	**6**
Total regular issues	**25**

Imitations

Radiate (third century)	1
Gloria Exercitus (2 standards)	2
Gloria Exercitus (1 standard)	4
Two Victories (Constantinian)	7
Fel Temp Reparatio (Horseman)	5
Uncertain fourth century	3
Fourth-century minims	11
Total imitations	**33**
Overall total	**58**

Copper Alloy Objects

(Fig. 6)

Site 1, Layer 2

1. Shaft of a pin with horizontal parallel grooves.
2. Piece of thin, shaped plate with two diverging grooves and two hooks. Possibly part of a votive plaque (see also no. 8 below).
3. Fragment of a bracelet or bangle composed of three strips or thin rods twisted flat.

Site 1, Room 4, Layer 3

4. Finger ring. Thin strip with three parallel grooves externally.

Site 1, Exterior Drain, Feature 70

5. Rim fragment of a cauldron with soot adhering to the exterior.

Unstratified

6. Bracelet. Circular section with one end flattened and perforated to receive a hook fastener.
7. Finger ring. Thin strip with flattened ends which are decorated with incised grooves. This is a home-made version of a common third-century type, with triangular shoulders.
8. Thin, folded sheet decorated with incised 'feather' or 'leaf' pattern. This is part of a votive plaque or leaf used for religious purposes, other examples, made in copper alloy, silver or even gold (Johns 1981: fig. 10.1, pl. VIB) are known from Britain and elsewhere in the northern and western Roman provinces. They are generally dated to the second and third centuries, but a fourth-century date is not ruled out. It is most unfortunate that this example is unstratified (see Wheeler 1932: 90, pl. XXIX; Toynbee 1978: 129–47, especially the Godmanchester example; Johns 1981: 101–4). (See also no. 2 above.)

Not illustrated: Various fragments of bent strip, plate or thin rod.

Site 2, Room 4, Layer 8

9. Fragment of plate with a serrated edge.
10. Coiled spring of a brooch.

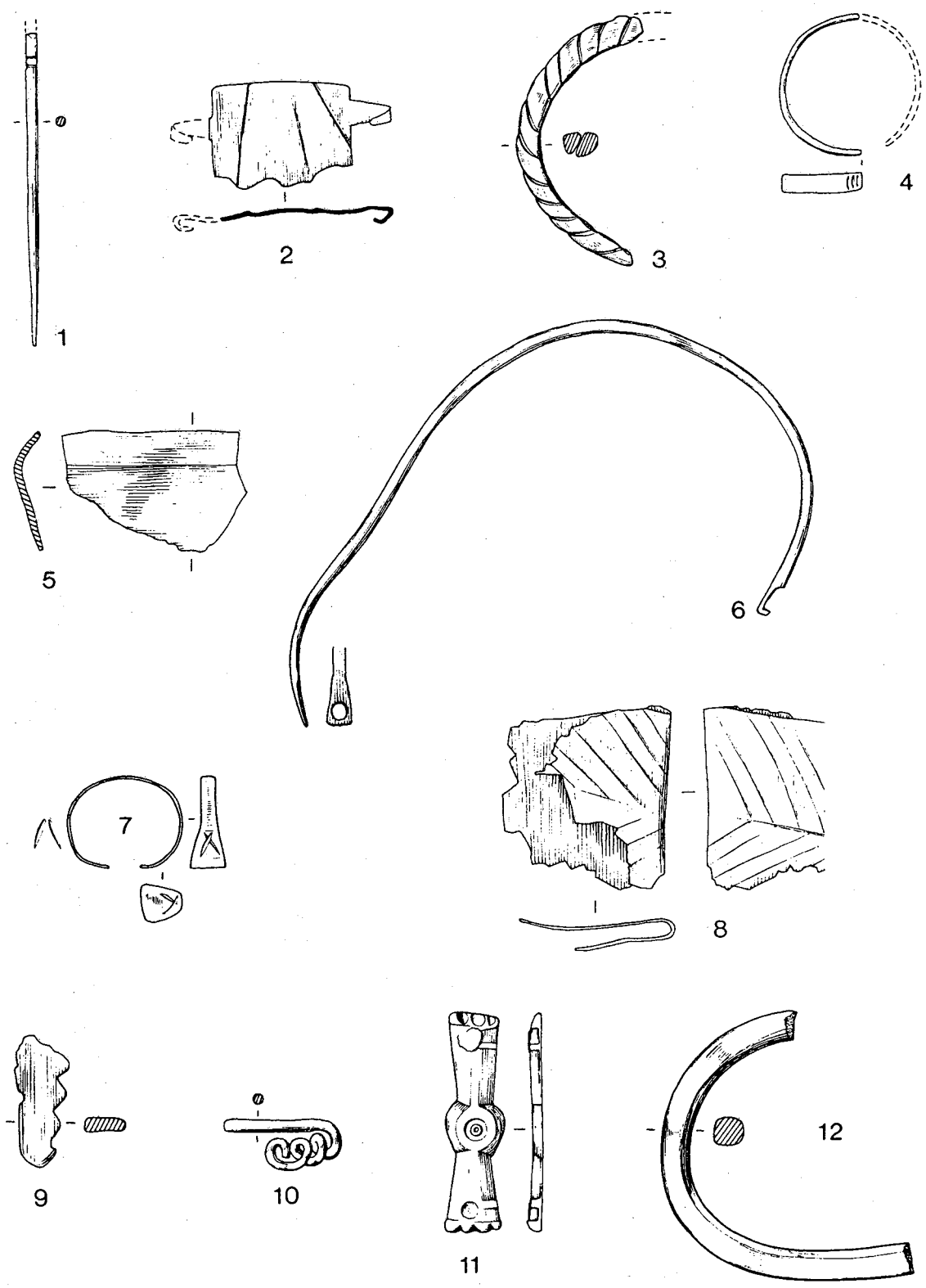


Figure 6. *Copper alloy objects.*

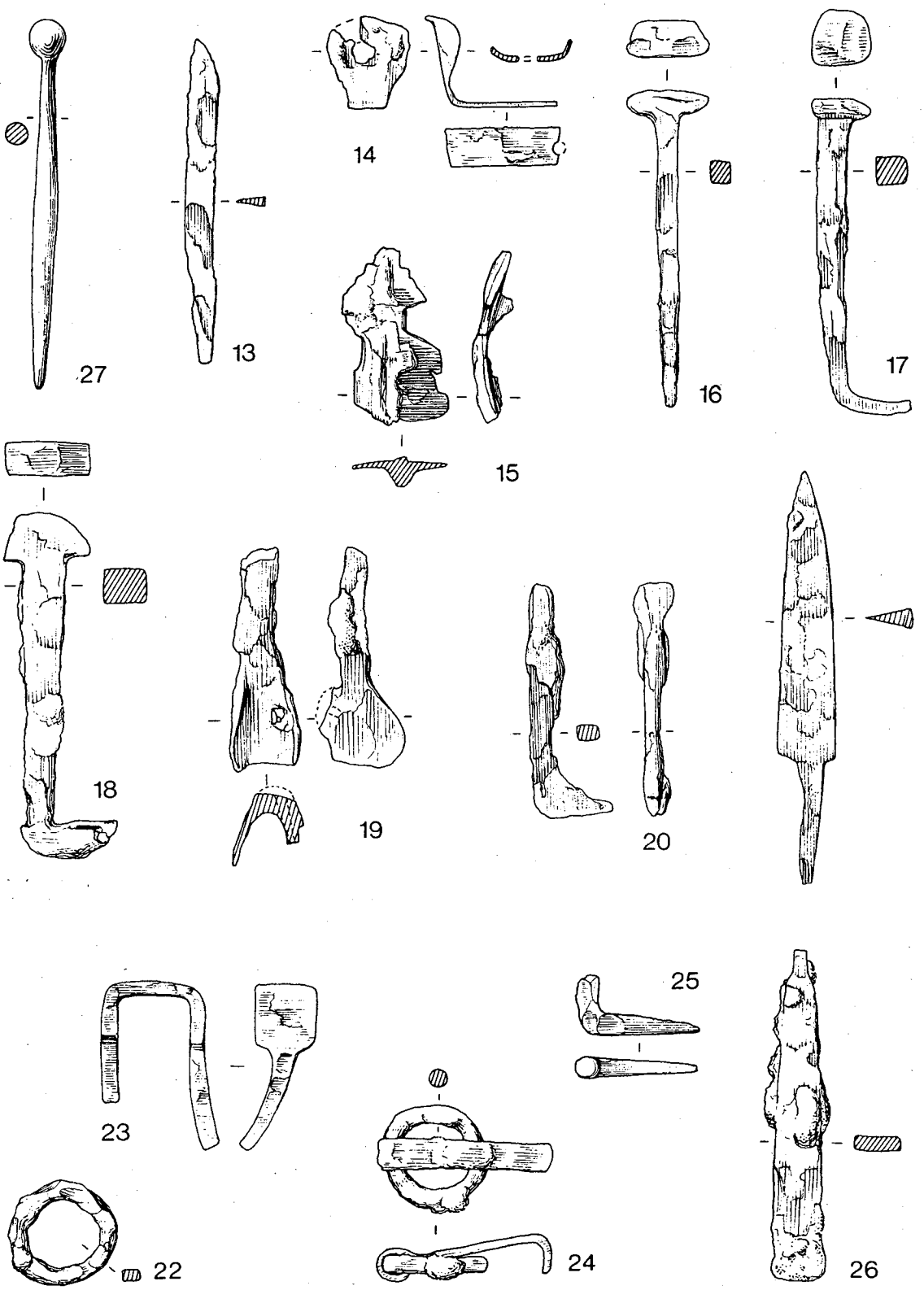


Figure 7. *Iron objects and bone pin.*

Unstratified

11. Shaped ornamental attachment. Notched ends with perforations containing the remains of two copper alloy rivets. The centre is decorated with an incised dot and circle design. This is possibly a late Roman belt-fitting (see Bushe-Fox 1949: pl. LIII, no. 209).
12. Probably a terret ring, broken and expanded.

Iron Objects
(Fig. 7)

Site 1, Layer 2

13. Knife, probably with a broken tang (see Manning 1976, Type 10).
14. Piece of binding with one end flattened into a circular shape and perforated with a roughly circular hole, the other end is broken through the perforation, probably used for binding a wooden object.
15. Part of a collar (with traces of wood adhering) for joining wooden water-pipes.
16. Large T-head nail (Manning 1976, Type 3).
17. Large nail with roughly rounded flat head (Manning 1976, Type 1).
18. Large nail with diamond-shaped head (Manning 1976, Type 2).

Site 1, Room 4, Green Clay Make-up

19. Part of a socketed implement with a broken shaft. The socket has a nail for fastening the haft.

Site 1, Room 4, Layer 4

20. Piece of binding, bent at a right-angle at one end, the other end flattened and perforated but broken through the perforation.

Unstratified

21. Complete knife, the commonest of Romano-British knife types (Manning 1976, Type 15).
22. Complete ring.
23. Large, broad staple.

Site 2, Layer 3, Exterior

24. Ring with loose piece of flat strip which is bent over at one end, the other being attached to the ring.
25. Small door hanger.

Site 2, Room 4, Layer 6

26. Chisel blade with the tang broken off, probably a mortice chisel.

Not illustrated: Several unidentified fragments and part of a stylus? from Site 2, Layer 2. Discarded by excavator, 167 complete and part nails ranging in length from $2^1/_2$ in (73 mm) to $3^1/_2$ in (99 mm) found on both sites.

Worked Bone
(Fig. 7)

Site 1, Room 3, Layer 4

27. Complete pin with a circular head, bulbous shaft $2^3/_4$ in (70 mm) long.

Jet
(Confirmed by Dr Anderson)

Not illustrated: Two joining pieces of flat jet, $^3/_4$ in (19 mm) by $^5/_8$ in (15 mm), $^1/_8$ in (3 mm) thick, with one side polished.

Glass
By the late D. Charlesworth
(Figs. 8 & 9)

This group of over a hundred fragments is particularly interesting as it dates to the first half of the fourth century. The vessel fragments are nearly all in poor quality glass with striations and bubbles. Some of the glass is colourless, the rest a faint greenish colour and on many pieces is a brown film of weathering. In no case has enough of any vessel survived for its shape to be reconstructed and most of the fragments are quite featureless. The only piece which might be a third-century survival (no. 28) is a small fragment of cut glass. All the glass is probably Rhenish.

Site 1, Layer 2

28. Part of the 'cage' in good, colourless glass from a cage cup decorated with a circular grille (see Harden & Toynbee 1959: 179ff.).
29. Three pieces of greenish glass from the same vessel on which a cutting wheel appears to have been used only for the faint, intersecting, straight lines. The rest of the pattern is made up of short lines which have been cut free-hand with a flint or diamond point. Even the line outlining the

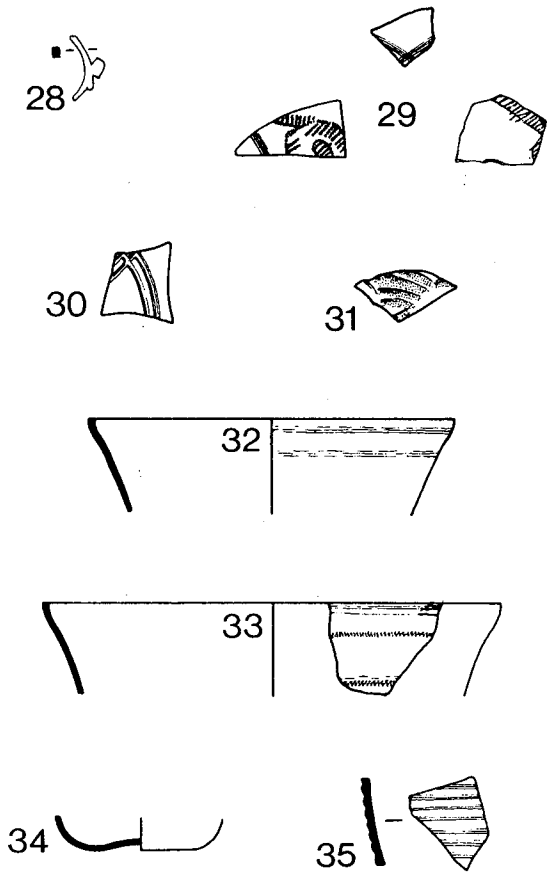


Figure 8. *Glass.*

circle, which at first glance appears continuous, is made up of a series of short lines and peckings (see Harden 1960: 45ff. & 64, fig. 29).

30. Small fragment of colourless glass with part of a wheel-cut design of intersecting lines on it, from either a flask or a bowl. In metal and firmness of cutting it resembles the rim fragment no. 32. Third or fourth century (see Fremersdorf 1939: 17, fig. 3).
31. Fragment of colourless glass with shallow, unpolished facets. Probably fourth century (see Meates *et al.* 1950: 26; also Meates 1987: 127–9).
32. Beaker rim fragment, unworked rim with faint wheel-cut lines below. Probably fourth century, conical shaped beaker (see Charlesworth 1959: pl. III, no. 1; Webster 1950: 73).
33. Beaker rim fragment, unworked rim with series of faint wheel-cut lines below. Below this is a line made up of a series of incisions, and a similar double line lower down, with a faint wheel-cut line above it. These lines have the appearance of the rouletting found on some colour-coated pottery (see Charlesworth 1959: pl. III, no. 1; Webster 1950: 73).
34. Base of a beaker in poor quality greenish glass (see Charlesworth 1959: pl. III, no. 1; Webster 1950: 73).

Site 1, Room 3, Layer 4

35. Fragment of colourless glass, outer surface fluted, inner surface smooth.

Site 1, South Exterior, Layer 4

36. Part of a rim in greenish glass with bubbles and striations, rounded in the flame.

Site 1, Exterior Drain, Feature 70

37. Part of the neck of a flask in greenish glass with a collar of dark blue round it. Flasks with a collar round the neck are frequently found in the later-Roman period, usually in a two-handled globular form but there is no sign of handles having been attached to the collar in this example.

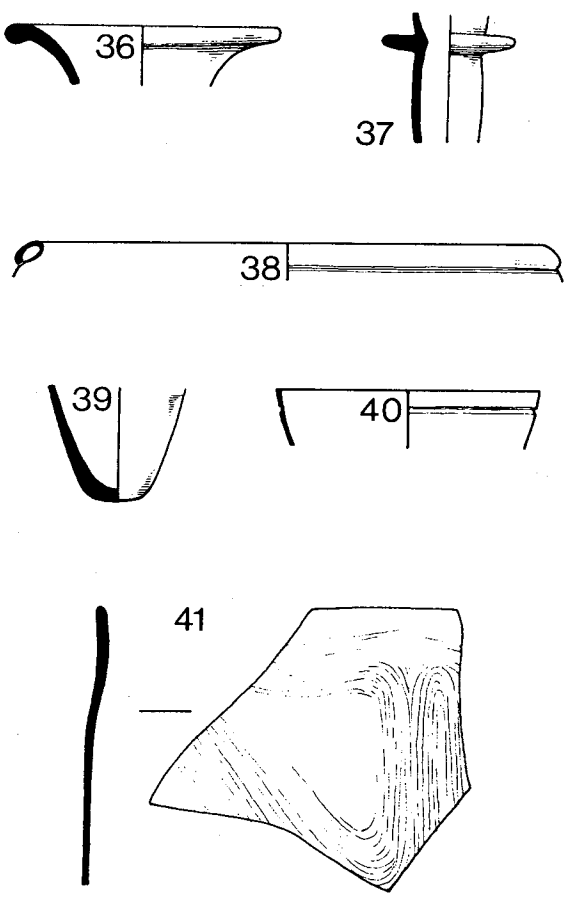


Figure 9. *Glass.*

Site 2, Room 4, Layer 8

38. Outfolded hollow tubular rim, probably from a bowl, in blue-greenish glass, a type which is found throughout the Roman period.

Site 2, Exterior, Layer 3

39. Base of a beaker or small flask in bluish-green glass, probably first to second century.

Unstratified

40. Beaker rim fragment in good colourless glass with wheel-cut line below rim, polished. Pre-fourth century.

Window Glass

41. A quantity of free-blown, 'crown', window glass was found. This is all in green or yellowish-green metal with small bubbles elongated in the spinning of the glass. The illustrated example is from Site 1, Layer 2.

Geology of Worked and Utilised Stones
By the late Dr F.W. Anderson

Altogether 50 specimens were described and, where possible, given proximate identifications such as appear below and on pp. 97, 101 and 105. Most of the building stone is an oolitic limestone, apparently one of the Lincolnshire Limestone Group and probably from Barnack (*c.* 25 m/40 km due north), except for Figure 10, no. 43 which resembles a fine-grained variety of Weldon (*c.* 20 m/32 km NW). There were also fragments of tufa (?bath lining: ?from the Hitchin area: *c.* 20 m/32 km SSE) as well as Cornbrash, Greensand, shelly ragstone, coarse shelly oolitic limestone and carstone, all from outside the immediate area, or (some) possibly from boulders in the Drift which also provided the 'glacial stones' for the foundations, and pebbles seemingly used as 'polishers'. One fragment of roofing tile was Collyweston Slate (from *c.* 35 m/56 km WNW), others included Swithland Slate, from Charnwood Forest: an example from the Roman villa at Mountsorrel (50 m/80 km NW: VCH 1907 (Leicester 1), 215) is in the Sedgwick Museum, Cambridge. In addition all the available mosaic cubes and waste material were examined: 177 tesserae and 46 groups of worked waste from Site 1, and 206 individual tesserae, 11 pieces of multicoloured mosaic and 48 larger fragments of surviving pavements from Site 2. The results are tabulated on p. 97. The millstones are of Millstone Grit — probably from Yorkshire, like the hard white chalk — and of Hertfordshire pudding-stone. [The single piece of coal may not seem significant but it is clearly from a domestic 'coal bunker' excavated at Waternewton, part of a Roman 'ribbon development' some 20 m/32 km due N (Greenfield *et al.* forthcoming), that coal was normally used in this way and area, and easily obtainable, probably from East Midlands outcrops. L. Biek]

Architectural and Sculptural Fragments
Nos. 42–4 & 46–7 by Sarnia Butcher (1966) (Fig. 10)

Site 1, Layer 2

42. Part of base of a small column, mouldings unorthodox. Maximum diameter 12½ in (310 mm). Shelly oolite.

Not illustrated

Site 1, Layer 3

Fragment of column shaft similar to the previous example. Shelly oolite, burnt.

Site 1, Layer 2

Complete roof slate with a pierced nail hole, dark grey calcareous shale (Carboniferous).

Unstratified

Two complete triangular roof slates with pierced nail holes, of dark grey calcareous shale.

A fragment of a roof tile with a pierced nail hole. Collyweston Slate.

Three slate fragments: blue, pale green, and a hard, purple micaceous sandstone (?Swithland).

Site 2, Layer 2

43. 9 in (228 mm) wide, 10½ in (266 mm) deep, 2½ in (63 mm) thick. Roughly rectangular slab, crudely worked on all sides but one, presumably the only one meant to be seen. This has a *cavetto* moulding, and is also curved laterally. The rectangular piece cut out of one side is probably due to its reuse for a different purpose. Oolitic limestone (Lincolnshire Limestone). One of two similar slabs, (see also no. 44).
44. 6½ in (158 mm) wide, 10¾ in (273 mm) deep, 3½ in (89 mm) thick. Similar to no.

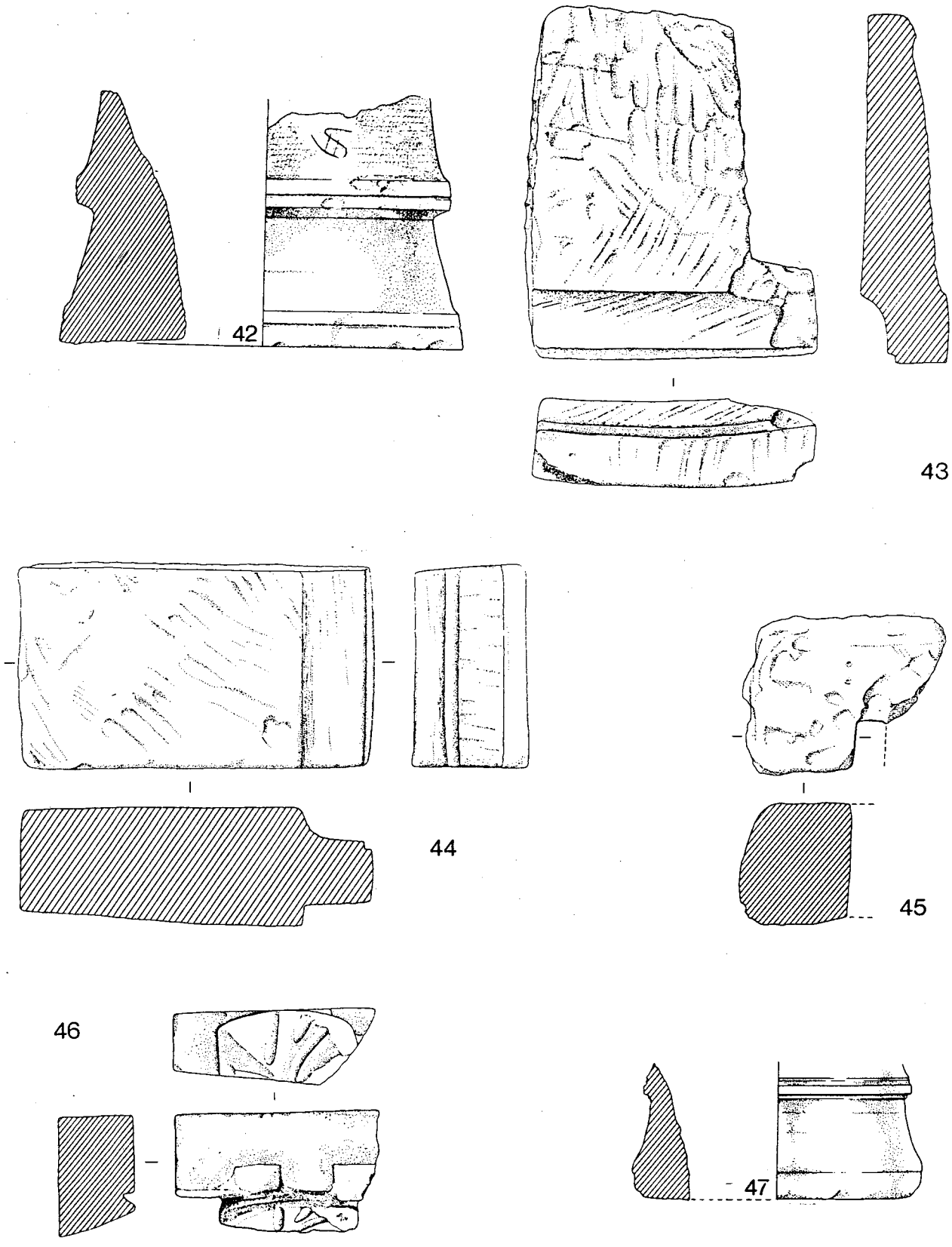


Figure 10. *Architectural and sculptural stonework.*

43 above but thicker, narrower and lacking the lateral curve; the moulding is almost identical. Shelly oolite (Lincolnshire Limestone).

These two pieces are probably from the same feature, possibly from a segmented pediment over a door or window. The radius of the curve of no. 43 gives the width of the opening as about 5 ft 4 in (1.63 m) (information from Dr D.S. Neal). The use of separate blocks of freestone for the mouldings seems to imply that the wall face in which they were set was of rubble or brick.

45. Fragment of a socketed base. Original width 7½in (190 mm), depth 2¾in (70 mm). Shelly oolite (Lincolnshire Limestone).

Site 2, Room 4, Layer 6

46. 6 in (152 mm) wide, 2¼in (57 mm) deep, 3½in (89 mm) high. Perhaps a part of a small niche sculpture or a tombstone. Shallow dentils are partly obscured by a curving feature which is sharply recessed: this might be the top of a canopy over a figure. Oolite (Lincolnshire Limestone).

Unstratified

47. Part of a base of a small column. Maximum diameter 9 in (228 mm). Both this and no. 42 are likely to have been used on half-walls. Shelly oolite (Lincolnshire Limestone).

Not Illustrated

Site 2, Layer 2

Three fragments of column shaft that do not join together, though they all probably belonged originally to the same shaft. Original diameter of shaft about 9 in (228 mm). All are burnt pink. Shelly oolite (Lincolnshire Limestone).

Millstones
(Fig. 11)

Site 2, Layer 3

48. Two fragments of upper millstone. Original diameter 2 ft 8 in (812 mm) which suggests a mechanical type, with concentric grooves 1½in (35 mm) in from the edge on both upper and lower surfaces. Coarse grit, red (burnt?).

Surface Finds

49. Fragment of upper millstone. Coarse, pebbly sandstone.
50. Fragment of upper millstone. Coarse, pebbly grit.
51. Fragment of upper millstone, of 'beehive' type. Hertfordshire Pudding-stone.

Not illustrated

Site 1, Layer 2

Fragments of two millstones. Millstone Grit and Hertfordshire Pudding-stone.

Site 1, Room 5, Layer 3

Fragment of millstone. ?Millstone Grit.

Site 2, Layer 2

Fragment of millstone. Coarse quartz grit, red, possibly burnt.

Site 2, Exterior, Layer 3

Fragment as previous example.

Surface Finds

Fragments of two millstones. Millstone Grit? and Hertfordshire Pudding-stone.

Flint
By Elizabeth Healey
(Fig. 12)

The four flint artefacts recovered from Site 1 were found in Layer 7 (*cf.* the Iron Age pottery below), beneath the old ground surface (Layer 5) in Room 6, sealed by a fourth-century Roman deposit. They comprise three flakes and one struck nodule, made of good quality flint. Further details are available in the site archive.

None of the artefacts is diagnostic and their date is uncertain. The scarring on two (nos. 53 & 55) truncates corticated scars which may indicate the reuse of older artefacts lying around, this may suggest that these particular artefacts are contemporary with the Iron Age deposits into which they are incorporated. Flint is of course quite commonly found on Iron Age sites and its contemporaneity is discussed by Saville (1981). However, it may be observed that in general parameters (e.g. squat shape and obtuse, striking platforms) these three flakes do conform to those described from West Harling, Norfolk (Clark & Fell 1953: 34f.).

Site 1, Layer 7

52. Flake (1.41 mm long by 29 mm broad and 8 mm thick)
Scarring on dorsal face: two scars from same platform.
Termination: slight hinge.
Butt end: diffuse bulb.
Raw material: dark grey flint, inclusions, translucent.
Cortex: c. 25% distal end, unrolled.

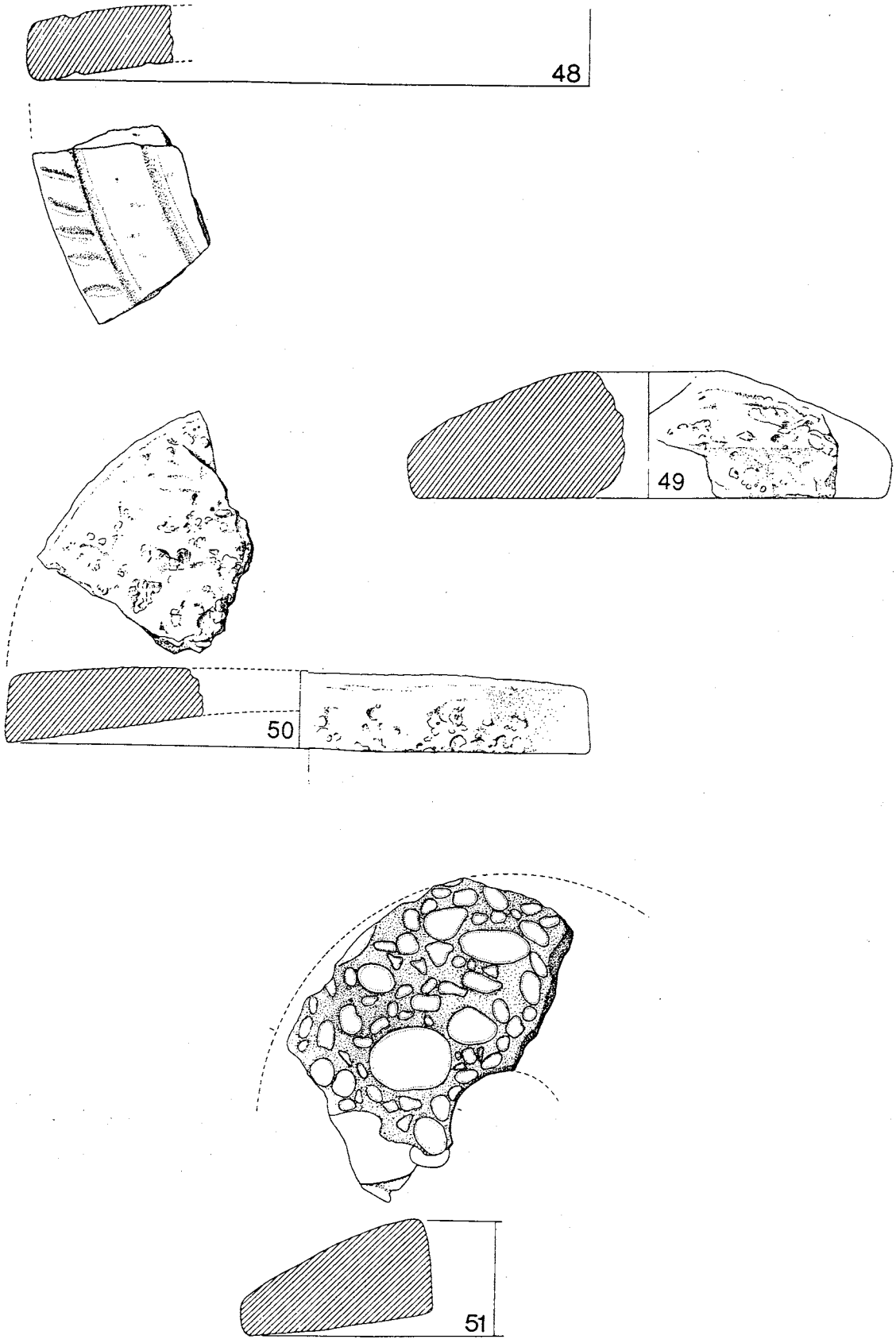


Figure 11. *Millstones.*

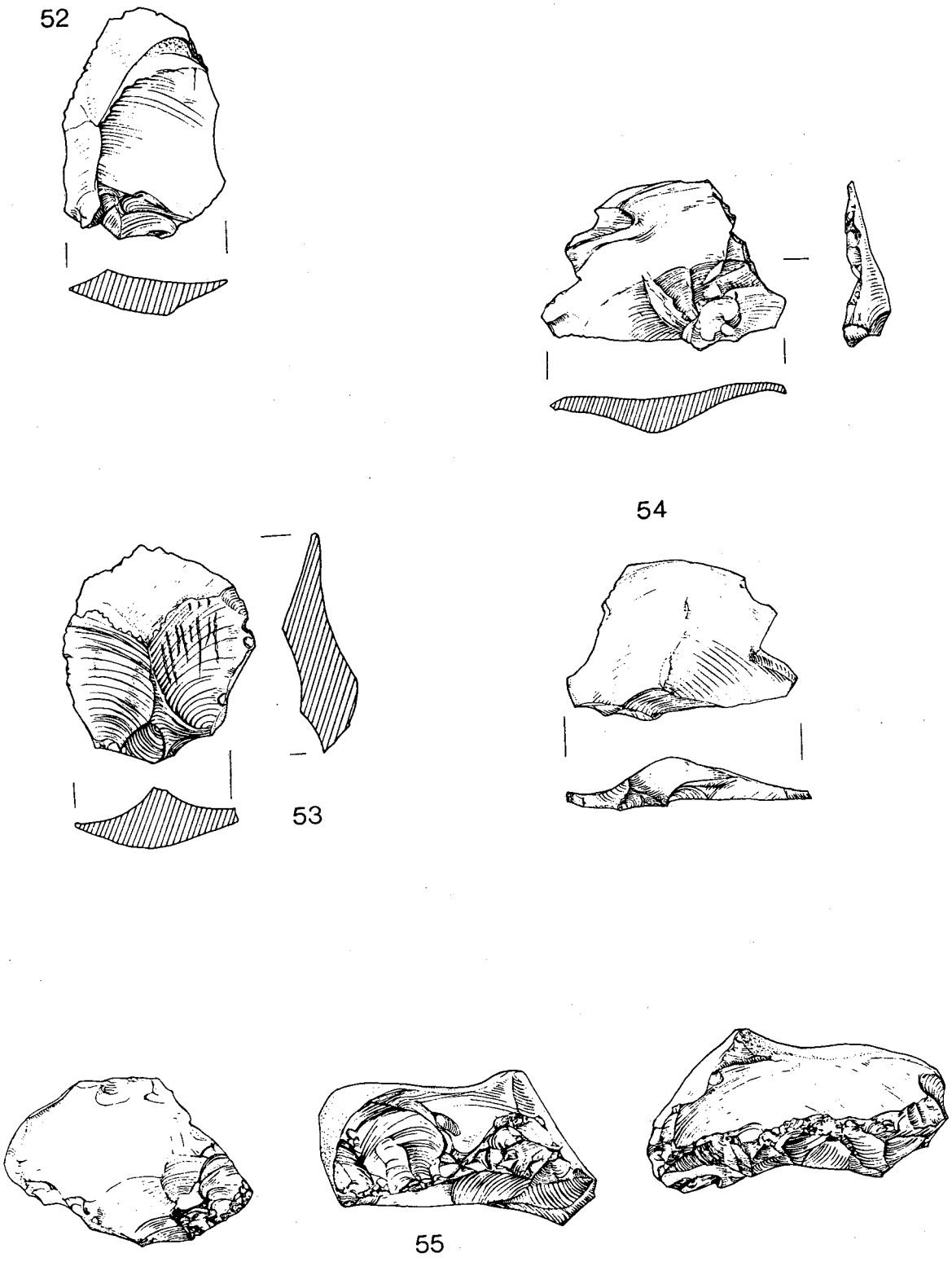


Figure 12. *Flint.*

53. Flake (1.38 mm long by 35 mm broad and 6 mm thick)
Scarring on dorsal face: three scars from same platform and one from platform at angle.
Termination: thin.
Butt end: striking platform plain (14 by 8 mm), angle obtuse, two ring cracks.
Edge damage: right side.
Raw material: dark grey flint, translucent. One old (i.e. truncated) corticated scar.
Cortex: c. 25% distal end, fresh.

54. Flake (1.28 mm long by 41 mm broad and 8 mm thick)
Scarring on dorsal face: one scar, probably from same platform.
Termination: hinge (cortical).
Butt end: striking platform three, crude facets, with some 'retouch' (probably damage) 28 by 9 mm, angle markedly obtuse, prominent bulb of percussion.
Raw material: mid-dark brown flint, inclusions, translucent.
Cortex: trace on right side near butt and on hinge termination.

55. Struck nodule (52 mm long by 40 mm broad and 27 mm thick, weight c. 50 gm)
Irregularly struck nodule with battering in concave edges, possibly plough damage or from use as a 'strike a light'.
Raw material: dark brown-black flint, translucent, flaked through corticated scars.
Cortex: 30%, unrolled.

Pottery

Iron Age Pottery

By Dr Jeffrey May
(Fig. 13)

The quantity of pottery is too small to be certain that it is a representative sample. The 79 sherds all come from the same level on the site, and despite minor variations in fabric and form, give an impression of being a homogeneous group. It seems reasonable to suppose that the pottery is of broadly similar date.

Forms

Most if not all of the vessels were jars. Three rims (nos. 2–4) were thickened and decorated with fingertip impressions on top. Four other rims (nos. 5–8) were flattened on top as well, giving the appearance of a slight bead. The thickness of the coarsest wares ranges from 6–16 mm, two sherds of finer ware are 4 mm and 8 mm thick.

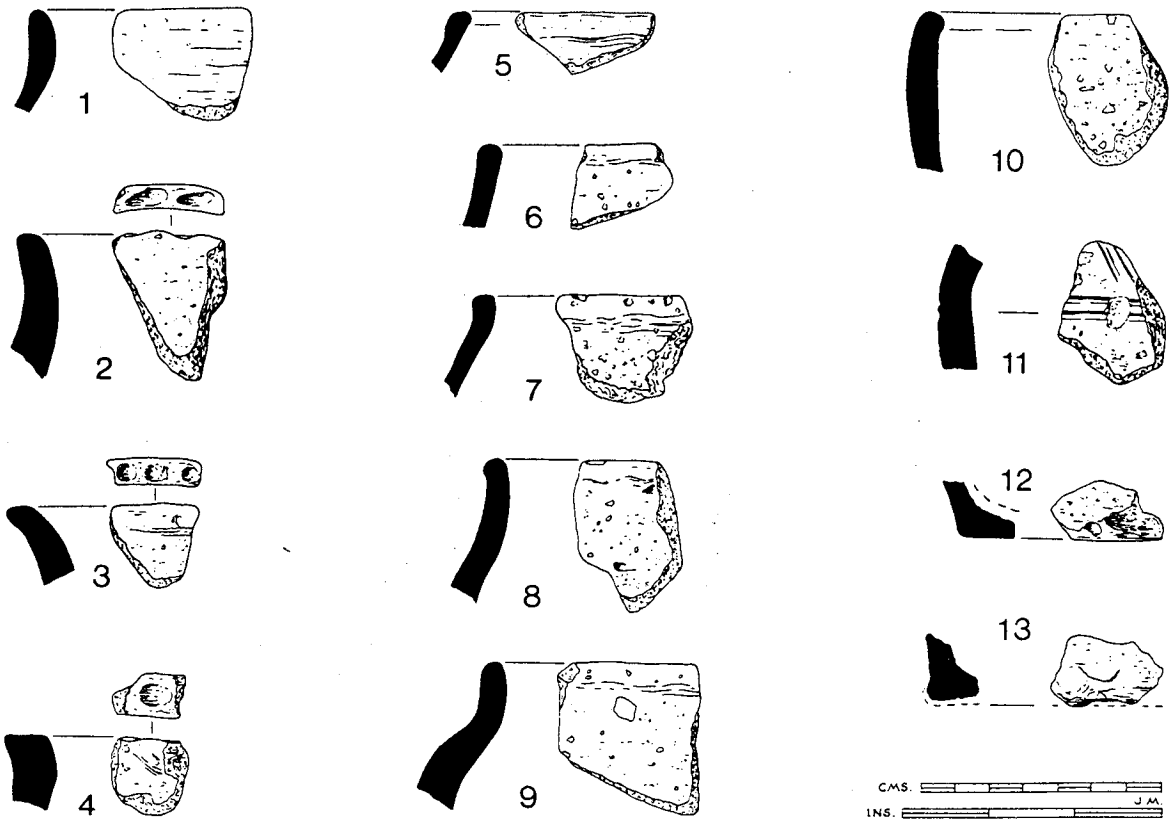


Figure 13. *Iron Age pottery.*

Fabrics

The pottery was all hand-made, and the fabrics are fairly hard to the touch. Several fillers are discernible by eye, including quartzite, shell, and calcite (including chalk, presumably from the Chilterns some 30 km to the south).

Decoration

In addition to the three finger-printed rims (nos. 2–4), one sherd (no. 11) has horizontal, incised grooves. Three of the body sherds have slight scoring, but none has the deep scoring of the Ancaster-Breedon type, to be seen over a wide area of eastern-central England in the third to second centuries BC, and which characterises as much as 25% of the pottery from Breedon-on-the-Hill in Leicestershire (Kenyon 1950: 26).

Grain Impressions
By Mr R.C. Alvey

Sherd RF 849 has an impression of the ventral side of a grain of *Bromus* sp. (length 5 mm, width 1.8 mm), and three impressions of spikelet parts of possibly *Triticum spelta L.*.

Sherd RF 862 has part of a similar spikelet.

Sherd RF 861 has two indistinct impressions, possibly of *Triticum spelta L.* (one 4.5 mm long and 2.2 mm wide, the other is not measurable).

Discussion

Thickened and finger-printed rim tops on simple rounded jar forms are common in the middle and later first millennium BC in eastern-central England. Much new information has been obtained in recent years about these periods by Dennis Jackson in the middle Nene Valley, 20 miles north of Great Staughton, and by Frances Pryor at Fengate, 25 miles north of this site. Both areas have yielded radiocarbon dates which, although few in number and giving rise to some problems, nevertheless provide us with some independent insights into chronology to compare with assessments based on notions of topological development.

The chronological limits of the Great Staughton pottery can be defined at both ends of the range by contrasting it with pottery now fairly convincingly placed in the later Bronze Age, and with the wheel-turned wares of the late La Tène period. At Great Oakley, Northants. (Jackson 1982: fig. 9), thin-walled jars quite unlike those from Great Staughton were associated with radiocarbon dates of 2630±90 BP (HAR-4494, cal BC 890–785, or 985–530 at 1 and 2 standard deviations*) and 2500±80 BP (HAR-4064, cal BC 796–420, or 820–400 at 1 and 2 standard deviations*). Pryor's Group 1 'pre-scored ware' pottery from Fengate may encompass a lengthy period of time and represent perhaps more than one phase, in which case an early radiocarbon date from Newark Road of 2740±80 BP (HAR-773, cal BC 995–820 or 1090–800 at 1 and 2 standard deviations*) need not be discounted on the strength of two later dates from Vicarage Farm of 2290±125 BP (UB-822, cal BC 470–200, or 790–50, at 1 and 2 standard deviations*) and Cat's Water of 2310±60 BP (HAR-3196, cal BC 405–375, or 520–210, at 1 and 2 standard deviations*), particularly since the latter was associated with only one vessel, a foot-ring bowl, of a form unlike others of a tentatively later Bronze Age date. Further afield, the date of 2253±80 BP at Washingborough (Q-1163, cal BC 400–200, or 465–110 at 1 and 2 standard deviations*, *pace* Coles *et al.* 1979) was associated with pottery which had been redeposited, as the excavation report makes clear, and Washingborough is not a strong argument for the longevity of later Bronze Age ceramic styles in eastern England (*pace* Pryor 1984: 143).

The lower chronological limit can be judged by the appearance of wheel-turned wares in the Fen basin in the mid-first century BC for example at Aldwincle (Jackson 1977) and at Fengate (Group 3, Pryor 1984, and microfiche). Although a small proportion of rough-looking hand-made wares are to be found on most sites during the final phase of the Iron Age, the total absence of wheel-turned wares from these 79 sherds may be significant.

We are left with a date range which could run from about the fifth century to *c.* 100 BC, and it is to the Northamptonshire sites that we might chiefly look for comparisons with our material. Twywell (Jackson 1975) provides the closest match with Great Staughton, and although the pottery from that site is not published explicitly in groups related to the suggested stratigraphical development of the site, the rarity of Ancaster-Breedon style scoring, and the presence of finger-tipping along rim-tops, suggests contemporaneity with Twywell's earlier material. A radiocarbon date of 2230±90 BP (NPL-225, cal BC 395–185, or 410–90

(*Standard deviations calculated using Stuiver & Pearson 1986, or Pearson & Stuiver 1986, radiocarbon date citation updated by Alex Bayliss of AM Lab, 1994.)

at 1 and 2 standard deviations*) from a pit apparently among the earlier features at Twywell, suggests a fourth- to third-century BC range for such pottery, although it should be noted that no pottery of significance was actually associated with the Twywell date. A similar date would also be appropriate for comparable pottery from the hill-fort of Wandlebury (Hartley 1957) where, although undated by radiocarbon, similar pottery was found with finer wares echoing early La Tène style wares (Hartley 1958: fig. 7, 16).

Site 1, Layer 7

1. Rim of a jar or bowl in relatively fine grey ware with sparse quartzite filler, rim diameter *c.* 180 mm.

2. Rim of a large jar, ware grey in the core with brick-red surfaces, sparse quartzite filler. Rim upright or slightly everted, with delicate finger-tipping round the top.

3. Rim of a jar in coarse grey ware with orange-brown surfaces, everted as shown, or possibly more upright, shallow finger impressions round the top.

4. Rim of a large jar in coarse red brick ware, with finger-tip (or possibly bone) impressions on the flattened everted top.

5. Rim of a jar, ware grey in core with red-brown surfaces. Rim thickened and flattened on top to a squarish bead, diameter *c.* 160 mm.

6. Rim of a jar in dark grey ware with partly-eroded filler, smoothed externally; rim slightly thickened at the top.

7. Rim of a jar in black flaky ware with the filler partly eroded leaving vesicular surfaces. Rim thickened and flattened on top, diameter *c.* 150 mm.

8. Rim of a jar in coarse grey ware with red-buff surfaces, fine chalk filler. Rim top thickened and rounded.

9. Rim from a large jar in grey ware with grey or buff surfaces, calcite filler up to 8 mm across, together with other stone.

10. Rim of a bowl in coarse grey ware, red-buff on the outside, with liberal filler including calcite and shell.

11. Wall sherd from jar in grey-brown ware smoothed externally. Two horizontal grooves, three slight scratches above may be accidental.

12. Base of a jar in grey ware, red-brown externally. Base flat and very slightly pinched out at the base angle.

13. Base of a jar in dark grey ware, gritty with quartzite filler. Angle and underside damaged but clearly pinched out.

Not illustrated

14. 66 formless body sherds in fabrics comparable with nos. 1–13. Most, if not all, may have come from jars and very few show curvature. Three sherds show slight traces of scoring.

Samian

By B.R. Hartley
(Not illustrated)

Site 1, Room 4, Layer 3

Form 37 base, Central Gaulish. The only decoration surviving is part of a beaded rosette (at the bottom of a vertical bead-row?). This strongly suggests a pre-Antonine date for the sherd, AD 100–130 probably. The fractures are scarcely worn.

Site 1, Exterior, Layer 3

Form 37, rim fragment. Central Gaulish Ware, and so second century. Perhaps from the same vessel as the previous example.

Site 2, Room 4, Layer 6

Form 31 or 31r, probably the former. Probably Central Gaulish though the fabric is rather pink. Presumably Antonine.

Site 2, Room 4, Layer 9

Form 33. Central Gaulish. Antonine.

All the Samian is probably residual.

Coarse Wares

(Figs. 14 & 15)

The illustrated pottery is a selection from a type series originally chosen by the excavator. Sadly the remainder of the pottery was then discarded, so it has not been possible to comment upon the relative proportions of fabrics and types of variants through time. However, since the fine wares, Nene Valley and Oxford colour-coats, correlate well with the dating of the coins, (*c.* AD 330–60), the illustrated series will stand as a reasonably well-dated selection for reference purposes. With the exception of no. 60 the illustrated pottery is very typical and common on sites of this period in the area.

Fabric types

Fabric 1 (Nene Valley)

Hard, dense fine ware, greyish-white with dark brown or dark grey colour-coat on both surfaces. Fig. 14, nos. 1–4, 17, 21–4, 26, 29, 30, 42, 43, 45–7; Fig. 15, nos. 53, 61.

Fabric 2 (Oxford)

Softish, orange micaceous fine ware, quite dense, fractures frequently rounded, feel smooth, sometimes slightly powdery. Orange-brown colour-coat on both surfaces. Fig. 14, nos. 5–7, 25, 38, 44; Fig. 15, nos. 55–6, 62.

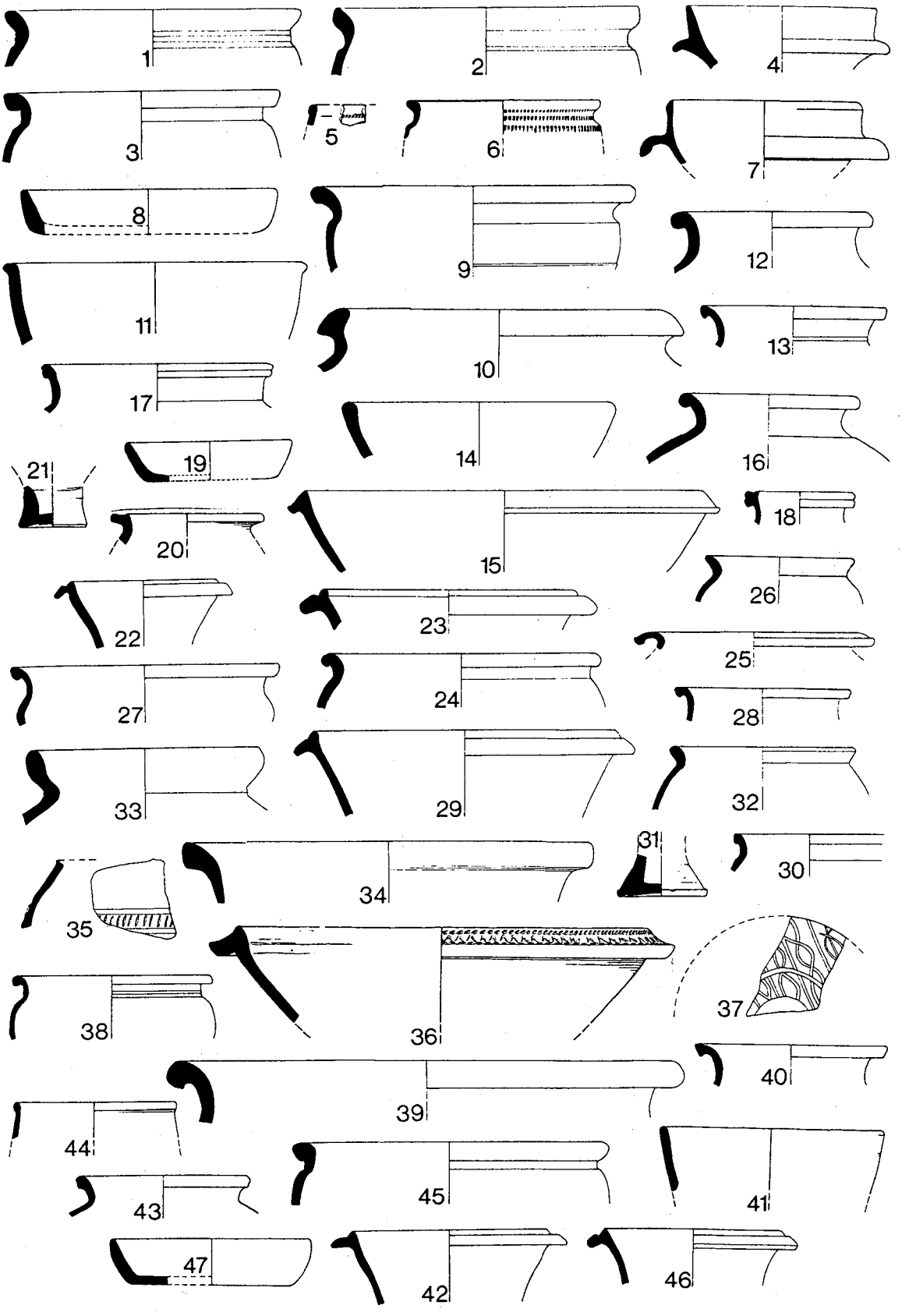


Figure 14. *Romano-British pottery.*

The grey wares, fabrics 3–5 quite possibly originate in the Nene Valley, where they were made alongside the fine wares. Fabric 5 may have come from a kiln excavated at Godmanchester, c. 9 miles to the northwest. Another kiln was found in the late 1950s c. 2½ miles to the northeast but there is no evidence of what was being produced (information from Mr G. Rudd).

Fabric 3

Grey ware, softish, quite dense, slightly micaceous, powdery feel, mid-grey throughout. Fig. 14, nos. 8, 31–2; Fig. 15, no. 48.

Fabric 4

Greyware, hard, dense micaceous, grey core with dark grey margins (core sometimes orangey-buff), feel quite smooth. Fig. 14, nos. 9–11, 18, 19, 37; Fig. 15, no. 49.

Fabric 5

Greyware, as Fabric 3 but harder, almost no mica inclusions, smooth feel. Fig. 14, nos. 12, 33, 39; Fig. 15, nos. 54, 60.

Fabric 6

Softish, pale orangey-brown often with a dark grey core. Frequent shell inclusions ranging from very fine to coarse (2 mm), feel soapy. This is a well-known fabric in the Midlands and East Anglia. Fig. 14, nos. 13–15, 16, 20, 27–8, 34–6, 40, 41; Fig. 15, nos. 51–3.

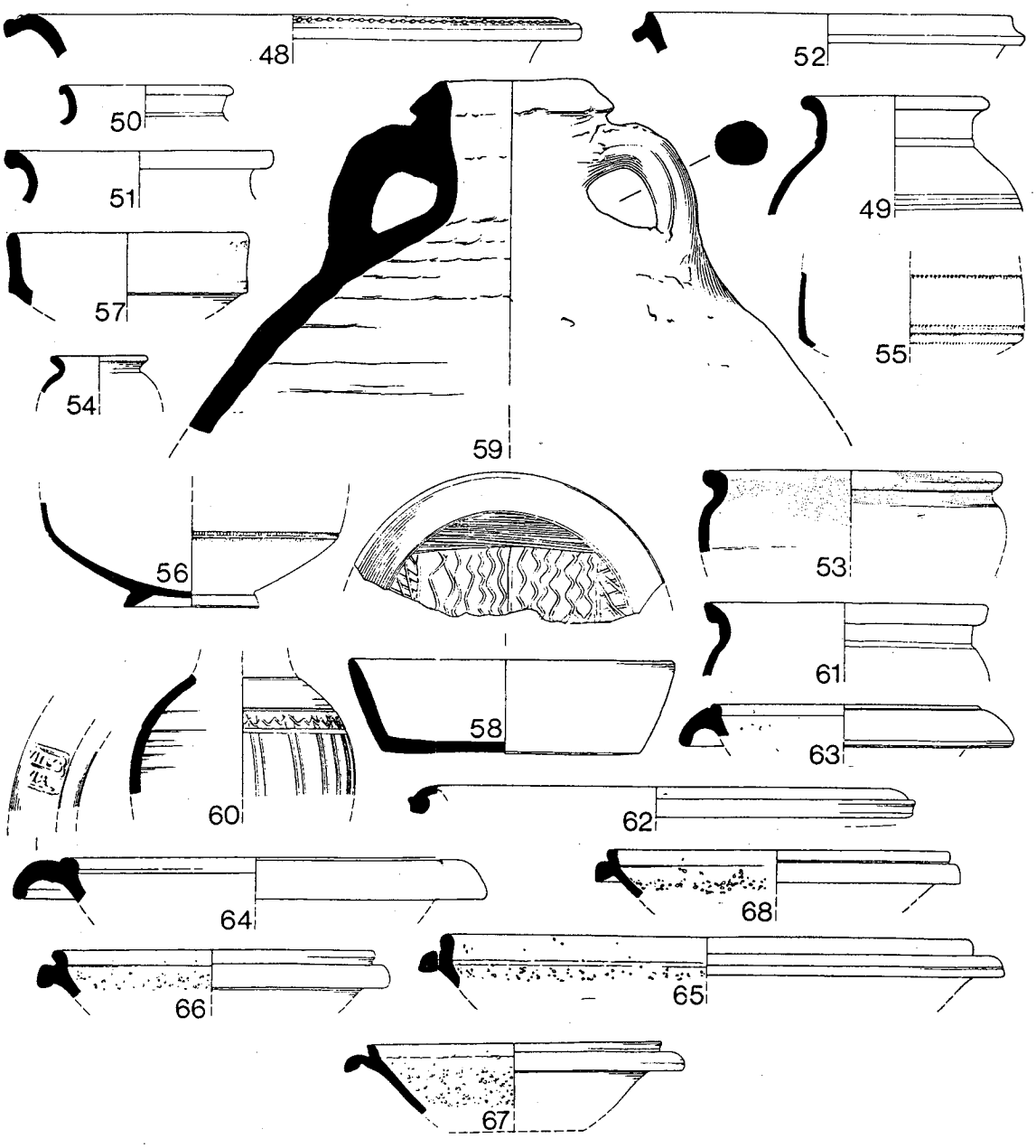


Figure 15. *Romano-British pottery and mortaria.*

Fabric 7

Rather soft, orange, quite dense fabric but with frequent, fine sub-rounded quartz(?) inclusions and vesicles, plus fine, occasional sub-rounded, chalk inclusions. Grey-brown colour-coat on both surfaces but pimply feel where colour-coat is missing. Fig. 14, nos. 16, 57.

Fabric 8

Quite hard, dense fabric, very micaceous, frequent very fine quartz(?) inclusions, frequent very fine to fine calcite inclusions, quite smooth feel, very dark brownish-grey. Resembles Black-Burnished Ware 1. Fig. 15, no. 58.

Fabric 9

Amphora, hard, dense well-fired orange-buff fabric, greyish core, probably South Gaulish. Fig. 15, no. 59.

Form Type Series

Site 1, Layer 2

1. Wide-mouthed bowl with grooves on neck, Fabric 1. Mauve-brown colour-coat (see Howe *et al.* 1980: 13, fig. 1, no. 7). Third century. This sherd is possibly residual or the form may have survived longer than is suggested by the dating of this parallel.

2. Large wide-mouthed bowl, Fabric 1. Mauve-brown colour-coat (Howe *et al.* 1980: 12, fig. 1, no. 7).

3. Wide-mouthed bowl, Fabric 1. Mauve-brown colour-coat on interior of rim and neck. Red-brown colour-coat on interior and exterior (similar to Howe *et al.* 1980: 24, fig. 7, nos. 75 & 76). Fourth century.

4. Flanged bowl. Imitation samian form 38, Fabric 1. Worn mauve-brown colour-coat (Howe *et al.* 1980: 24, fig. 7, no. 83). Late third to fourth century).

5. Bead rim bowl with single line of rouletting beneath bead, Fabric 2. Red colour-coat (see Young 1977: 162, fig. 61, C68). AD 300–400+.

6. Bowl with roll rim and carination on shoulder. Three lines of rouletting on neck and shoulder, Fabric 2. Red colour-coat. (Young 1977: 164, fig. 62, C75). AD 325–400+.

7. Flanged bowl, Fabric 2. Red colour-coat. Imitation Samian form 38. Joins sherds from Room 4, Layer 3 (see no. 25 below) (Young 1977: 160, fig. 59, C51). AD 240–400+.

8. Shallow dish, Fabric 3.

9. Wide-mouthed bowl, Fabric 4.

10. Large wide-mouthed bowl, Fabric 4.

11. Dish or bowl, Fabric 4.

12. Jar or bowl, Fabric 5.

13. Jar/bowl, Fabric 6.

14. Dish, Fabric 6.

15. Flanged bowl, Fabric 6.

16. Jar, Fabric 7.

Site 1, Room 3, Layer 3

17. Jar/bowl, Fabric 1, but softer and paler than other examples. Light red colour-coat (see Howe *et al.* 1980: 22, fig. 6, no. 70). Fourth century.

18. Jar, Fabric 4.

19. Small shallow dish, Fabric 4.

20. Jar or bowl, Fabric 6.

Site 1, Room 4, Layer 3

21. Base of beaker, Fabric 1. Mauve-brown colour-coat. Burnt.

22. Flanged bowl, Fabric 1. Dark grey colour-coat (Howe *et al.* 1980: 14, fig. 2, no. 21). Third to fourth century.

23. Large flanged bowl, Fabric 1. Mauve-brown colour-coat (Howe *et al.* 1980: 24, fig. 7, no. 76). Fourth century.

24. Wide-mouthed jar/bowl, Fabric 1. Mauve-brown colour-coat (Howe *et al.* 1980: 24, fig. 7, no. 76). Fourth century.

25. Flanged bowl or dish, Fabric 2. Red-brown colour-coat (see Young 1977, 160, fig. 59, C50). AD 325–400+. Joins sherds from Site 1, Layer 2, see no. 7 above.

Site 1, Room 5, Layer 3

26. Everted rim jar, Fabric 1. Dark grey colour-coat.

27. Bowl, Fabric 6.

28. Jar/bowl, Fabric 6.

Site 1, Room 1, North Exterior, Layer 3

29. Flanged bowl, Fabric 1. Mauve-brown colour-coat (a variant of Howe *et al.* 1980: 24, fig. 7, no. 79). Fourth century.

30. Jar/bowl, Fabric 1. Mauve-brown colour-coat on exterior and red-brown on interior (a smaller version of Howe *et al.* 1980: 24, fig. 7, no. 75). Fourth century.

31. Pedestal base of jar or beaker, Fabric 3.

32. Bowl, Fabric 3.

33. Large jar, Fabric 5. Probably recessed for a lid.

34. Large jar/bowl, Fabric 6.

35. Wall sherd of jar or bowl, Fabric 6. Band of impressed? finger-nail incisions between parallel horizontal grooves.

Site 1, Room 2, South Exterior, Layer 3

36. Flanged bowl, Fabric 6. Slope of rim decorated with scored wavy line between parallel rows of stab marks.

Site 1, Room 3, Layer 4

37. Dish base, Fabric 4. Interior of base shows burnished decoration. These fourth-century dishes with burnished decoration are very common in these fabrics in the area, although this example and no. 58, have a more elaborate decoration than the usual wavy lines. Quite a large number of these dishes have been found in the area bearing scratched graffiti underneath, often a number, and occasionally a name (information from Mr G. Rudd).

Site 1, Room 4, Layer 4

38. Jar/bowl, Fabric 2. Brown-red colour-coat (see Young 1977: 164, fig. 62, C75). AD 325–400+.

39. Large wide-mouthed jar/bowl, Fabric 5. Tooling on top of rim to inside of vessel. This is overlaid with pinkish-white 'paint'.

Site 1, Exterior Drain, Feature 21

40. Jar or bowl, Fabric 6.

41. Bowl, Fabric 6.

Site 1, Room 4 Drain, Feature 69

42. Flanged bowl, Fabric 1. Mauve-red colour-coat (see Howe *et al.* 1980: 24, fig. 7, no. 79). Fourth century.

43. Jar, Fabric 1 (Howe *et al.* 1980: fig. 7, no. 76). Fourth century.

44. Bead rim bowl or beaker, Fabric 2. Red colour-coat.

Site 1, Exterior Drain, Feature 70

45. Large wide-mouthed bowl, Fabric 1. Mauve-brown colour-coat (Howe *et al.* 1980: 24, fig. 7, nos. 75, 76). Fourth century.

46. Flanged bowl, Fabric 1. Mauve-brown colour-coat (Howe *et al.* 1980: 24, fig. 7, no. 79). Fourth century.

47. Shallow dish, Fabric 1. Mauve-brown colour-coat (Howe *et al.* 1980: 24, fig. 7, no. 87). Fourth century.

48. Flanged bowl or dish, Fabric 3. Single band of oval-shaped depressions between grooves on top of rim.

49. Jar, Fabric 4.

50. Cooking bowl or jar, Fabric 6.

51. Cooking jar, Fabric 6.

52. Flanged bowl, Fabric 6.

Site 2, Layer 2

53. Wide-mouthed bowl, Fabric 1. Grey colour-coat, patches of brown 'paint' on rim (Howe *et al.* 1980: 24, fig. 7, no. 75). Fourth century.

Site 2, Exterior, Feature 3, Layer 3

54. Poppyhead beaker, Fabric 5.

Site 2, Room 4, South Exterior, Layer 3

55. Carinated bowl. Fabric 2. Imitation Samian. Lines of rouletting below neck and on carination. Red colour-coat (see Young 1977: 166, fig. 64, C81). AD 300–400.

Site 2, Northeast Exterior, Layer 3

56. Bowl, Fabric 2. Double line of rouletting with traces of white paint decoration over red colour-coat (Young 1977: 160, fig. 60. C55). AD 240–400+.

Site 2, Room 4, Layer 6

57. Bowl. Imitation Samian form 45, Fabric 7.

Site 2, Room 4, Layer 8

58. Dish, Fabric 8. Interior of base has burnished decoration. See no. 37 above.

Site 2, Room 4, Layer 9

59. Amphora, Globular type. Dressel 30(?). South Gaulish?

Site 2, Exterior, Feature 5, Stoke-hole

60. Jar, Fabric 5. Scored decoration on shoulder.

Unstratified

61. Wide-mouthed jar/bowl, Fabric 1. Grey-brown colour-coat (a variant of Howe *et al.* 1980: 24, fig. 7, nos. 75 & 76). Fourth century.

62. Flanged bowl or dish, Fabric 2. Red colour-coat. Faint traces of white 'paint' decoration on top of rim (Young 1977: 161, fig. 59, C50). AD 325– 400+.

Mortaria

By Katherine F. Harley
(Fig. 15)

Site 1, Layer 2

63. Mancetter-Hartshill potteries, *c.* AD 140–80.

Site 1, Room 4, Layer 3

64. This mortarium has a fragmentary stamp of Cattanus, whose work can be attributable to the Mancetter-Hartshill potteries in Warwickshire. Other stamps of his are known from Aldborough, Harringworth, Northants, Little Chester and the pottery-making sites at Hartshill and Mancetter (*Manduessedum*). His rim-profiles point to a date *c.* AD 150–80.

Site 1, Room 4, Layer 3

65. Oxford potteries (Young 1977: 76, fig. 23, type M22). AD 240–400.

Site 1, Room 4, Fill of Feature 69

66. Oxford potteries (Young 1977: 76, fig. 23, type M22). AD 240–400.

Site 2, Layer 2

67. Oxford potteries (Young 1977: 75, fig. 21, type M18). AD 250–300.

Site 2, Room 3, Fill of Feature 2

68. Oxford potteries (Young 1977: 76, fig. 23, type M22). AD 240–400.

General Discussion

It is unfortunate that only a small part of the Iron Age occupation could be examined as this site could perhaps have provided some ideas about the Iron Age to Romano-British transition in the East Midland area. The partial examination of the Site 2, Phase 1 structure above is equally tantalising, especially since the adjacent mounds suggested that this phase was considerably more extensive than the second phase occupation.

The presence of a total of 908 coins from the two later phases is significant. Such a large number might have implications other than for dating. The coin evidence from the two sites is very similar, suggesting a beginning in the 330s AD with a life in the AD 330–60 range, the latest coins found embedded in the floor levels of Site 1 are of Magnentius and Decentius. Later coins from the covering rubble (of Valens, Gratian, and ?Theodosius) are all unstratified and therefore not useful for dating the villa occupation. Occupation levels in Site 2, Room 4, contained seven coins from *c.* AD 330–35. Later coins from the exterior occupation levels are of Valens and Valentian II, but these could have been dropped after the house was abandoned.

The Site 1 total of 850 coins is most unusual for a site of this size, and presents a problem which is not easy to solve. The great majority of the coins (excluding those found unstratified throughout the covering rubble), were found in three main groups, in Room 3, Room 5, and on the south exterior. In these rooms the coins were found in the occupation silt, on the surface of the floors, in the fillings of features (Room 3), and embedded in the floor make-ups, suggesting that they had been deposited over a period of time during the occupation of the rooms and not as components of a single deposit which had subsequently become scattered. The deposit on the south exterior does suggest a scattered hoard as the concentration was confined to a small area about 2 ft (0.61 m) in diameter. Richard Reece (pers. comm.) has suggested that the bulk of the coins, which have the same composition as those lost individually on site, may have reached their place of rest after the life of the Site 1 building, e.g. during squatting or robbing or something similar.

It is tempting to suggest a religious or votive connotation for the large quantity of coins, particularly in view of the presence of the votive 'leaf' (Fig. 6, no. 8), but the leaf was found in a rabbit hole, and anyway the plan of the building does not suggest a religious function. With regard to the plan, Dr D.J. Smith has drawn attention to the sideways as well as forwards projection of the wings. This feature is 'uncharacteristic of Romano-British villas but typical of farmhouses in *Gallia Belgica*' (Smith 1978: 117–47). It is possible that Great Staughton belongs to a group of fourth-century Romano-British farmhouses which represent 'modifications of the winged-corridor villa as it evolved in Britain, to suit the way of life of people accustomed to farmhouses of Belgo-German type' (Smith 1978).

Another unusual aspect of this site is the presence of the peacocks (apparently one of the earliest examples from Roman Britain) and the first records of quail and merganser. Although the peacock has important religious/mythological significance, both it and the quail are more likely to represent food; whereas the merganser's own (fish-)eating habits probably render it unpalatable. This, coupled with the large number of oyster shells (considering the distance from the Roman coastline), contrasts with the relatively modest size of the building.

Access to the site would appear to be from the Roman road (173d) which starts at Dorchester-on-Thames and joins the Ermine Street at Alconbury. The road should run between the site and Whitley Brook but there was no trace on the surface nor was any indication found during the excavation (information from Mr R.W. Bagshawe).

The dating of the pottery and other artefacts, and the mosaics, tie in well with the coin dating. The only exceptions are three of the mortaria (nos. 63, 64 & 67) and the Samian; these are probably residual and if so, suggest a possible second- to third-century date for Phase 1. Mr G. Rudd has also noted (pers. comm.) that the proportion of Samian represented in the plough soil over the site is much greater than the proportion of excavated samian to coarse wares. This lends further support to the suggested presence of an earlier establishment on the site.

Sadly, the human burials on Site 1 are undateable, though they must be late Roman or slightly earlier.

The main phases of Great Staughton may be summarised as follows:-

I. Iron Age activity
II. Period of abandonment(?)
III. Construction and use of second to (?)third-century phase
IV. Destruction/adaptation of same into fourth-century construction, probable construction of Site 1 (*c.* 330s), hypocaust systems(?) and insertion of mosaics (but in the case

of the Site 1 mosaics possibly a little later than the construction phase)

V. Period of use *c.* 330s–*c.* 360s, including domestic and possibly small-scale metalworking activities (Site 1), partial fire damage (Site 1) and possible strengthening of ?weakened roof timbers.

VI. Destruction/robbing of the buildings on Sites 1 and 2

VII. Insertion of human burials into the rubble layer covering Site 1.

SUPPLEMENTARY SPECIALIST REPORTS

Mortars and Plasters

By P.R. Payne, J.W. Haldane & L. Biek

Analysis of Material

Fifteen samples of various lime-based bedding, jointing and surfacing materials from Sites 1 and 2 were submitted for examination. They were digested in the usual way in hydrochloric acid, and the washed and dried insoluble residue was passed through a sieve train to determine the grading of the aggregate (Biek 1963: 233). The results are listed in Table 1.

Analysis of Results

The materials were divided into three groups depending on the nature of their acid-soluble aggregate:

a. those with essentially natural aggregate;
b. those with an aggregate consisting of a mixture of natural material and fired clay;
c. those with an aggregate consisting almost entirely of fired clay.

Within each of these three groups comparison was made between the amounts and particle size distributions of the acid-insoluble aggregate of each material. The results of these comparisons (given as Similarity Values (SV) — where an SV of '0' indicates an identical particle size distribution) were subjected to a Complete Linkage Cluster Analysis, from which was produced a dendrogram (Fig. 16), demonstrating the degree of similarity between the materials and groups of materials in terms of their aggregate particle size distribution.

From this dendrogram can be derived the groups shown in Table 2. The limiting SVs used are 50 and 30 as these seemed to give the most useful results. This table shows the relationship between the groups and material type.

A less obvious relationship seems to exist

Table 1. *Mortars and plasters: grading of aggregates.*

Site Ref		AM Lab no.	Context	Total weight of insoluble material*	Wt % insoluble material in sieve train (mesh per inch) retained on.....					passed by
					5	10	18	36	72	72
Site 1										
RF491	Mo 1	590292	F1	32.10	0.2	4.1	3.8	5.37	10.4	78.2
RF492	Mo 2	590293	Room 1	52.60	1.8	0.5	2.0	7.3	71.8	16.6
RF552	Mo 3	590294	Room 2	79.53	2.0	1.9	1.7	12.3	64.8	17.3
RF553	Mo 4	590295	Room 2	44.38*	24.0	23.0	12.8	11.0	9.3	21.0
RF554	Mo 5	590296	Room 2	71.80	6.7	11.4	10.1	17.4	22.1	33.0
RF555	Mo 6	590297	Room 3	76.82	42.4	9.9	9.5	17.6	11.4	9.2
RF556	Mo 7	590298	U/S	60.35	35.0	20.2	14.0	11.1	7.9	11.8
RF704	Mo 8	590299	Grid 17 L2	66.63	1.0	0.6	0.7	1.2	83.5	13.0
RF811	Mo 9	590300	Room 6	63.82	18.2	11.3	8.8	13.8	35.4	12.5
RF812	Mo 10	590301	Room 6	69.79	9.4	3.4	3.2	15.0	50.0	19.0
RF813	Mo 11	590302	Room 6	81.99	21.4	21.0	14.5	11.0	8.6	23.5
Site 2										
RF1061	Mo 12	590303	Room 3	70.60*	0.4	0.3	0.5	2.4	43.8	52.5
RF1169	Mo 13	590304	Room 2	63.06	11.6	0.8	0.7	1.4	41.0	44.5
RF1170	Mo 14	590305	Room 4	73.68	28.0	18.2	12.1	11.0	10.7	20.0
RF1216	Mo 15	590306	Room 1	62.32	10.2	0.2	0.2	3.5	44.0	42.1

*The initial weight of each sample, 100 g, makes the figures percentages except for samples Mo 4 and Mo 12 where only 72 g was available.

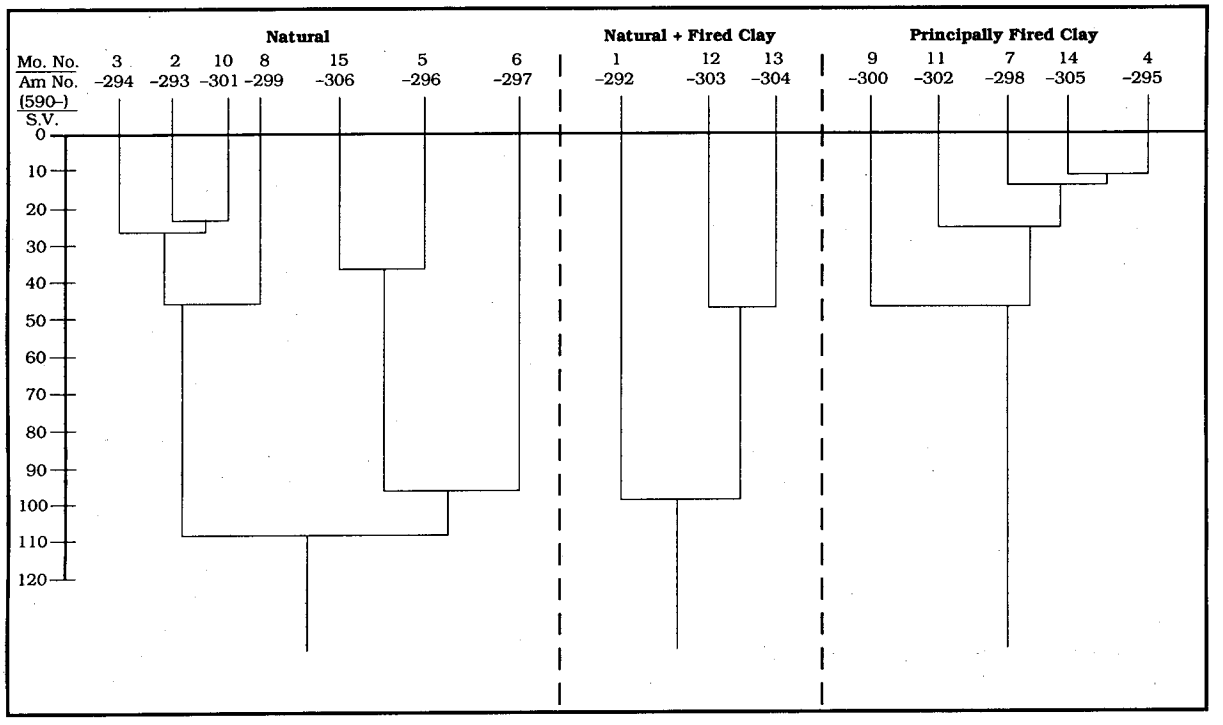


Figure 16. *Mortars and plasters dendrogram showing similarities in grading.*

Table 2. *Mortars and plasters: groups formed at similarity values of (SV) 50 or less.*

Site	Context	No.	AM lab no.	Material type*	Aggregate type
1	Room 2	Mo 3	590294	Matrix	A
1	Room 1	Mo 2	590293	Matrix	
1	Room 6	Mo 10	590301	Matrix	
1	Exterior, rubble	Mo 8	590299	Wall plaster	NATURAL
2	Room 1	Mo 15	590306	Matrix	B
1	Room 2	Mo 5	590296	Make-up under matrix Mo 3	
1	Room 3	Mo 6	590297	West wall, mortar	
1	Feature 1	Mo 1	590292	White concrete	MIXED (natural, with fired clay)
2	Room 3	Mo 12	590303	Matrix	
2	Room 2	Mo 13	590304	Matrix	
1	Room 6	Mo 9	590300	*Opus signinum* fillet	FIRED CLAY
1	On Room 6 surround	Mo 11	590302	Pile brick dust	
1	U/S	Mo 7	590298	*Opus signinum*	
2	Room 4 under patch of *tiled* floor	Mo 14	590305	*Opus signinum* matrix	
1	Room 2, base of wall trench, in and below gravel foundation	Mo 4	590295	*Opus signinum*	

(Groups with SV≤30 shown closely spaced.)

between the groups and the provenance of the materials. For example, Mo 2, Mo 3, and Mo 10 all come from Site 1 (the villa) where they are matrices under mosaics. This would suggest that the mosaics in Rooms 1, 2 and 6 are probably contemporary, that is, that when they were being laid the same source of aggregate was being used.

Particle size distribution is a less reliable method of comparison for materials with artificial aggregates (e.g. crushed brick or tile) as the composition of the aggregate is liable to be variable. It is, therefore, very surprising to find that the brick-dust (Mo 11) and the aggregates from the examples of *opus signinum* all originate from the same source, i.e. that they were prepared at the same time.

On this basis, the 'Natural' and 'Mixed' groupings are seen as follows:

(1) Sub-group Natural A becomes a separate group: containing aggregates that are almost entirely sand passing 36 mesh. The Mixed Group matrices are similar but show substantially equal proportions of sand grade material and fines. The 'concrete' (field description) mix contained a similar sand grade but seems to have been left with a major amount of fines: some of this material consists of *grey* (reduced-fired) crushed brick, perhaps specially selected to control the colour of the concrete.

(2) In Sub-group A, the same sand could be common to different purpose-made mixes requiring fine-grained texture — like the plaster and the matrices. Conversely, Sub-group B cannot survive as a unit; indeed, the make-up aggregate (Mo 5) is taken as the (only) basic natural silty sand present.

(3) Starting from this (Mo 5), the aggregate for the wall mortar (Mo 6) could have been obtained by thorough washing and addition of suitable gravel, as in modern practice.

Group A aggregates could have been derived only by means of a sieve. The same goes for the other matrices. Both sand and crushed tile were clearly available at the same time, and as they went through the same sieve together, by accident or design, so they inevitably produced a mixed material of the same fine sand grade. In two cases (Mo 10, Mo 13), (identical) additions of a little gravel, only, are evident; a third (Mo 9: see below) may have come to contain some coarser material. Apart from that, the only difference between Group A and other matrices is easily explained by washing. All these aggregates must have gone through the sieve, but in addition those in Group A were thoroughly washed.

All Group A matrices come from the villa and the others from the bath-house. In all cases, the presence of fines and/or fired clay may well indicate an attempt to confer at least semi-hydraulic properties, for better performance under hot, humid, and even plain wet conditions. *Opus signinum* is generally just such an attempt, yet the (single) sample from the bath-house is identical to the group from the villa. It is therefore its decorative rather than hydraulic qualities which probably determined its use here.

The exceptional closeness of the *opus signinum* group firmly links in time (at least this part of) the decorations of the villa and the bath-house. Oddly enough the matrix from Room 4 (Mo 14), alone among the matrices in the bath-house, shows no signs of sieving: possibly material left over from some ordinary *opus signinum* work (for example the fillet moulding) was used up on this.

Conversely, the fillet moulding (Mo 9) shows slight but definite deviation from group norm, such as might result from fewer blows in crushing the tile; it could be a special mix used up on some ordinary *opus signinum*. The suggested period of occupation is between AD 330–60, within a unified plan. There is nothing in the evidence described above to contradict this.

If the differences between aggregate groups are taken to be significant, they could indicate a time interval between two phases of decoration or redecoration. In that case the earlier phase involved floors in Rooms 1, 2 and 6, and a wall in Room 3, of the villa (Site 1), and the later phase would include the laying of the floor in Room 4 of the bath house (Site 2), and most of the *opus signinum* work at the villa (Site 1), except for the fillet moulding in Room 6. It could also embrace the laying of the other Site 2 floors in Rooms 1, 2, and 3, and of the concrete base to Feature 1 in Site 1. The difference in time need only have been slight, and might be ignored but for the intriguing pile of brick dust (Mo 11), sitting *on* the mosaic floor previously laid on matrix Mo 10 in Room 6, Site 1. Its presence implies that the room was either never used, or went out of use soon after construction. If one accepts the latter as more likely, and takes it as an indication of general abandonment, this lends support to a small time interval.

Discussion

In the present context, three general aspects are worth comment:

(1) The closeness of the main groups. This is most marked in the *opus signinum* group, but if one considers only the matrices, the other two main groups show remarkably little internal variation (i.e. SVs of less than 30).
(2) The similarities within some of these groups, at least, irrespective of (apparent) functions. In Natural sub-group A, one of the matrices (Mo 3) is matched more closely by the wallplaster (Mo 8), than by the other matrices (Mo 2 & Mo 10); and in Natural sub-group B, the cluster analysis suggests a basic similarity between the matrix Mo 15 and the make-up Mo 5 under Mo 3, a different matrix from another building.
(3) Certain masked affinities of samples exist outside groups, both as between themselves and in relation to the groups. Among the natural aggregates the wall mortar and the make-up under a matrix show middle fractions which are identical, the mortar having a much higher gravel content, and the make-up being correspondingly richer in fines. Most striking of all, matrix samples Mo 15 and Mo 13 are virtually identical although they belong to different groups. This is because initial division was based on 'natural' and 'artificial' groups.

Close examination of the results strongly suggests, however, that the 'natural' aggregates are in fact also artificial — in a different sense from the fired clay; except for one, only, they probably result from selective preparation such as simple sieving, washing and addition.

For a full discussion of contemporary lime production at Weekley, some 15 m (25 km) to the northwest, see Jackson *et al.* 1972. A deposit of sand is marked in the stream valley ½ m/800 m SW of the site; major river gravel and sand workings operate to this day in the St Ives area (12 m/20 km NE).

Human Skeletal Remains
By R. Cullen & R. Powers

The bones of possibly 24 individuals were examined including 7 burials and a quantity of scattered bone, all from Site 1. This comprised:

Female Adult	4
Male Adult	4
Indeterminate Adult	8
Juvenile	4
Infant	1
Indeterminate	2
Total	**24**

Full details of these can be found in microfiche. The remains of two further individuals were extracted from the faunal remains.

Room 1, Layer 2

Burial 1: a female adult plus another individual, represented probably only by one right femur. The calvarium is complete, if somewhat eroded, but the facial regions are represented only by the maxilla. This calvarium is composed of noticeably thick, dense, bone, which makes the skull heavy; a centrally placed drilled hole on the right parietal allowed measurement of the thickness, which both there and on an approximate mid-point along the frontal arc proved to be 10 mm. While this is not outside the normal range of European skull thicknesses, which at a mid-parietal point can vary from 4 mm to 11.2 mm (Singer 1958), nevertheless it is so close to an extreme of the distribution that there is some possibility of abnormality.

The post-cranial bones present comprised: two right femora, one probably male, one left femur; right and left tibiae; right humerus; right radius; right ulna lacking distal end; the shaft of one fibula lacking both ends; two incomplete ilia; part of a sacrum; bones of the hand and foot; ribs.

For the standard biometric measurements, which could be taken on the skull of this individual see Site Archive.

Burial 2: adult; owing to fragmentary condition, age and sex are indeterminate. The bones present are: right and left tibiae, both lacking their distal ends; one fragment of a tibia distal end; and part of the shaft of a radius lacking both ends.

Burial 4: probably a female adult; the skull bones present include parts of occipital, temporal, and frontal bones, as well as other small fragments of calvarium.

The post-cranial bones are: the proximal part of one femur, lacking the greater trochanter; one tibia lacking a proximal end; part of one tibia shaft lacking both ends.

Burial 5: the bones of more than one individual are present, they comprise: the distal portion of a probably male femur; part of the shaft of a humerus also probably male; part of the shaft of one radius; one rib fragment.

Parts of three ilia are represented by fragments; out of these, one appears to be female.

HB 1: part of left clavicle, adult.

HB 11: ?female adult.

Room 2, Layer 2, in Rubble over Pavement

Burial 6: juvenile (Pl. IX); the only skull bones present are a few fragments of calvarium.

The post-cranial bones present are: two femora, one lacking a distal end; two tibiae, one lacking a distal end; one fibula; one radius lacking a distal end; bones of the hand and foot; part of one scapula; fragments of pelvis; ribs; vertebrae.

None of the long-bones have fused epiphyses, and also present are a number of loose epiphyses.

	max l. (mm)	**max mid-shaft w. (mm)**
femur	331	20
tibia	254	20
fibula	247	10.5

HB 2: (i) skull, immature on evidence of skull thickness, incomplete. The occipital bone is very ridged.

(ii) skull, represented only by part of the occipital, including the lambdoid suture, which is visible on the exterior, obliterated on the interior. Ribs.

HB 3: right humerus, lacking proximal end.

Plate IX. *Site 1 (1958), Room 2, Burial 6. (Photo: RFN 12)*

Rooms 2 and 3, Wall Trench, U/S

HB 9: femur, male adult, lacking distal end.

HB 10: part of male ?adult sacrum.

Room 3, Layer 2

HB 6: portion of tibia shaft, adult, from near the distal end.

Room 3, Layer 3

HB 7: tibia, adult, with part of the proximal end eroded away.

Ti D1	23.5
Ti D2	31

Room 4, Layer 2

HB 4: part of calvarium, adult, consisting of a portion of occipital extending up to the lambdoid suture, which seems open.

HB 13: head of immature femur (epiphyses unjoined).

Fe D1	21.5
Fe D2	27.5

Room 5, Layer 2

HB 14: infant skeleton: birth size. Greater wing of sphenoid.

	max l. (mm)	**max mid-shaft w. (mm)**
two tibiae	66	6.5

HB 15: one femur, eroded, male adult. Head of humerus, male.

Room 1, North Exterior, Layer 2

Burial 3: probably a male adult; the bones present comprise: one right femur lacking a distal end; part of the shaft of a left femur; right humerus; right ulna; right and left radii; two phalanges; and small fragments of pelvis.

Room 2, South Exterior, Layer 2

HB 5: juvenile skeleton, incomplete. There is only one small fragment of calvarium. The post-cranial bones present are: one femur nearly complete, part of a femur shaft; right and left tibiae lacking distal ends; one humerus; part of one scapula; ribs.

	max l. (mm)	max mid-shaft w. (mm)
femur	141	11
humerus	117	9.5

Exterior of Wall Trench (to Rooms 2 and 3?)

Burial 7: adult; the very fragmentary bones present comprise: proximal fragments of two femur shafts, and part of one femur head; part of one metatarsal; other unidentifiable fragments of long-bone shaft.

North Exterior, Layer 6

HB 8: adult, two fibula shafts, lacking both ends; small portion of tibia shaft.

Unstratified

HB 12: part of adult parietal.

Animal Bone
By R.A. Harcourt

This was a small collection of just on a hundred identified specimens. The domestic species present were cattle, sheep, pig, horse, and dog. Wild fauna were represented by a few specimens of roe deer, fox, and hare. Human bones, of at least two individuals, were included. There are not enough specimens to permit the determination of the age structure or relative numbers of each species. All measurements are given to the nearest millimetre and those of long bone extremities are of articular surfaces only.

Domestic Animals

The proportion of 'waste' bones (heads and feet) is so low in the food animals that it seems likely that the majority of carcasses were brought to the site already butchered, but the collection is so small that this may be due to chance. The measurements of the four complete long bones are shown in Table 3.

Dog

The long bones of very large dogs cannot be distinguished with certainty from those of some wolves. Although the femur found here was very large, a yet larger one definitely from a dog, is known to the writer from another Roman site. This was 229 mm in length and the presence of teeth from the same animal confirmed its identity. Both these animals would have stood about 680 mm (27 in) at the shoulder, while Pitt Rivers (1887: 223) records a femur of 234 mm from Rotherley.

The remaining specimens of cattle, sheep, pig, and horse do not merit special mention.

Bird Bones
By D. Bramwell

There were remains from four peacocks, four geese (including merganser), six domestic fowl, two stock doves, one wigeon, one quail, one partridge, one crow, one blackbird or similar, one golden plover, two mallards, and one duck.

All from Site 1

Room 2, Layer 2

AB 6: Crow (*Corvus* sp.), one bone.

Room 2, Layer 3

AB 9: Peacock (*Pavo* sp.), one bone.

Room 2, Entrance, Layer 3

AB 53: Partridge (*Perdix perdix*), one bone.

Room 3, Layer 2

AB 21: Domestic Fowl (*Gallus* sp.), one bone.

Table 3. *Stature of animals.*

	Long Bone Measurements				Estimated Height (Fock 1966)	
	Total length	Proximal width	Mid-shaft diam.	Distal width	metres	in
Cattle						
Metatarsal	202	41	22	47	1.09	43
	219	44	28	53	1.17	46
Sheep						
Radius	142	28	17	27		
Dog						
Femur	227	–	16	–		

Room 3, Layer 3

AB 26: ?Blackbird or similar (*Turdus* sp.), one bone.

Room 4, Layer 2

AB 29: Goose (*Anser* sp.), one bone.

Room 4, Layer 4

AB 40: Mallard (*Anas platyrhynchos*), one bone.

Room 5, Layer 2

AB 42: Domestic Fowl (*Gallus* sp.), one bird represented.
Widgeon (*Anas penelope*), one bone.
Quail (*Coturnix coturnix*), one bone.

Room 1, Exterior, Layer 2

AB 2: Peacock (*Pavo* sp.), one bone.

Room 5, Exterior, Drain F.69

AB 51: Mallard (*Anas platyrhynchos*), one bone.
Duck, a smaller species, perhaps Garganey (*Anas querquedula*).
Stock Dove (*Columba oenas*), bones of one adult.
Domestic Fowl (*Gallus* sp.), one bone.

Room 5, Exterior, Drain F.71

AB 54: Duck, domestic (*Anas* sp.), one bone.
Grouse (*Lagopus* sp.), one bone.
Domestic Fowl (*Gallus* sp.), two or three birds.
Red-breasted Merganser (*Mergus serrator*), breast bone.

Exterior, Drain F.70

AB 59: Golden Plover (*Pluvialis apricaria*), one bone.
Domestic Fowl (*Gallus* sp.), remains of three birds.
Goose (*Anser* sp.), one bone.
Mallard (*Anas platyrhynchos*), one bone.
Peacock (*Pavo* sp.). A considerable variety of bones, which, with those from other areas, make up a good part of the skeleton of one peacock, i.e. male.

Room 6, Exterior, Layer 2

AB 52: Domestic Fowl (*Gallus* sp.), one bone.

North Exterior, Layer 3

AB 17: Goose (*Anser* sp.), a smallish metatarsus, impossible to define.
AB 18: Stock Dove (*Columba oenas*), one bone.
AB 20: Goose (*Anser* sp.), this seems to be a robust Grey Lag type.
Peacock (*Pavo* sp.), leg bone bearing a spur.

North–South Baulk Grids 4 & 5, Layer 2

AB 38: Domestic Fowl (*Gallus* sp.), one bone.

Two of the above, quail and merganser, seem to be the first records for Roman sites in Britain (i.e. not listed by Fisher 1966), while the

Table 4.

Site Ref.	Specimens Examined: Oyster *Ostrea edulis* L.	Whelk *Buccinum undatum* L.	Mussel *Mytilus edulis* L.	Limpet *Patella* sp.	Cockle *Cerastoderma edule* C.	Other
SH 1	4	–	–	–	–	–
SH 2	1	–	–	–	–	–
SH 3	–	–	1	–	–	–
SH 4	3	–	–	–	–	–
SH 5	–	1	–	–	–	–
SH 6	1	–	–	–	–	–
SH 7	3	–	–	–	–	–
SH 8	1	–	–	–	–	–
SH 9	–	–	–	1	–	–
SH 10	–	4	–	–	–	–
SH 11	7	–	–	–	–	–
SH 12	–	–	–	–	–	1[1]
SH 13	–	–	4	–	–	–
SH 14	6	–	–	–	–	–
SH 15	2	–	–	–	–	–
SH 16	6	–	–	–	–	–
SH 17	–	–	–	–	1	–
SH 18	–	–	1	–	–	–
SH 19	–	–	–	–	–	1[2]
SH 20	6	–	–	–	–	–
SH 21	–	–	1	–	–	–
SH 22	7	–	–	–	–	–
Total	**47**	**5**	**7**	**1**	**1**	**2 = 63 Overall**

[1]*Gryphaea* sp. (fossil) [2]*Cepaea nemoralis*

Table 5. *Distribution of oyster shells.*

Type of deposit		Total number recorded	Density (number/ cu. ft)	Approximate estimated total in deposit	type of deposit	all deposits	Approx. total minimum no. of individuals
Occupation levels							
interior		4					
exterior		13			(17)		
Drainage ditches							
Site 1	F 21	1					
	F 69	715	27	1630			
	F 70	695	19	1240			
	F 71	78	15	440	3310		
Site 2	F 3	6					
	F 5	7			(13)		
Rubble levels		19			(19)		
Other		6			(6)	3365	1680

peacock seems to be one of only two records for these sites, the second being four peacock bones from fourth-century levels at Portchester Castle (Eastham 1975: 409–15). The peacock is the most important as it appears in Roman art, e.g. on mosaics, and in Roman mythology. The scarcity of peacock remains on other Roman sites might indicate that Great Staughton Villa was a place of some special significance.

The wild birds in this collection are all well-known game. Quail is a summer migrant to this country but the plover and ducks are more likely to have been taken in autumn or winter when they come together in large flocks.

Shells

By P.R. Payne & L. Biek

A large number of specimens (1560) was recovered by the excavator. Nearly all of them, 1544, were oyster shells: 1497 of these, i.e. nearly 97%, were discarded on site, the rest being submitted as a sample for identification and examination, along with a total of 16 recovered specimens of other species.

The main interest lies in the quantities and distribution of oyster shells. As might be expected, almost all of them were found in the ditches. Only 17 came from occupation levels and 25 from rubble layers; the rest were recovered from specific layers in ditch fillings, as shown below. The two major deposits, from Features 69 and 70 show shell densities of the same order over the volumes of ditch excavated, and a similar density is also encountered in the short excavated stretch of a smaller ditch (Feature 71) that apparently connected the two larger ones. Between them these three drainage ditches served the whole of the west frontage of the villa. A comparable stretch of small ditch (Feature 21, to the north) produced one shell, and only four others were found in occupation levels outside the north frontage.

All these features had to remain unexcavated to some extent for varying reasons, but their approximate total volumes of significant deposit can be assessed with some confidence. From these data their total probable shell content has been estimated as well over 3000, more than 98% of these being concentrated in the western drainage ditches. Even when halved to allow for the bivalve factor this still leaves a minimum total of nearly 1700 oysters in a very short-lived deposit.

About half the available shells gave significant measurements of maximum length and the distribution for this (very small) sample is shown in Figure 17. No small shells were found

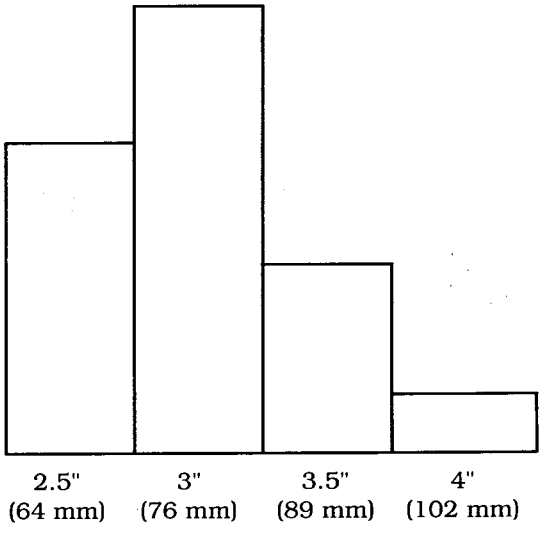


Figure 17. *Oyster shells: distribution of maximum length.*

and the single largest one was 4 in (100 mm) long. The nearest sea shore to the site is some 100 miles away along a tortuous river course. To deliver, however rarely, the estimated quantities of oyster in a fresh enough condition (possibly in barrels containing sea water) must have been a considerable undertaking. The fact that it was evidently carried out lends further support to the other evidence from the finds (e.g. the peacock and coins) which suggests that this was in some way an unusual important establishment.

Charcoal

Identification by G.C. Morgan
Supplementary data* by F. Richardson & Dr C.R. Metcalfe, Royal Botanic Gardens, Kew
Figures in brackets indicate multiple sample; Q = 'a quantity'

Site 1

Room 2, Layer 3

CH 4: (4) Oak, *Quercus* sp..
CH 5: (20) Elm, *Ulmus* sp., Hazel, *Corylus avellana.*

Room 3, Layer 3

CH 3: Hazel, *Corylus avellana.*
CH 9: Oak, *Quercus* sp..
CH 10: (5) Hazel, *Corylus avellana.*

Room 4, Layer 3

CH 11: (4) Hazel, *Corylus avellana.*

Room 4, Layer 4, Stake-hole 6

CH 12: Unidentifiable, possibly Willow.

Room 4, Stake-hole 17

CH 13: Oak, *Quercus* sp..

Room 5, West Exterior, Drain F.69

CH 15: (4) Hazel, *Corylus avellana.*

Room 6, West Exterior, Drain F.70

CH 17: Hazel, *Corylus avellana*, Willow, *Salix* sp..
CH 18*: Probably *Sorbus* sp..

Room 6, F.73 (?Iron Age)

CH 19: (6) Hawthorn, *Crataegus* sp..

Room 1, Exterior, Layer 2

CH 1: Oak, *Quercus* sp..

North Exterior, Layer 3

CH 6: (4) Hazel, *Corylus avellana.*
CH 7: Hazel, *Corylus avellana.*
CH 8*: *Acer* sp., probably 'Field Maple'.

Grid 2, Layer 2

CH 2: Hazel, *Corylus avellana.*

North–South Baulk, Layer 3

CH 14: Willow, *Salix* sp..

Site 2

Room 3, Fill of Hypocaust Flue Channel

CH 22: (Q)
a)* Probably a species of *Prunus*, such as *P. domestica* (Blackthorn).
b)* Probably 'Spindle' (*Euonymus europaeus*).
c) Oak, *Quercus* sp..
d) Hazel, *Corylus avellana.*

Room 11, Fill of Furnace Flue

CH 21: (Q)* Probably Hawthorn (*Crataegus* sp.).

Northwest Exterior, Layer 3

CH 20: (7)* Probably a species of *Sorbus*.

Discussion

By Dr D.F. Cutler

All these specimens came from small twigs or branches of diameter up to 2 in (50 mm), except for CH 1, 4, 5, 8 and the oak from CH 22. It seems that the oak may well have formed structural members, probably the roof. Spindle and *Sorbus* wood were both native before the Roman period. Spindle (very hard) was used for pegs and spindles and made good charcoal. *Sorbus* spp. include whitebeam and mountain ash. Both are decorative trees. The former's leaves appear 'white' on the underside, giving distinctive effects when windblown; the wood is also 'white' and could be employed decoratively though similar woods are more easily available.

Slags

Residues from High-temperature Events

By L. Biek & P.R. Payne

Thirteen groups (24 specimens) were examined under the microscope with the results shown below. All the material has passed through fires at elevated temperatures (*c.* 1000°C or more). Group 1 represents residues from specific ironworking operations. All were found, with charcoal, in the same area, but there is too lit-

Table 6. *The slags (all from Site 1).*

Site Ref.	Context	Group	Description	Interpretation
SL 1 SL 6 SL 8 SL 9	Grid 2, L2 Ext., North, L3 Ext., North, L3 Ext., North, L3	1	Heavy brown, slightly porous, part-cindery masses, once in fluid state, non-magnetic, except SL 9.	Various forms of iron smithing residue.
SL 2 SL 5 SL 12	Room 3, L2 Ext., North, L3 U/S	2	Light, part-calcareous lumps containing sand, fluxed on at least one surface to pale green transparent glassy coating.	Mixture of sand and (at least in one case) lime, possibly a fluxed mortar; exposed to high temperature in contact with wood ash/fire.
SL 7 SL 10 SL 11	Ext., North, L3 Room 4, L3 Room 4, L3	3	Greyish-white clinkery fragments overall, with more or less grey and black opaque glassy areas, vesicular with white calcareous and 'cracked flint' inclusions.	Calcareous sandstone fragments and/or similar, exposed to fire as Group 2. SL 10 & 11 identical. Probably fused tesserae.
SL 3 SL 4	Room 2, L2 Room 2, Ext., L2	4	More or less distorted and corroded copper-green coloured fragments of metal, mostly showing signs of having been cooled quickly from the molten (softened) state.	All of these, but especially SL 4, found with coin hoard, could represent effects of a fire on some coins.

tle material, and no hearth to permit further deductions. A major iron smelting complex has been excavated at Wakerley (*c.* 25 m/40 km NNW: Pacitto *et al.* 1978) and there are several others in the area (Jackson 1979; 1982; Jackson & Tylecote 1988). The supply of local good-quality wrought iron would have been no problem; but the smithing operations indicated were most likely repairs or alterations to existing objects, rather than production of anything more elaborate than nails. Groups 2 and 3 are related to each other. Both could have been formed incidentally during a fire. Alternatively the necessary temperatures would have been reached in a hypocaust stoke-hole rather than in a cooking fire. The most likely interpretations are suggested in Table 6.

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References

ARTIS, E.T. 1828. *The Durobrivae of Antoninus, Identified and Illustrated in a Series of Plates Exhibiting the Excavated Remains of that Roman Station in the Vicinity of Castor, Northants.*. London.

ASBY, T. 1905. Excavations at Caerwent, Monmounthshire, *Archaeologia* 59(2): 289–310.

BECATTI, G. 1961. Scavi di Ostia IV. *Mosaici e Pavimenti Marmorei.* Rome.

BIEK, L. 1963. *Archaeology and the Microscope.* London.

BLAKE, M.E. 1936. *Memoirs of the American Academy in Rome.*

BOON, G.C. 1962. The Roman temple at Brean Down, Somerset, *Numismatic Chronicle* 1:191–7.

BRITISH GEOLOGICAL SURVEY. 1950. Huntingdonshire XXV NW.

BUCKMAN, J. & C.H. Newmarch. 1850. *Illustration of the Remains of Roman Art in Cirencester.* London.

BUSHE-FOX, J.P. 1949. *Fourth Report on the Excavations of the Roman Fort at Richbrough Kent.* (Research Report of Society of Antiquaries 26.) London.

CARSON, R.A.G., G.F. Hill & J.P.C. Kent. 1960. *Late Roman Bronze Coinage,* pts 1 & 2. London.

CHARLESWORTH, D. 1959. Roman glass in Northern Britain, *Archaeol Aeliana* Ser. 4, 37: 35–58.

CLARK, J.G.D. & C.I. Fell. 1953. The early Iron Age site at Micklemoor Hill, West Harling, Norfolk, and its pottery, *Proceedings of the Prehistoric Society* 19: 1–40.

COLES, J.M., B.J. Orme, J. May & C.N. Moore. 1979. Excavations of Late Bronze Age or Iron Age date at Washingborough Fen, *Lincolnshire History and Archaeology* 14: 5–10.

CORDER, P. 1951. *The Roman Town and Villa at Great Casterton, Rutland,* 1st interim. Nottingham.

CORDER, P. 1954. *The Roman Town and Villa at Great Casterton, Rutland,* 2nd interim. Nottingham.

DAVEY, N. & R. LING. 1982. *Wall-painting in Roman Britain.* London.

EASTHAM, A. 1975. The bird bone, in Cunliffe, B., *Excavations at Porchester Castle,* 1: *Roman*: 409–15. (Research Report of the Society of Antiquaries 32.) London.

FISHER, J. 1966. *The Shell Bird Book.* London.

FOCK, J. 1966. *Metrische Untersuchungen an Metapodien einiger europäischer Rinderrassen.* Munich: Diss.

FOWLER, W. 1796–1818. *Engravings of the Principal Mosaic Pavements* no. 3.

FREMERSDORF, F. 1939. Erzeugnisse Kölner Manufakturen in den Funden vom Kastell Saalburg und Zugmantel, *Saalburg Jahrbuch* 9: 6–22.

GREENFIELD, E. 1959. Note on the villa at Great Staughton, *Journal of Roman Studies* 49: 118.

GREENFIELD, E. 1960. Note on the villa at Great Staughton, *Journal of Roman Studies* 50: 224–5.

HARDEN, D.B. 1960. The Wint Hill hunting-bowl and related glasses, *Journal of Glass Studies* 2: 45–81.

HARDEN, D.B. 1961. Domestic window-glass, Roman, Saxon, and medieval, in Jope, E.M. (ed.), *Studies in Building History*: 39–63. London.

HARDEN, D.B. & J.C. Toynbee. 1959. The Rothchild Lycurgus cup, *Archaeologia* 97: 197–212.

HARTLEY, B.R. 1957. The Wandlebury Iron Age Hillfort, excavations 1955–6, *Proceedings of the Cambridge Antiquarian Society* 50: 1–27.

HOWE, M.D., J.R. Perrin & D.F. Mackreth. 1980. *Roman Pottery from the Nene Valley: A Guide.*) Peterborough City Museum Occasional Paper 2.) Peterborough.

HULL, M.R. 1958. *Roman Colchester.* (Research Report of the Society of Antiquaries 20.) London.

ILLINGWORTH, C. 1810. *A Topographical Account of the Parish of Scampton.* London.

JACKSON, D.A. 1975. An Iron Age site at Twywell, Northants, *Northants. Archaeology* 17: 31–93.

JACKSON, D.A. 1977. Further excavations at Aldwincle, Northants, *Northants. Archaeology,* 12, 9–54

JACKSON, D.A. 1979. Roman ironworking at Bulwick and Gretton, *Northants Archaeology* 14: 31–7.

JACKSON, D.A. 1982. Great Oakley and other Iron Age sites in the Corby area, *Northants. Archaeology* 17: 3–23.

JACKSON, D.A. & R.F. TYLECOTE. 1988. Two new Romano-British ironworking sites in Northamptonshire — a new type of furnace?, *Britannia* 19: 275–98.

JACKSON, D.A., L. BIEK & B.F. BIX. 1973. A Roman lime kiln at Weekley, Northants., *Britannia* 4: 128–40.

JOHNS, C. 1981. A gold votive leaf and a bust of Minerva from Stonea, in Potter, T.W., The Roman occupation of the Central Fenland, *Britannia* 12: 101–4.

JOYCE, J.G. 1881. Account of further excavations at Silchester, *Archaeologia* 44: 329–43.

KENYON, K.M. 1950. Excavations at Breedon-on-the-Hill, Leicestershire, 1946, *Transactions of the Leicester Archaeological Society* 26: 17–82.

LIVERSIDGE, J. 1984. The painted wallplaster, in Frere, S.S., *Verulamium Excavations,* vol. 3: 115–40. (Oxford University Communications in Archaeology, Monograph 1.) Oxford.

LLOYD NICHOLS, W. 1836. *Description of the Roman Villa Discovered at Newton St Loe.*

LYSONS, S. 1797. *An Account of Roman Antiqui-*

ties Discovered at Woodchester in the County of Gloucester. London.

LYSONS, S. 1813. *Reliquiae Britannico — Romanae* 1, pt 4. London.

LYSONS, S. 1817. *Reliquiae Britannico — Romanae* 2, pt 2. London.

MANNING, W.H. 1976. *Catalogue of Romano-British Ironwork in the Museum of Antiquities of Newcastle-upon-Tyne.* Newcastle-upon-Tyne.

MATTINGLY, H., C.H.V. SUTHERLAND & R.A.G. CARSON. 1951. *Roman Imperial Coinage* 9. London.

MEATES, G.W. 1987. *The Lullingstone Roman villa,* vol. 2: *The Finds.* (Kent Archaeological Society Monograph 3.) Maidstone.

MEATES, G.W., E. GREENFIELD & E. BIRCHENOUGH. 1950. The Lullingstone Roman villa, *Archaeol. Cantiana* 63: 1–49.

NEAL, D.S. 1981. *Roman Mosaics in Britain.* (Britannia mono. ser. 1.) London.

NEAL, D.S. Forthcoming. Bancroft.

NEAL, D.S., A. WARDLE & J. HUNN. 1990. *Excavations of the Iron Age, Roman and Medieval Settlement at Gorehambury, St Albans.* (HBMC Archaeological Report 14.) London.

PACITTO, A.L., R.F. TYLECOTE & L. BIEK. 1978. The ironworking features: 151–66, in D.A. Jackson & T.M. Ambrose, Excavations at Wakerley, Northants. 1972–5, *Britannia* 9: 115–242.

PEARSON, G.W. & M. STUIVER. 1986. High-precision calibration of the radiocarbon time-scale, 500–2500 BC, *Radiocarbon* 28: 839–62.

PITT-RIVERS, A.H.L. 1887. *Excavations in Cranborne Chase,* 2. London.

PRYOR, F. 1984. *Excavation at Fengate, Peterborough, England: the Fourth Report.* (Northants. Archaeological Society Monograph 2.) Northants..

RIVET, A.L.F. (ed.). 1969. *The Roman Villa in Britain.* London.

ROOK, A. (Tony). 1978. The development and operation of Roman hypocausted baths, *Journal of Archaeological Science* 5: 269–82.

SAVILLE, A. 1981. Iron Age flintworking — fact or fiction, *Newsletter of the Lithic Studies Society* 2: 6–9.

SINGER, R. 1958. The Boskop 'Race' problem, *Man* 58: 173–8.

SMITH, D.J. 1969. The mosaic pavements, in Rivet, A.L.F. (ed.): 71–125.

SMITH, D.J. 1975. Roman mosaics in Britain before the fourth century, in Stern, H. & M. Le Glay (eds.), *La Mosaique Gréco-Romaine* 2: 296–9. Paris.

SMITH, D.J. 1978. Regional aspects of the winged corridor villa in Britain, in Todd, W. (ed.), *Studies in the Romano-British Villa*: 117–47. Leicester.

SMITH, D.J. 1984. Roman mosaics in Britain: a synthesis, in Farioli Campanati, R. (ed.), *11 Mosaico Antico*: 357–80. Ravenna.

SMITH, J.T. 1964. The Roman villa at Denton, *Lincolnshire Architectural and Archaeological Society Reports and Papers* 10: 7–104.

STUIVER, M. & G.W. PEARSON. 1986. High-precision calibration of the radiocarbon time-scale, AD 1950–500 BC, *Radiocarbon* 28: 805–38.

SUTHERLAND, C.H.V. & R.A.G. Carson. 1967. *Roman Imperial Coinage* 4. London.

TOYNBEE, J.M.C. 1962. *Art in Roman Britain.* London.

TOYNBEE, J.M.C. 1978. A Londinium votive leaf and its fellows, in Bird, J., H. Chapman & J. Clark (eds.), *Collectanea Londiniensia*: 129–47. London.

VICTORIA COUNTY HISTORY. 1902. *A History of the County of Northamptonshire,* 1. London.

VICTORIA COUNTY HISTORY. 1907. *A History of Leicestershire,* 1. London.

VICTORIA COUNTY HISTORY. 1910. *A History of Nottinghamshire,* 2. London.

VICTORIA COUNTY HISTORY. 1939. *A History of Oxfordshire,* 1. London.

WEBSTER, G. 1950. A Romano-British burial at Glaston, Rutlandshire, 1947, *Antiq. J.* 30: 72–3.

WHEELER, R.M. & T.V. WHEELER. 1932. *Report on the Excavation of the Prehistoric, Roman, and Post-Roman Site in Lydney Park, Gloucestershire.* (Research Report of the Society of Antiquaries 9.) London.

WHEELER, R.M. & T.V. WHEELER. 1936. *Verulamium, a Belgic and Two Roman Cities.* (Research Report of the Society of Antiquaries 11.) London.

WILLIAMS, D.F. 1977. The Romano-British Black Burnished Ware industry: an essay on characterisation by heavy mineral analysis, in Peacock, D.P.S., *Pottery and Early Commerce: Characterisation and Trade in Roman and Later Ceramics*: 163–220.

YOUNG, C.J. 1977. *Oxfordshire Roman Pottery.* (British Archaeological Report 43.) Oxford.

The Anglo-Saxon Bounds of Littlebury

Mary Hesse

Littlebury, Essex, which is just across the Cambridge border at Ickleton (Map 1), has one of the few surviving pre-Conquest charters in the Cambridgeshire region which includes perambulation bounds. The Latin charter, purporting to date from 1004, records the grant by King Æthelred to Ely Abbey of 20 *manses* (hides) at Littlebury, with meadow, pasture and woods. In 1008 Ely received a further 10 *cassati* (hides) at Stretley, and since the bounds in the twelfth-century copy of the 1004 charter include 'Stretley Mere', it seems that the original account of the bounds must date from 1008 or later.[1]

Littlebury takes its name from the Iron Age 'Ring fort' or 'bury' in its southeast corner near the Essex River Cam. Strethall and Stretley are respectively a woodland 'nook' (OE **h(e)alh**) and 'clearing' (OE **léah**) on the Roman road from Chesterford to Braughing (Reaney 1935: 530, 535; Margary 1973: 200, no. 21b).[2] The parishes of Littlebury and Strethall lie on hilly land between the Essex Cam on the east and the valley of its tributary 'Sawston Ditch' to the northwest, and rise to 400 ft towards the western boundary. Most of the area west of the Cam-valley gravels is chalk downland, but clay is superimposed in the southwest, where there are still remnants of what must once have been extensive woodland (Map 2). The village of Littlebury lies beside a Cam crossing, but from early times there has been much dispersed settlement on the clay top around Littlebury Green, Catmere End, Chapel Green and Strethall itself. All these lie at or near the clay/chalk boundary and probably originated from assarting in the woodland (Williamson 1986).

The first mention of Littlebury in extant records is in the Will of the thegn Ælfhelm Polga (Birch 1893: 629; Hart 1957: no. 25), who was a substantial landholder in Cambridgeshire, Essex and Suffolk, and who died in 989. This Will mentions land in Wratting, Carlton, Enhale (in West Wickham) and Ickleton, all of which are in southeast Cambridgeshire, as well as land in Littlebury which is bequeathed to one Leofsige. Ælfhelm had received land at Wratting from King Edgar in 974 (Hart 1966: 44), and willed it, or some of it, to Ely. It seems likely that Littlebury had originally also been in royal hands during the tenth century.[3] It can be argued that after Edward the Elder's reconquest of Essex and Cambridgeshire in 917, it was in the royal interest to keep close control over this strategic area between the Chiltern watershed and the east–west routes of the 'Icknield Way'. In any case, by 1004 Littlebury was in the hands of King Æthelred. This was at a time of threat from King Swein's Danish armies both in Norfolk and southeast England, and the grant to Ely was possibly part of a policy of placing relatively local lords, who were both loyal and strong, in control of vulnerable areas of the southeast (Blair 1992: 107).

Domesday Book for Essex records that Littlebury has 'always been' held by Ely Abbey as a manor for 25 hides (folio 19a), with Strethall as an outlier held by Ely for 5 hides (19a,b). Both were apparently in the sole ownership of Ely throughout the eleventh century. The sequence of events from 1004 to 1066 seems to be this: in 1004, 20 hides at Littlebury were given to Ely, then in 1008 another 10 hides at Stretley were given, making up 30 hides in the Littlebury/Strethall manor. Then before 1066 the extra 10 hides were split

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Map 1. *The Cambridgeshire/Essex border.*

into two lots of 5 hides, of which 5 went to the parish of Strethall at the northwest corner of Littlebury.[4] The other 5 hides are to the south of Strethall around Stretley Green (now also called Littlebury Green), and helped to make up the 25 Domesday hides of Littlebury (Reaney 1935: 530). Establishment of this sequence is important for understanding the bounds, because it opens up the possibility that in 1008 the bounds *included* Stretley (Green), but *excluded* Strethall.[5] We know that the bounds must be dated after 1008, because 'Stretley' was not granted to Ely until then, but we do not know whether they date from before or after the division of 'Stretley' from the outlier 'Strethall' and its incorporation into Littlebury. The possibility that the bounds exclude Strethall will be considered below.

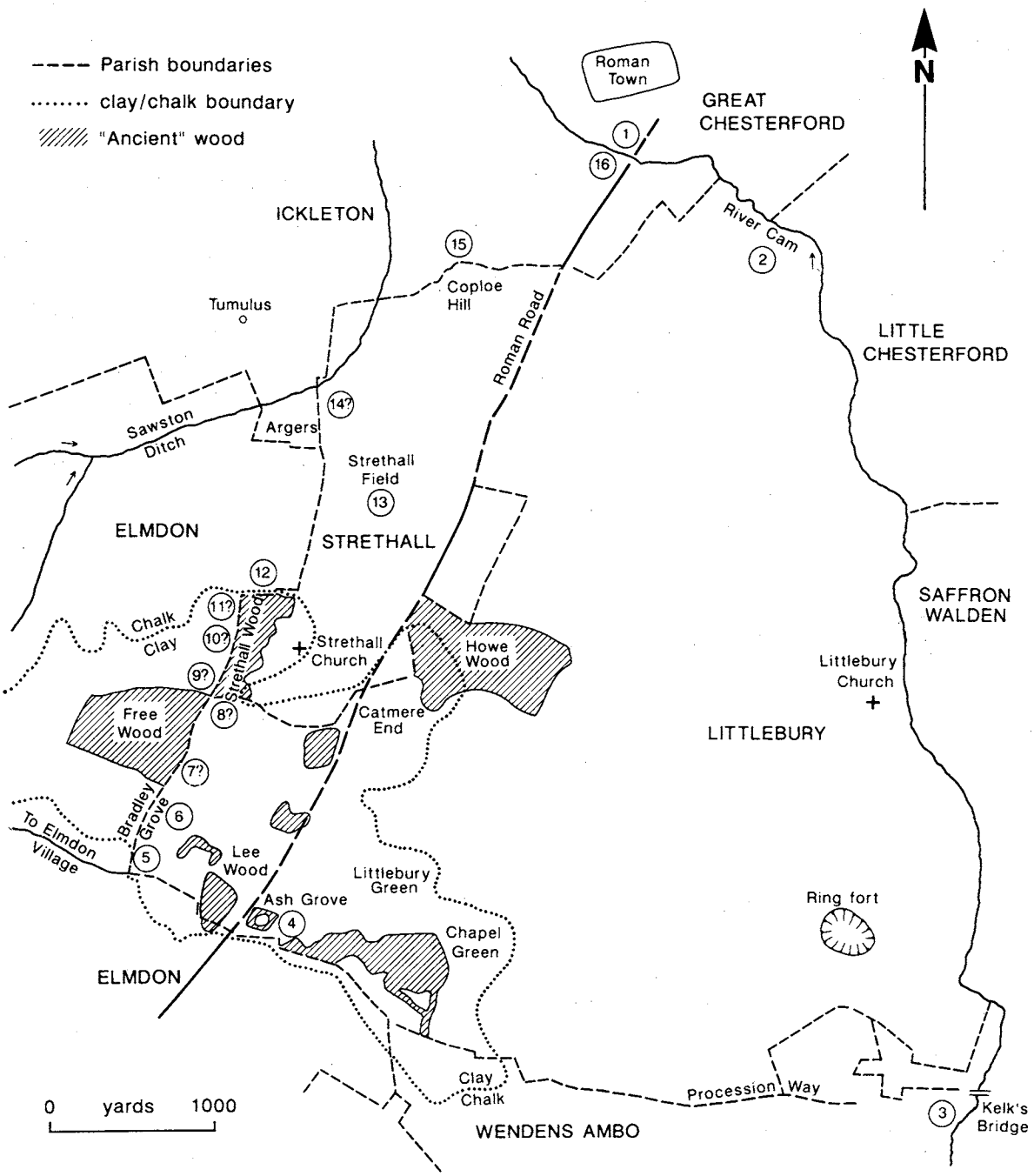
Dr Meaney has kindly supplied the following translation of the Anglo-Saxon text (Sawyer 1968: 907), with notes (i) to (v). (Numbers of the charter features **1** to **16** are marked on Map 2):

1. These are the boundaries of Littlebury, that is first from
Ðis syndan þa landgemera into Lytlanbyrig, þæt is ærest of

the ford which is Æthelward's boundary (i) of Chesterford
of þam forde þe is Æþelwardes Ceasterforda gemera

and the boundary of Icklington and
and Ikelingtune gemera and

the boundary of Littlebury [and]
Lytlanbyrig gemera;



Map 2. *The Littlebury and Strethall perambulation; clay/chalk boundary as in the 1884 1-inch Drift Map.*

2. then along the Styric[6] (Cam)
swa andlang Styrice

3. as far as the narrow ford;
into þam smalanforda;

4. from the narrow ford to Stretley Mere (ii);
of þam smalan forda to Streleage mere;

5. to *crocesthorn* (iii);
to crocesþorne;

6. from *crocesthorn* along Robber (iv) Valley
of crocesþorne andlang sceacerdene

7. as far as the old pit (v);
into þere ealdan delle;

8. from the pit as far as the fence;
of þere delle into þam hæcce;

9. as far as the wolf-pit;
into þam wulfpytte;

10. from the pit to the southern part of Botulf's Corner Wood;
of þam pytte to Botulfes heale leage suðwearde;

11. from the wood as far as Wullaf's Wood;
of þere leage into Wullafes leage;

12. from Wullaf's Wood along as far as Leofsie's pit;
of Wullafes leage andlang into Leofsies pytte;

13. from Leofsie's pit out to the open country
of Leofsies pytte swa ut to þam felda

14. as far as the old enclosure;
into þam ealdan gehæge;

15. from the enclosure as far as *Spelbeorg*;
of þam gehæge into Spelbeorhge;

16. from *Spelbeorg* as far as the Styric at the
of Spelbeorhge into Styrice on

boundary of Icklington and the boundary of Chesterford
Icelingtune gemeræ and Ceasterforda gemeræ

and the boundary of Littlebury.
and Lytlanbyrig gemeræ.

Notes on translation

(i) These are formally plurals, but logic demands a singular, as at the end. Perhaps the correct plural ending of *landgemera* affected them.

(ii) The MS copy reads '*into þam smalanforda to Streleage mere of þam smalanforda to crocesþorne of crocesþorne* ...'. This must surely be erroneous. The most probable explanation is that an earlier transcriber accidentally missed out 'Stretley mere', wrote *to Streleage mere* (but omitting *of Streleage mere*) between the lines, putting a caret mark to show where it should be inserted, but misplacing the caret after the first *þam smalanforda* instead of the second.

(iii) Dr Gelling (personal communication) comments: 'Smith (1956, pt I: 112) postulates OE ***crōc** cognate with ON **krókr**, but *crook* (crook, bend) words are recorded rather late in ME'. The name is therefore unexplained.

(iv) *sceacer* is undeclined; perhaps *-es* for a genitive singular or *-a* for a genitive plural should be assumed; probably *sceacerdene* means 'Robber Valley' rather than 'Robber's' or 'Robbers' Valley'.

(v) It seems likely that *dell* here was a man-made object because of the qualifying adjective 'old'. Grundy (1927: 240–41) has attempted to show that it was formerly used of 'a chalk pit' (but see p.134, **12**, below) It is interesting that Smith (1956, pt I: 128) gives *dell* a localised distribution, almost exclusively Hampshire in OE, but in and around Hertfordshire later.

The Perambulation

Reaney (1935: 530) identified very few points of the boundary, but by close investigation of extant maps and documents, and by perambulation of the ground, it is possible to identify some of them and to locate the rest to a close approximation. Confirmation is provided of the hypothesis that the later parish boundary of Littlebury with Strethall follows the Saxon bounds quite closely, as is the case with almost all the many charter bounds that have been investigated. It is hoped also that this investigation will throw some light on the curiously irregular parish and county boundary between Strethall and Ickleton in Cambridgeshire. The following numbered paragraphs correspond with the charter features noted on Map 2.

1. The bounds begin where the boundary of Ickleton and Littlebury meets the river at Great Chesterford, and proceeds clockwise. The starting point is presumably at the main ford of Chesterford, where the line of the Roman road from Braughing crosses the river to enter the southeast gate of the Roman town (TL503427). The Ickleton/Littlebury boundary has been changed since then, and was more or less in its present form by the time of an Ickleton terrier of 1545,[7] indicating an encroachment by Ickleton (and therefore by Cambridgeshire) of about 40 acres south of the Roman road.

2, 3. The *Styrice* and 'narrow ford'. The bounds

then follow the river Cam, anciently the *Styrice*, for about 4 miles to the 'narrow ford'. This was probably to the south of what is now the Audley End estate, near where the present parish boundary turns to the west. There was a bridge here called Kelks or Kekys Bridge (TL521369) certainly by 1400,[8] and in 1788 it is shown as the start of what was then called the 'Procession Way' going west from the river.[9] The present parish boundary is now confused near the river by incursions from Saffron Walden[10] and Wendens Ambo, but it seems likely that it originally took a straighter course than now from a crossing at or near Kelks Bridge.

4. Stretley Mere. About half-a-mile from the river the present parish boundary takes up a westerly direction along the 'Procession Way' to Stretley Mere. This is surely the substantial pool still present in Ash Grove (TL483383), which is part of the wooded clay area of Littlebury Green (identified by Reaney 1935: 530, with Stretley Green) where the present parish boundary makes a slight detour round the south of Ash Grove.

5. *Crocesthorn.* After crossing the Roman road the present boundary continues the previous line through Lee Wood and along old hedgerows as far as the southwest corner of the parish, where it makes a right-angled turn to the north (TL472391). In Chapman and André's Map of Essex, 1777, the route is shown as a track as far as the turn, and this track continues along the contours of a south-facing valley into Elmdon parish as far as Elmdon village. The whole route from the Cam to Elmdon village forms a remarkably continuous slightly curving boundary of nearly 4 miles.[11]

It is reasonable to assume that the bounds needed a marker at the northward turn, and that this was *crocesthorn*. The hedgerows around this corner contain plentiful blackthorn and also spindle, an indicator of an old hedge (Rackham 1976: 2). This is the point at which the drift map shows the perambulation route crossing from chalk to the clay uplands, which are still heavily wooded (see Map 2).

6. 'Robber Valley'. The present parish boundary follows an old hedgerow and Bradley Grove on the east side of a shallow side-valley, up to the edge of Free Wood. This may be identified as 'Robber Valley'. The shapes of the present woods around here suggest that they once extended north and east of Free (earlier Frith) Wood, and indeed field names at Inclosure in 1805 include 'Old Burnt Ground', 'Brand's Lea' and 'New-found Mead' to the east of Free Wood.[12]

Rackham (1976: 114) considers that straight-edged woods in this region probably result from post-1700 assarts intruded into the previously curved boundaries of old woodland. But this does not necessarily mean that the remaining woods are 'ancient' in the sense of prehistoric. Williamson (1986: 125) has found evidence of Roman occupation in the fields to the east of Free Wood, suggesting that after early clearance they reverted to wood in the post-Roman period.[13] By 1066 Domesday Book shows that vills situated mainly on the clay top had a large amount of woodland compared with their neighbours which are mainly on chalk: Littlebury had wood for 160 pigs (19a), Elmdon for 250 (33b), and Wendon Lofts for 80 (71a), whereas Wendens Ambo (38a, 65a) and Ickleton (196a) had no wood, and Strethall had wood for only 10 pigs (19b). Another indicator of the age of several woods of the boundary area is the presence of dog's mercury in abundance in all the fragments of woodland remaining in the area and their associated hedges (some of the woodland has unfortunately recently been grubbed out). Perhaps Robber Valley too was heavily wooded in the eleventh century, and provided convenient cover for robbers on the parish boundary.

Subsequent features of the bounds refer to 'pits', 'woods' and a 'fence' now impossible to locate in detail. But as far as the feature (No. **13** on Map 2) called *feld* or 'open country' it is likely that the route remained within or alongside the woods, as does the present parish boundary.

7. The 'old pit'. It is suggested in note (v) to the translation that this *dell* is man-made, and is probably a chalk pit. It is impossible to locate it exactly, but as it follows 'Robber Valley' in the bounds, it is likely to be on the clay top, north of the chalk/clay line. It is not clear whether in this area it would be a chalk pit for fertilising clay fields, or a clay pit for marling chalk fields.[14] The Inclosure map for Elmdon (1824/5) does however show 'Bradley's Hole' in the fields on both sides of the parish boundary at the chalk/clay line here (at the present Bradley Grove). It is possible that holes or pits at this line are naturally formed by water flowing off the clay into the dry chalk valley, where it runs through to harder chalk below, and dissolves the softer

chalk, leaving an underground channel.[15] In this case the 'old pit' would hardly be man-made, but perhaps it was exploited for production of fertiliser.

8. The 'fence' may be at the southern edge of what is now Strethall Wood (TL480396). This is the parish boundary of Strethall, and was probably the eleventh-century boundary between the 5 hides of Strethall and the 5 hides of Stretley Green.

At this point we must reintroduce the possibility mentioned earlier, that the eleventh-century bounds exclude the parish of Strethall. If they follow the present southern boundary of Strethall, they would turn east here to the present Strethall village and then north along the western edge of Howe Wood to the Roman road. Notice that the southern boundary of Strethall remains on the clay top until it reaches Howe Wood, and may therefore be assumed to have continued through a wooded area. The western boundary of Strethall, going north at the west of Strethall Wood, also lies on the clay, so there is little hope of distinguishing the two routes by means of the next few features. Better possibilities of deciding between them will emerge later.

9. 'The wolfpit' is impossible to locate. It is probably a wolf-trap rather than a wolf-den.

10, 11. 'Botulf's Wood' and 'Wullaf's Wood'. These might be anywhere within the clay top, from the present Strethall Wood across to Howe Wood, depending on which route the perambulation took.

12. 'Leofsie's pit'. The bounds suggest that this is located near the northeastern edge of the clay/chalk line, just before the 'open country', which is on chalk and may have been arable land in the early eleventh century as it was later. If so, the pit is possibly a clay pit used to fertilise the nearby chalky fields. Or it may have been a chalk pit like several others on the chalk area to the north, some of them mentioned in the 1545 terrier of Ickleton, and some still marked on modern maps. These may have been used for building rather than agriculture.

13. The *feld*. From Leofsie's pit the route emerges from the woods into the open country and on to the chalk. The whole of the north of Strethall parish remained as an area of 'open field' for a remarkably long time and was still divided into arable strips at the time of the 6-inch OS survey of 1881.

Did the 1008 bounds go to the west or east of Strethall *feld*? The answer turns out to depend crucially on the whereabouts of the next two features, the 'old enclosure' and *Spelbeorg* ('Spelbury' or 'Speech-hill'[16]). The eastern Strethall/Littlebury boundary within the *feld* runs along or very near to the Roman road as far as the river crossing, and is on chalk downland throughout. There is no evidence for any enclosure across the chalk downland to the north. Nor is it likely that *Spelbeorg* lies along the Roman road, which traverses an east-facing slope before descending gently to the river. OE **beorg** can mean either 'hill', or 'mound' or 'barrow', and in any of these cases the name *Spelbeorg* suggests a prominent meeting place, such as a Hundred moot. There is no evidence along the Roman road for any site of this kind. The argument does not depend on negative evidence, however, since we shall see below that there is a better candidate for the **beorg** on the high ground at the northern boundary of Strethall. The easterly route for the bounds does therefore seem unlikely, and we will return to consider the westerly route.

14. 'The old enclosure'. The hypothesis that the last two features of the bounds are on the west and north of Strethall is, however, far from straightforward. In particular there is the curious rectangular incursion of Ickleton (and therefore of Cambridgeshire) into Essex to the northwest of Strethall, and the irregular boundary of Elmdon to the west (Map 3). The southern tongue of Ickleton lies on both sides of a valley well-watered by the brook called in the 1545 terrier 'Sawston Ditch'. In the terrier the tongue appears as a block of five shotts called *Awgey* or *Argey*,[17] totalling 84 acres. It was mostly divided into arable strips, except for 20 acres on its western side belonging to Hovel's manor. In 1545 large parts of 'Heath Field' and the westernmost portion of South Field were described as heathland, or land 'not known broke before'. The adjacent 20 acres of Hovel's Manor in Awgey were probably heathland in 1545, and possibly also at the time of the charter bounds (Map 3).[18]

The Domesday entries show Ickleton to have been a 20-hide vill effectively in single lordship (except for half a hide held TRE by a freeman under Earl Alfgar) (196a, 198a). The pre-Conquest holder was Alfi Squitrebil,[19] King Edward's thegn, and his successor was Count Eustace of Boulogne who held 19½

hides with 9 hides in demesne. Most of the vill then descended in the Honour of Boulogne, of which Robert Hovel acquired about 120 acres as Hovel's Manor in the 1220s (VCH 1978: 233). After the Dissolution most of South Field including Awgey became part of the Trinity College estate. In 1730 a Survey describes a strip along Sawston Ditch as 'the Meadow Platt', and in 1824 a shift-cropping plan shows fields on either side of the Ditch as Trefoil Ley and Clover Lay.[20]

'Awgey' therefore has a history as a well-watered enclave including both arable and meadow, and was certainly sufficient of an entity to have acquired a distinctive name by the sixteenth century. Is it the 'old enclosure' of the charter bounds? It is located correctly after the known position of the Strethall *feld* in the perambulation. Most of it was certainly held of Hovel's and other Ickleton manors in 1545, and there is no evidence of its having been transferred as a whole from Ely to the Ickleton manors, or from Essex to Cambridgeshire, at any time between the eleventh century and 1545.[21] So it is very likely that it had approximately its present shape as an intrusion from Cambridgeshire into Essex by 1100 at latest. Awgey, or part of it, therefore seems to be a possible candidate for the 'old enclosure'.

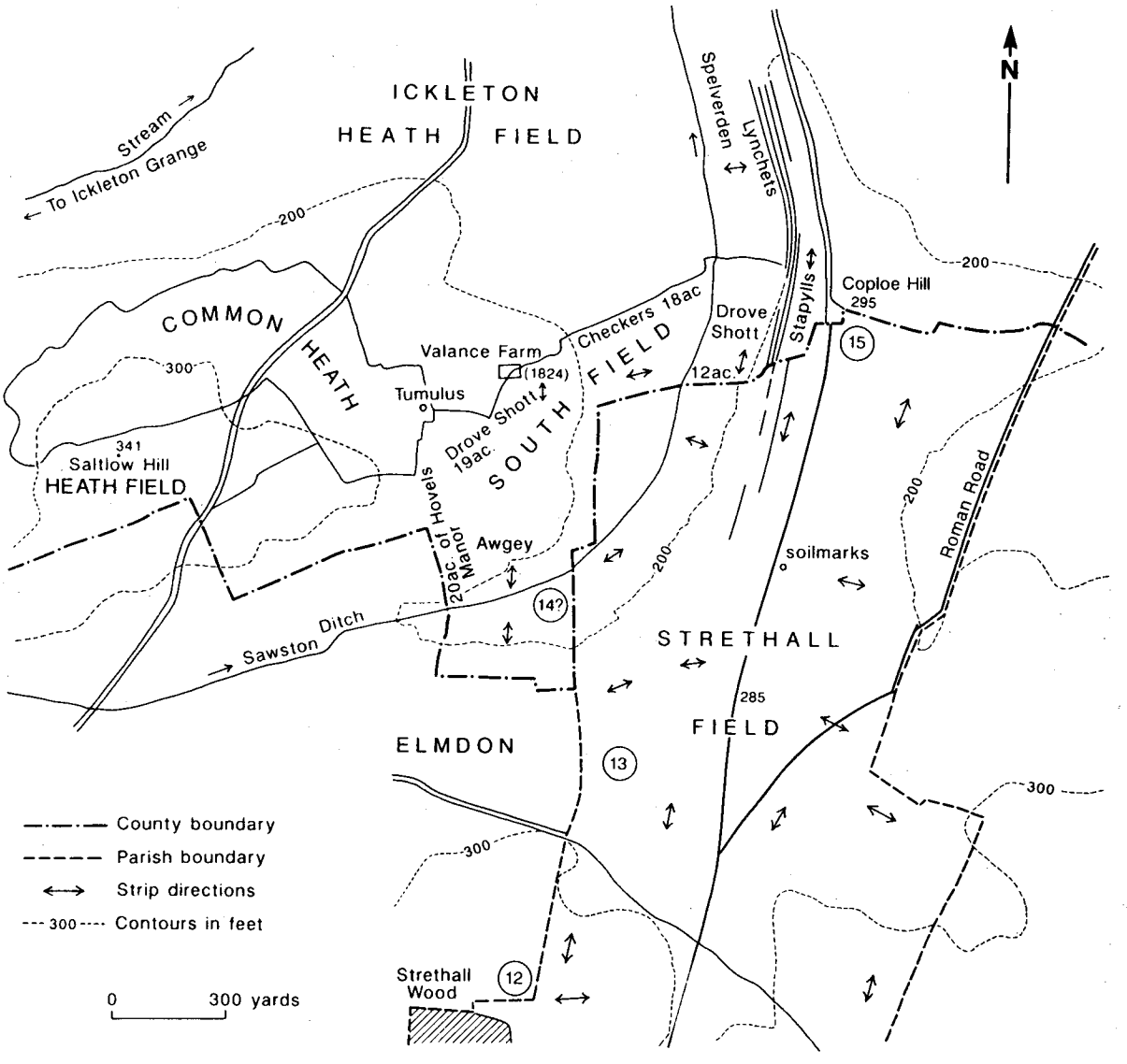
15. *Spelbeorg.* The exact course of the bounds in the northeast cannot be considered without raising the important question of the whereabouts of *Spelbeorg*. Is this a 'barrow' rather than a 'hill'? There is much evidence of barrows over the neighbouring chalk hilltops. For example, air-photographs show soil-marks of ring ditches on the 340 ft Saltlow Hill to the west of Awgey, and others at New Jersey Farm to the east of Elmdon near Strethall Wood. There are many more in the M11 corridor in north Littlebury.[22] The highest point of the road from Ickleton to Strethall, on the county boundary, is Coploe Hill (TL491421). OE **cop** is 'top' or 'summit', and **hlāw**, like **beorg**, can mean either 'hill' or 'barrow'. The nearby Copley Hill in Babraham, Cambs. (TL530531) does have a barrow at its summit (Fox 1923: 148). There is however no surviving field evidence of barrows on Coploe Hill on the Ickleton/Strethall border, although there is soil-mark evidence of ring-ditches about half-a-mile further south immediately to the east of Coploe road, at about TL492413.[23]

The most obvious of the round barrows in the present landscape is the tumulus adjacent to Valance Farm on the west side of Sawston Ditch (TL482418). This is certainly in a classic position for a Bronze Age barrow, on a conspicuous crest of Saltlow Hill. A segment of its surrounding ditch is still visible on air-photographs, but there seems to be very little evidence of its age, or of any finds connected with it.[24] It is not mentioned in any of the early terriers of Ickleton, and its first appearance in later documents seems to be in 1810, as a small circle on the Inclosure map, where it lies on the east side of the Common Heath just at its junction with Heath Field and South Field. It is perhaps not surprising that the tumulus near Valance Farm should have survived while barrows on Coploe Hill do not, since the tumulus is in an area that seems to have remained as heath for long periods, whereas Coploe Hill has been continuously cultivated from at least medieval times.

The Valance tumulus does not lie on the modern parish boundary, but it is interesting to speculate whether it is *Spelbeorg*. If it is, the boundary of Strethall in 1008 would seem to go due north from Strethall Wood to the west of Awgey, making an eastward turn at the tumulus, and joining the present boundary about 500 yds further on. This would certainly make a neater outline of the vill of Strethall, and would include most of Awgey as the possible 'old enclosure'.

Two sorts of argument are relevant to this possible route. The first arises from the pattern of landholding as far as this can be determined. If the Valance tumulus is *Spelbeorg*, and if the boundary is straightened up as suggested above, this would imply a radical transfer of the Awgey shotts from Ely to the Ickleton manors between the eleventh century and 1545, for which, as we have seen, there is no evidence. During this time Ely would also have had to lose about 85 acres south of Awgey to Elmdon, for which again there is no evidence.[25] Whether Awgey was part of Strethall in 1008 or not, however, does not affect the possibility that it was the 'old enclosure', along which the Saxon bounds went on one side or the other.

The second argument against the route to the west of Awgey depends on more positive evidence. In the 1545 terrier there is mention of two locatable furlongs, *Spelverden* and *Stapylls*. *Spelverden* (or *Spelforthdene* in its first known occurrence in 1431) is interpreted by Reaney (1943: 96) as 'Speechford-valley'. Topographical analysis shows this to be a furlong lying partly in the valley



Map 3. *The Ickleton/Strethall boundary. Pre-inclosure field systems reconstructed from the 1881 6-inch OS map and the 1545 Ickleton terrier.*

between Sawston Ditch and the substantial system of lynchet banks on the steep east side of the valley (Map 3).[26] Where the 'ford' was we do not know, but it will be suggested below that there was a drove road across the Sawston Ditch valley and over the hill to Chesterford, in which case there must have been a ford of the Ditch below Coploe Hill. The occurrence of both *Spelverden* and *Spelbeorg* suggests that the **beorg** was above the valley on one side or the other, marking a meeting point.

That it was in fact on the steep east side is supported by another locatable furlong-name in the 1545 terrier, *Stapylls*. This lies among and to the east of the lynch banks and extends south to the Strethall boundary. Reaney (1943: 187, 344) gives several Cambridgeshire variants of the OE element **stapol**, meaning 'post' or 'pillar', used to mark a boundary and sometimes a meeting-place. The element occurs in Cambridgeshire: in the name of Staploe (**stapol + hlāw**) Hundred (see Meaney 1994: 85); and in a field name *Stapylles* in Chippenham.[27] This etymology suggests that 'speech-hill' is located on the east side of 'speech-ford', beside the furlong called 'Stapylls' on the parish boundary. If this is the case, the tumulus near Valance Farm cannot be *Spelbeorg*, and the

hypothesis of an alternative boundary on the west side of Awgey is disproved.

Since *Spelbeorg* is on the Saxon boundary, it may be identical with Coploe Hill. There would then be two OE-based names for the same feature, but this is not necessarily an objection. There is no evidence for the name 'Coploe' before Court Rolls of 1431 (Reaney 1943: 95), so *Spelbeorg* has at least a 400-year advantage in extant documents. Or perhaps *Spelbeorg* was a prominent barrow on the same hill, but more to the west on the crest of the steep slope coming up from the Ditch. In any case, since *Spelbeorg* is the only feature to guide the perambulator of the Saxon bounds for some distance around Strethall Field, it must have been a prominent feature in the landscape.

Before reaching Coploe Hill, the perambulation had to climb the steep banks of the lynchets. These are now ploughed out at their southern end in Ickleton, but a similar field system is still shown on the 6-inch OS map of 1881 as continuing south for nearly half-a-mile into Strethall parish, where banks clearly form the boundaries of strip furlongs (Map 3). As it crosses the line of the lynchets up to Coploe Hill, the Ickleton/Strethall boundary is irregular, as if it is drawn round pre-existing field boundaries. This is not unusual, and implies detailed adjustment of parishes after local field boundaries were established. Close examination of the 1881 OS map shows also that the lynchets are not truly continuous across the boundary, but belong to different field systems. This confirms Taylor's contention (Taylor 1966) that such lynchets are not of great antiquity, but are contemporary with their accompanying field systems, and do not cross parish boundaries unless these have been subject to late alterations. In the present case the field systems and the irregular parish boundary were probably established contemporaneously along the steep hillside, which may formerly have been heathland. It is generally assumed that such field systems date from about the tenth century, so this boundary was probably in place before the date of the Saxon bounds.

The northern boundary of Strethall and Littlebury lies in an area that has always been a through route parallel to the broken edge of the Chiltern scarp. Several tracks of the 'Icknield Way' have been conjectured across this belt of land, one of which diverges from the Royston to Chrishall Grange ridgeway and makes for Ickleton Grange and Ickleton village, either on the north or south side of a tributary of the Cam (near the present straightened-up Grange Road).[28] There are two 'Drove shotts' in the 1545 Ickleton terrier, on either side of Sawston Ditch near the lynchets, abutting on the parish boundary. This suggests that another drove route may have diverged at Ickleton Grange, going over Saltlow Hill, crossing the Ditch near the present county boundary, and making its way to the Roman road and Chesterford. If this was a regular drove road, the lynchets certainly presented a formidable obstacle, and the shape of the present county boundary may well be due to a track following a sinuous course up the steep banks.

After Coploe Hill, the bounds presumably took the same course as the modern boundary, east along a spur to the Roman road at TL500421, and thence to the Cam at Chesterford. The road is still a well-marked hollow way along this stretch, but unfortunately much disturbed by the course of the M11.

The conclusion of this paper is, then, that apart from some possible later deviations around small fields at the margins, the 1008 Littlebury/Strethall bounds are substantially the same as at present. At the northern edge of Strethall the boundary may not have been defined in detail until a comparatively late date, but the Ickleton terrier shows that it had been established by 1545 at latest, and north of Strethall it seems to respect the strips of the open field system. At several stages of the argument it has been crucial to locate *Spelbeorg*, and the correctness of the suggested route in the east and north of the two parishes depends on the location of *Spelbeorg* near *Spelverden* and *Stapylls*, at or very near Coploe Hill. The second aim of the paper was to explain the curiously irregular shape of the county boundary in the north. The suggested explanation has been based on identifying Awgey with the 'old enclosure' of the bounds. If this is correct, then long before it got its name, Awgey was an assart (probably from Ickleton) in a fertile valley bounded by uncultivated heath on the margins between Cambridgeshire and Essex.

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Endnotes

[1] The 1008 charter bounds are printed in *Liber Eliensis*, p. 130, see also pp. 145–6 and 417. This version of the bounds is from the Trinity College Cambridge MS.O.2.1, fo.70^{rv}. Both the 1004 and 1008 charters (Sawyer nos. 907, 919) are known from later copies; the authenticity of the earlier is said by Hart (1957: no. 36) to be doubtful, but that of the later (Hart 1957: no. 41) is said not to be in doubt. In Latham (1965) *mansa* and *cassatus* are both given the possible meaning 'measure of land', glossed in the case of *cassatus* as 'hide'. See also Hart (1992: 289, n.1).

[2] The 'nook' is presumably the chalk valley between woods north of Strethall (Gelling 1984: 102; see Map 2). The bounds nowhere mention the Roman road. It is interesting that this road follows hardly any parish boundaries or surviving roads along its whole distance of 13 miles between Chesterford and Braughing, and passes near only one village centre. The north Chiltern hills and scarp were clearly a marginal area in Saxon times, and large sections of the road were probably already out of use, as they are now (Fox 1923: 288f.).

[3] In 1029 X 35, with the consent of Cnut, Abbot Leofsige of Ely settled a rent of two weeks food as due from Littlebury to Ely (*Lib.El.*: 153; Hart 1957: 46). The obligation of food rent is regarded as a sign of original royal demesne (Round 1907: 336). Analysis of Domesday also shows that before 1066, most of south Cambridgeshire and the northwest corner of Essex were in royal hands, or held by their close retainers or by the great Earls of East Anglia or of Mercia. This contrasts strongly with the lands immediately to the south in Essex, which were held pre-1066 by a variety of freemen, apparently in small dispersed farms. The parish boundaries between the two types of holding lie mostly along a possible late Roman territorium boundary around Great Chesterford, as suggested by Bassett (see note 11). The distinctive type of land-holding on either side of these boundaries lends support to Bassett's hypothesis about their importance.

[4] It is interesting that the arable area still named 'Strethall Field' on the 1881 6-inch OS map is about 630 acres, which is just 5¼ hides (assuming 120 acres to the hide). Although it is now generally agreed that Domesday hides and acres are measures of geld rather than arable area, it would not be surprising if they were sometimes coincident. For a recent discussion see Hart 1992: ch. X.

[5] Strethall has one of the few remaining partly pre-Conquest churches in Essex, with a mid-eleventh-century chancel arch and Saxon nave, and so was probably an independent parish during the eleventh century (RCHM 1916: 295).

[6] The derivation of *Styrice* is unexplained. The suggestion in Ekwall (1928: 383) that it is of Celtic origin and means 'little Stour', is disproved by Jackson's reclassification of 'Stour' as Germanic (Jackson 1953: 195, n. 1).

[7] Ickleton terrier 1545: Cambridge Record Office (hereafter CRO) R63/D.D.B.1115 (South Field), and 1119 (Heath Field). These are mostly unpaginated. The occasion for this terrier was undoubtedly the Dissolution, since several Ickleton manors were previously held by religious houses.

[8] Walden Survey, 1400, Cambridge University Library, MS Add 7090, p. 6v.

[9] Essex Record Office (hereafter ERO), Plan of Granta River, D/DQyq. The Ickleton terrier of 1545 describes a 'Procession Balk' at various points of its boundary, including the north boundary of Littlebury where Cambridgeshire and Essex divide.

[10] This incursion apparently dates from before 1400 (see Cromarty 1966; Map 3).

[11] This continuous 4-mile route is a good candidate for part of the late Roman territorium boundary around Great Chesterford suggested by Bassett (1989: 25), and an unpublished paper (Bassett: 1989: 24, ref. 73), to which he has kindly given me access). The oval outline of the possible territorium can clearly be seen in the parish boundaries on Map 1.

[12] ERO QRDc 6A and 6B.

[13] Or perhaps to scrubland: 'Free Wood' is *Frithewude* in the thirteenth century (Reaney 1969: 527); Frith, or **fyrhp** (OE), appears to mean 'land overgrown with brushwood, scrub on the edge of forest' (Gelling 1984: 191). This would fit well with the position of Free Wood near the edge of the clay top.

[14] ERO D/DQy 33, 34. No marl or clay pits are now mentioned in this vicinity on maps, but there is a reference to 'arable land lying towards the clay pits' in a will of 1569 (Emmison 1983: 663).

[15] During excavations in the area in the 1850s R.C. Neville (later Lord Braybrooke) came upon a system of cavities in fields in the vicinity of Chapel Green (also on the clay/chalk boundary where it crosses a dry valley). Roman sherds and tesserae were found in 'black earth' several feet below the field surface, and the cavities, which seemed 'to have been cut out of the chalk', extended for some distance at 5 ft below the surface, and were large enough for a man to crawl through (Neville, Diaries, March 1853). Neville did not speculate on any possible natural origin for these cavities, but it seems likely that they were formed by underground water-flow, as is suggested for Bradley's Hole in the text above (see for example Sparks 1972: 193). I am indebted to Roland Randall for suggesting this explanation.

[16] Reaney (1935: 530) and Smith (1956, pt II: 136). For another 'Speech-hill', in Hertfordshire, see Meaney (1994: 80).

[17] Also called *Augey* in the above Survey, and *Argers* in an Estate Plan of 1824 (Trin. Coll. Camb., Muniment 162). The name is unexplained. The present small plantation at the southeast corner is 'Argers' or 'Archers' on OS maps.

[18] Part of Heath Field is still 'Common Heath' in a survey of Grange Farm in 1719. The Inclosure map of 1810 gives a clear outline of the pre-Inclosure extent of Heath Field and the Common Heath (CUL Maps bb 53(1).93.52–6).

[19] Identified in *Inquisitio Comitatus Cantabridgiensis* (see VCH 1967: 411).

[20] Trin. Coll. Camb. Survey of Arable of the South Field, 1730, Muniment 93, p. 57; and Estate Plan, 1824, Muniment 162.

[21] In 1545 a 10-acre piece of land in Awgey at the border

of Strethall is said to tithe to Strethall, and another small piece on the boundary belongs to the parsonage of Strethall. But if there had been a transfer of the whole 84 acres it might be expected to be documented in the Ely archives, and in the various Calendars of Rolls from the twelfth century. No such evidence exists in the printed Rolls series, which suggests that there were no transfers during or after the twelfth century. Neither has any evidence come to light in the Ely archives, but since not all these archives are easily available, the possibility that some documentation of transfer will be found cannot actually be ruled out.

[22] CU Air Photographs NG 31–32, BLS 8–9, BHN 26–8, and survey of the M11 corridor.

[23] Camb.SMR CM 04417 and CU Air Photographs BLS 10–11. Photographs BHN 21–25 clearly show soilmarks of strip fields on both sides of the Ickleton/Strethall boundary.

[24] CU Air Photographs BL 74. A former attribution to the Roman period, and reference to a stone coffin (OS 6 inch map, 1881), has been withdrawn in the latest SMR notes, and a conjectured BA attribution substituted (Camb.SMR CM 04216). There is no specific reference to the barrow in the Catalogue of the Cambridge Museum of Archaeology and Anthropology, even though many finds from the Ickleton Roman Villa to the northeast are located in that Museum.

[25] The earliest evidence for Elmdon is the Inclosure map of 1824/5, when the area south of Awgey was still cultivated in strips (ERO D/DQy 33, 34).

[26] Cambs.SMR CM 04202

[27] Gelling (personal communication) suggests that *Stapylles* could be from a surname and so is unreliable.

[28] See Maps 1 and 3, and the map in Fox (1923: 144).

References

BASSETT, S. (ed.). 1989. *The Origins of the Anglo-Saxon Kingdoms*. Leicester: Leicester University Press.

BIRCH, W. de G. 1893. *Cartularium Saxonicum* III. London: Charles J. Clark.

BLAIR, J. 1992. *Roman and Anglo-Saxon Britain*. Oxford: Oxford University Press.

BLAKE, E.O. (ed.). 1962. *Liber Eliensis*. London: Camden Society.

CHAPMAN, J. & P. ANDRÉ. 1777. Map of Essex.

CROMARTY, D. 1966. *The Fields of Saffron Walden*. Chelmsford: Essex County Council.

EKWALL, E. 1928. *English River Names*. Oxford: Clarendon Press.

EMMISON, F.E. 1983. *Essex Wills (England)* 2, 1565–1571. Boston (MA): New England Historical and Genealogical Society.

FOX, C. 1923. *The Archaeology of the Cambridge Region*. Cambridge: Cambridge University Press.

GELLING, M. 1984. *Place-Names in the Landscape*. London: Dent.

GRUNDY, G.B. 1927. On place-names in general, and the Hampshire place-names in particular, *Papers and Proceedings of the Hampshire Field Club* 9, 221–61.

HART, C. 1957. *Early Charters of Essex*. Leicester: Leicester University Press.

HART, C. 1966. *The Early Charters of Eastern England*. Leicester: Leicester University Press.

HART, C. 1992. *The Danelaw*. London: Hambledon Press.

JACKSON, K. 1953. *Language and History in Early Britain*. Edinburgh: Edinburgh University Press.

LATHAM, R.E. 1965. *Revised Medieval Latin Word-List*. London: The British Academy.

MARGARY, I.D. 1973. *Roman Roads in Britain*. London: John Baker.

MEANEY, A.M. 1994. Gazetteer of Hundred and Wapentake meeting-places of the Cambridge region, *Proceedings of the Cambridge Antiquarian Society* 82, 66–92.

NEVILLE, R.C. MSS. Diaries, 1853, Museum of Archaeology and Anthropology, Cambridge, Braybrooke collection G02/2/1&2/8.

RACKHAM, O. 1976. *Trees and Woodland in the British Landscape*. London: Dent.

RCHM. 1916. *Royal Commission for Historical Monuments, Essex* I. London: RHCM.

REANEY, P.H. 1935. *The Place-Names of Essex*. Cambridge: Cambridge University Press.

REANEY, P.H. 1943. *The Place-Names of Cambridgeshire and the Isle of Ely*. Cambridge: Cambridge University Press.

ROUND, J.H. 1907. *Victoria History of the Counties of England, Essex*, I. London: University of London, Institute of Historical Research.

SAWYER, P.H. 1968. *Anglo-Saxon Charters: an Annotated List and Bibliography*. London: Royal Historical Society.

SMITH, A.H. 1956. *English Place-Name Elements*. Cambridge: Cambridge University Press.

SPARKS, B. 1972. *Geomorphology*. 2nd ed. London: Longman.

TAYLOR, C.C. 1966. Strip lynchets, *Antiquity* 40: 277.

VCH, *Victoria History of the Counties of England, Cambridgeshire*, Vol. I, 1967; Vol. VI, 1978. London.

WILLIAMSON, T. 1986. The development of settlement in northwest Essex: the results of a recent field survey, *Trans. Essex Archeol. and Hist.* 17: 120–32.

The East End of King's College Chapel

Graham Chainey

The Founder's Intent

Henry VI's 'Will' of 1448 required the high altar of King's College Chapel to be raised 3 foot above the level of the choir floor, which was to be raised 1 foot 6 inches above that of the antechapel, which was to be 4 foot 'above the grounds without'. A step known as the *gradus chori* was to cross the choir immediately east of the stalls.[1] Allowing 6 inches per step, these measurements suggest an intended arrangement of eight steps at the Chapel's western entrances, three at the choir entrance, and then, after the *gradus chori*, five altar steps.

As built, the Chapel has between five and seven steps at its western entrances and two at the choir entrance; but the sills of the turret doorways at the east end are about the required 3 feet above the choir floor. As Sir G.G. Scott noted in 1866, the ashlar facing of the east wall and the side walls in the eastern bay commences at the same raised level, 'drops a little [equivalent to one step] at the termination of the bay, and again, in a greater degree [equivalent to four steps], at about six feet further to the westward, and thence it coincides in level with the present pavement,'[2] indicating clearly the intention for a raised altar. These details were again revealed when the floor was taken up in 1968, the base courses of the walls being shown to be of brown oolitic limestone from Northamptonshire, by contrast with the finer white Yorkshire stone of the ashlar.[3]

The high altar's intended location was not specified in the Will, but verses commemorating the laying of the Chapel's foundation stone in 1446 record that the stone, intended to lie beneath the high altar, was placed 14 feet from the east wall.[4] At the sister foundation at Eton, the Will required the high altar, 12 feet long by 5 feet wide, to stand 8 feet from the east wall, approached by six steps including the *gradus chori*, each 6 inches deep.[5] Henry later increased the Eton altar to 18 feet by 4 feet 6 inches, with an image of the Virgin to its right, one of St Nicholas to its left, and a depiction of Christ and his Apostles set into a 2-foot-thick reredos. In the space behind the high altar, directly under the east window, was to be another altar, 9 feet by 3 feet, below an image of the Virgin and Child.[6] A similar arrangement was probably intended for King's.

The plain wall surfaces below window level at the Chapel's east end suggest that hangings, panelling or wall-painting (as in the choir at Eton) were intended. The college's temporary chapel, built 1444–5, had cloth-of-gold hangings on its walls, altar-frontals embroidered with *Dieu et Mon Droit*, a 'costly canopy of red cloth of bawdkin with greyhounds and hinds of gold' over its high altar, and curtains beside and a large Turkey carpet before the altar.[7]

1 M.R. James & J.W. Clark, *The Will of King Henry the Sixth* (Cambridge 1896) pp. 7–8.

2 T.J.P. Carter, *King's College Chapel: Notes on its History and Present Condition* (London 1867) pp. 82–3.

3 Francis Woodman, *The Architectural History of King's College Chapel* (London 1986) p. 44.

4 R. Willis & J.W. Clark, *The Architectural History of the University of Cambridge* vol. 1 (Cambridge 1886) p. 465.

5 James & Clark, *op.cit.*, p. 5.

6 Carter, *op.cit.*, pp. 78–9n.

7 William St John Hope, 'King's inventory', MS, King's College (hereafter KC) library. Quotations from the muniments and modern archives by permission of the Provost and Scholars of King's College, Cambridge.

Proceedings of the Cambridge Antiquarian Society LXXXIII pp. 141–65.

The Tudor High Altar

The steps and levels required by the founder and prepared for by his builders were not necessarily installed by those who completed the Chapel a century later, nor did an altar necessarily ever stand above his foundation stone.

An estimate of outstanding work on the Chapel, presented to Henry VIII sometime after 1515, put the cost of stone and workmanship for the proposed high altar at a modest £5, with £2 each for sixteen subsidiary altars.[8] The collapse in 1536–7 of the college's temporary chapel must have led to the premature use for worship of the new building, though its inauguration is not recorded. The stalls were probably not ready before 1538, the east window was installed in 1540, with glazing continuing until Henry's death in 1547 and paviors still at work in the first year of Edward VI.

The first record of any altar occurs in 1544–5; it was made in London, apparently by one of the king's foreign craftsmen. Lyne (probably Richard Lyne, fellow of King's 1529–47) paid 2s 10d for its carriage from the house of 'Master Butt' (the royal physician Sir William Butts, an active mediator between the king and the university and probably influential in bringing about the Chapel's completion) to the Gardrobe (the provost's town house on the Thames near Baynard's Castle) and thence to Bishopsgate. Carriage from Bishopsgate to Cambridge cost 6s 8d in addition to 20s paid *per* Dr Butts. 'Master Antonio' was paid 8s for carving or engraving ('celatura') four images, 8s for '100 double gold', 5s for carving or engraving one column, and 26s for his work 'from London to Cambridge'. Someone called Kelley (probably a local artisan) received 10s 4d for gilding the four images.[9] Antonio may have been Antonio del Nunziato, known as Antony Toto (1499–*c.* 1554), the Florentine artist brought to England by Pietro Torrigiano in 1519 to help with the high altar and other works in Henry VII's Chapel at Westminster Abbey; after subsequently perhaps working for Wolsey, he entered the king's service in 1530. Primarily a painter (king's sergeant-painter from 1544), Toto at least once, in 1533, is described as 'graver' or carver.[10]

The new altar probably resembled that in Henry VII's Chapel, though it cannot have been so grand. The Westminster altar (destroyed 1643; now replaced by a replica) had a marble baldacchino over it supported on freestanding corner pillars of gilt bronze, with a royal coat of arms above the centre of the baldacchino and over each corner a terracotta kneeling angel holding an emblem of the Passion. The altar stone was of black marble, the altarpiece a bas-relief in gilt bronze depicting the Resurrection on its west side, the Nativity on its east. Although of the finest workmanship (Henry VII's executors advanced £1000 for it), Torrigiano's altar was a modest 9 feet in total width, 9 feet high to the cornice, with the angel figures 2 feet higher.[11] The four images Antonio carved for King's may have been similar angel figures above a baldacchino.

At Trinity College chapel, a building in many details designed in imitation of that at King's, the original high altar stood in the third bay from the east;[12] and this is probably where Antonio's altar was placed at King's, especially as later evidence shows the eastern two bays were left unpaved.

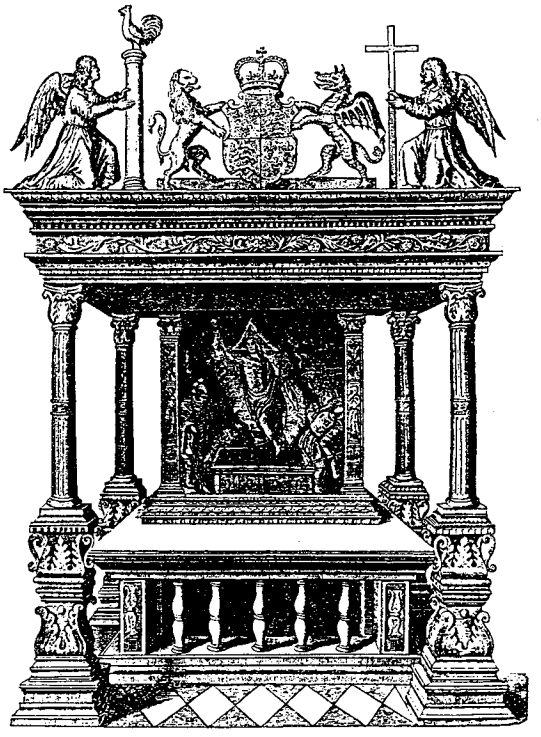

Figure 1. *Torrigiano's high altar at Henry VII's Chapel, Westminster. (From Sandford,* Genealogical History of the Kings of England, *1683)*

8 Willis & Clark, *op.cit.*, vol. 1 p. 482.

9 *Ibid.*, p. 523.

10 R.W. Carden, 'The Italian artists in England during the sixteenth century', *Proceedings of the Society of Antiquaries* 24 (1912) pp. 179–85.

11 Alfred Higgins, 'On the work of the Florentine sculptors in England in the early part of the sixteenth century', *Archaeological Journal* 51 (1894) pp. 145–50, plates I & II. A similar altar was designed for Henry VIII's chantry-tomb at Windsor.

12 Willis & Clark, *op.cit.*, vol. 2 p. 574.

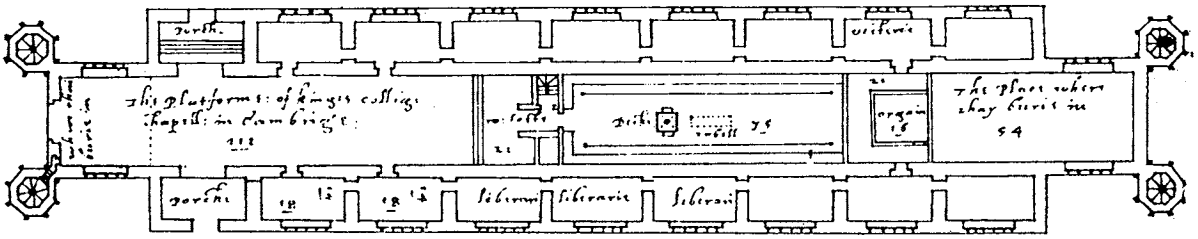

Figure 2. *Robert Smythson: plan of King's College Chapel, c. 1609. (Royal Institute of British Architects)*

Protestant and Catholic

Antonio's altar did not survive long under the strongly protestant Edward VI: on 11 April 1549 the college paid 16d for its removal. On 6 May, however, during a visitation to reform the university's statutes, when everyone took an oath at King's 'for the abolishment of the Bishop of Rome and for the supremity of the king's majesty', the visitors sat 'in the choir before the altar, against the vestry door'. Altars were not officially banned until November 1550.[13]

In 1553 with the return to Catholicism under Mary, a Romanist provost, Atkinson, was appointed, and on 28 October 'the whole Popish service, in Latin, was celebrated in King's College, by some zealous men of the house, though contrary to the laws then in force'.[14] The college purchased antiphons, gradals, psalters and a missal. On 16 December 1556 the Vice-Chancellor, Andrew Perne of Peterhouse, 'went to Dr Blythe's and bought tables that were the King's College altar'.[15] John Blythe was fellow of King's and Regius Professor of Physic; 'table' may mean altar-table, retable, decorative altar-front, or picture.[16] Perne's purchase was presumably in preparation for the Marian visitation of the university a few weeks later (on 21 December he spent £15 on velvet suits and altar cloths); Great St Mary's being under interdict and all university services during the visitation being held at King's, the altar was presumably restored. On 14 January 1557, during the visitation, the visitors said their prayers at the choir steps before entering the stalls; after mass 'they went up *ad gradum chori*' to sit 'in places and seats appointed', and later 'went up to the altar and took down the Sacrament and searched the pix', before inspecting plate, vestments, and mass books in the side-chapels.[17]

Puritanism

Provost Brassie, who died in 1558, left £10 'to be bestowed ... upon paving about the high altar';[18] but Mary died a week later and soon afterwards 8d was spent 'for destroying the high altars'. In 1561 1s was spent on a table of the ten commandments to be hung over what was still, however, referred to as the high altar. In

13 John Lamb, *A Collection of Letters, Statutes and other Documents ... Illustrative of the History of the University of Cambridge during the Period of the Reformation* (London 1838) p. 109. Six altars were dismantled at Jesus in 1549, three at Queens'; Great St Mary's lost its high altar and five side altars in 1550; the high altar at Christ's went in 1551. There was a general whitewashing of walls and storing or selling of plate and vestments. At King's many vestments were converted into theatrical costumes.

14 John Strype, *Ecclesiastical Memorials* vol. 3 (1822). In fact, both Catholic and reformed forms of service appear to have been lawful between 24 October and 20 December 1553.

15 Lamb, *op.cit.*, p. 193.

16 J.H. Parker, *A Concise Glossary of Architectural Terms* (Oxford 1896) p. 276. Antony Toto was paid in 1530 for '5 tables standing in the king's library' and '4 great tables', in 1538 for a 'depicted table of Calomiae', in 1541 for a 'table of the story of King Alexander', all apparently paintings. - A.E. Popham, 'Hans Holbein's Italian contemporaries in England', *Burlington Magazine* 84 (1944) p. 13.

17 Lamb, *op.cit.*, pp. 202–3. The visitation is satirised in Arthur Golding, *A Brief Treatise Concerning The Burning of Bucer and Phagius* (1562).

18 KC muniments, ledger book, vol. 1 f. 414.

1564, the year Queen Elizabeth I visited Cambridge, Stephen Walls, who built the original choir stalls at Trinity, was paid 30s 'for the communion table' and 18d for two cushions for it.

For the queen's visit, the sanctuary was 'hanged with fine tapestry, or arras of the queen's, from the north vestry door, round by the communion table, unto the south vestry door; and all that place strawed with rushes. The communion table and pulpit hanged richly.' A traverse or screened compartment of crimson velvet for the queen was placed 'upon the south side, about the middle between the vestry door and the communion table (which stood north and south)'.[19] This leaves open whether table, traverse and door were aligned laterally, all in the third bay, with the table on the site of the high altar, or longitudinally, with the table further east. If the arras was not hung along the east wall, some kind of altar-screen must have existed behind the table to support it. Organs were played, though their position is not given.[20] The pulpit stood opposite the traverse.[21]

In 1566 repairs were made 'where the altars stood' and the next year 4s was paid 'for new cresting and joining the communion table'. In 1570, following the appointment of puritan Provost Goad, workmen removed 'the partition', perhaps an altar-screen; the organs were dismantled and sold. A cloth for the table, made in 1572 from 8 yards of Holland, cost £1 19s 4d. In 1575 there is a reference to the '*mensam sitam in choro*', suggesting the table now stood in the choir proper. A new cloth for the table, made in 1603 from 'Kent canvas', cost 4s 8d. In 1610 6s 8d was paid for 'a new wicker under the communion table' and in 1616 18s for 2 ft 3 in of green velvet for it. Sumptuously endowed with plate in its earliest years, the Chapel now possessed a single communion cup and flagon. A Venetian visitor in 1618 lamented: 'The church is all bare, so that pondering this impiety, my eyes filled with tears when I thought of the destruction of the altars'.[22]

A plan of the Chapel made *c.* 1609 by Robert Smythson shows the arrangement near the end of Goad's rule.[23] The lectern stood in the middle of the choir, with the communion table lengthwise immediately to its east. The *gradus chori* is shown, and in the third bay from the east what appears to be a platform or raised step, 16 feet square, labelled 'organ'. This may be the original altar step; the organ that now stood on it must have been the two-manual instrument installed in the Chapel, after thirty-five years without any organ, by Thomas Dallam in 1605–6. The eastern side of the platform is extended across the width of the Chapel, perhaps representing another step or steps[24] leading up into the eastern two bays, which are marked 'the place where they bury in'. These eastern bays, which had probably never yet been used liturgically, apparently remained unpaved. They were tiled with 2500 white tiles in 1611–12.

Burials

No details are recoverable of those buried at the east end prior to Smythson's plan.[25] At least twenty-six, however, are recoverable between that date and 1774, after when all burials took place in a new vault at the Chapel's west end.[26] William Cole recorded in 1742 that the east end was 'peculiarly appropriated for the interment of the senior fellows, as the antechapel is for that of the juniors, the choir not being suffered to be broke open by reason of the curious marble floor'.[27]

Cole's antiquarian collections yield twenty east-end burials: Henry Banister, vice-provost (d. 1617 aged 57); Arthur Johnson, vice-provost and proctor (d. 1621); Ralph Flood (d. 1624, 'drowned at Hell Mouth endeavouring to save another person who was in danger; his death was much lamented, being a very excellent

19 'Generally speaking, the communion tables at this time were placed east and west, but in cathedrals and collegiate churches the original position was adhered to.' - Carter, *op.cit.*, p. 59n.

20 The organs were probably built by John Howe, who repaired them 'according to his obligation' in 1533. A great organ may have stood on the screen and a portable organ in the choir. In 1562 William Randall from Norfolk was paid 'for mending the less organs'.

21 John Nichols, *Progresses and Public Processions of Queen Elizabeth* (1788). A new pulpit was acquired for £1 in 1571; it was provided with a sounding-board in 1588 and a water-clock in 1590 (replaced by an hourglass in 1600). A purple velvet cushion was provided. This pulpit was replaced in 1853 by the Latimer pulpit from St Edward's church.

22 Horatio Busino, in *Calendar of State Papers: Venetian 1617–1619* (London 1909) p. 248.

23 Royal Institute of British Architects drawings collection, Smythson No.1/4 (1).

24 RCHME *Cambridge* (1959: 115), however, interprets it as an altar-screen.

25 Except possibly Richard Stevyns, vice-provost (d. 1505), buried 'in the choir'.

26 Altogether, about 117 names are recoverable of those buried in various parts of the Chapel between 1458 and 1888, of whom 13 were buried after 1774 in the antechapel vault.

27 British Library (hereafter BL) Add MS 5802 f.100.

scholar'); Edmund Sheafe (d. 1625 aged 27); Oliver Leigh, bursar (d. 1627); Martin Freeman, who in 1624 had 'answered the philosophy act before King James, Prince Charles and the two French ambassadors' (d. 1630: monument in a side-chapel); Wimond Carew, son of Richard Carew, author of the *Survey of Cornwall* (d. 1631 aged 25, 'a young man of exceeding great hopes and as great honesty'); Ralph Winterton, Regius Professor of Physic, translator and editor, of whose edition of Hippocrates it is said that 'no medical work at Cambridge has ever received so high a degree of academical commendation'[28] (d. 1636 aged 36); William Mendham, chaplain (d. 1640), 'on the south side of the altar'; Richard Johnson, bursar (d. 1650 'suddenly of grief', being accused of a felony by two other members of the college); John Waller, brother of the poet Edmund Waller (d. 1651 aged 35 'of convulsion fits'), 'next to Richard Johnson'; Osbert Fowler, college registrar (d. 1658), 'just above the steps' of the south side-chapel entrance; Simeon Sampson (d. 1658 of smallpox); Richard Day, nephew of Bishop Day of Chichester (d. 1658); John Pradman (d. 1666); John Hawtrey (d. 1673 aged 19), 'between the altar-rails and the south wall' (his tomb slab, paid for by his parents, was removed at the 1702 repaving and is now in a side-chapel); Middleton Lanoy (d. 1676); George Goad (d. 1678); John Gerard, senior fellow (d. 1690 aged 58), 'behind the altar on the south side' (his slab, removed in 1774, is now in a side-chapel); and Michael Mills, tutor of the college 'and very learned' (d. 1696 of smallpox).[29]

The extant Chapel register, begun 1707, records six further burials 'behind the altar': Thomas Traheron, master of the choir school (d. 1710 of smallpox); John Cleaver (d. 1716); Francis Dodsworth (d. 1726); Edward Wells, senior fellow (d. 1727), 'on the north side in the void space behind the altar'; Berkley Seymour, proctor and senior fellow (d. 1744 aged 58) at whose funeral Cole was present, recording that he was buried in a lead coffin with inscribed plate about 7 feet behind the altar-screen, near its north door;[30] and John Showell, vice-provost and dean (d. 1748).

As the location of burial is far from always given by either Cole or the register, and as information for early burials is scant, the total at the east end may well have exceeded fifty.

Laudism

Forty years of autocratic puritanism ended with Provost Goad's death in 1610. The organ was probably transferred from the east end to the roodloft in 1613.[31] In 1625 incense was used on a day of fasting; in 1628 a velvet cushion was donated for the communion table; in 1629 a purple velvet communion cloth with silk and gold fringes was bought for £27 6s 8d, partly paid out of donations; in 1630 another velvet cushion was donated and 6d paid for 'perfuming' the Chapel; by the same year a litany table had been installed. The bare choir walls behind the stalls received their present heraldic carved panelling in 1629–33 at the expense of Thomas Weaver.

In 1633, the year William Laud became Archbishop of Canterbury, a major rearrangement of the east end took place. Woodruffe,[32] the carver who in 1636 provided the gates at the choir entry, installed an altar-screen between the first piers from the east at a cost of £100, excluding £30 for floor and altar-rails. Removal of the table to the east end was by royal injunction.[33] New cloths for the table, costing £60, were bought in London; £50 13s 4d was spent '*pro le bason*'; £2 4s 6d was spent on two books 'in quires' for the holy table, £23 4s for 'clasps and bosses' for them, and £1 13s for their covers. Tomson and Brent, freemasons, repaired '*les steps in orientali parte*'. In 1635 £73 7s 6d was spent on damask for the east end, Tolly the upholsterer receiving a further £7 for making '*les hangings et* footstools' and Woodruffe 2s 'for setting up *les hangings*'. At Michaelmas 1636 5s was paid for '6 tin candlesticks *in usum altaris*'. In 1637 and 1638 there are further references to incense, and the use of candles seems to have been stepped up; in 1639 6s was spent on '2 great tapers *pro le* communion table'. Very likely the walls between the stalls and the new altar-screen, as well as the reredos and altar itself, were hung with tapestries. Hooks

28 *Dictionary of National Biography*.

29 BL Add MSS 5813, 5815, 5816, 5817, 5954.

30 BL Add MS 5802 f.98. 'On digging Mr Seymour's grave, the Chapel clerk light upon Mr Dodsworth's coffin, which had not been buried 20 years, so that it was too fresh, and so a new grave was made at his feet.'

31 At any rate, Dallam returned for eight weeks and although the nature of his work is not stated, the length of stay suggests the removal was made then.

32 Probably Edward, rather than his son George, though both were active in the 1630s.

33 A report on the Cambridge colleges sent to Laud in 1636 complained that at Corpus Christi 'the table, notwithstanding the king's pleasure declared for all colleges when himself ordered it to be set up at King's, stands still below as it did'.

remained on the choir walls until 1968.[34]

A puritan report compiled early in 1641 records the Laudian decoration of Cambridge chapels. The most elaborate, at Peterhouse, 'hath become the gaze of the university and a great invitation to strangers'. At St John's a series of large framed paintings depicting Christ's life adorned the walls. At Trinity, adornments allegedly costing £1000 included a similar series of pictures 'drawn upon blue kersey, this stained cloth being raised very high and flagging three sides of the chapel'. At King's the authors found:

> An high altar with steps which have been erected of late years upon which the college hath been at great expense. Over the altar is an hanging canopy of wood. Behind the altar are hangings of red and blue taffety. The altar hath two or three coverings, one to the ground, a foot pace. On the altar stand two fair books richly embossed, one the Bible, the other the liturgy. A gilt basin on the altar. Two gilt candlesticks and two tapers which they sometimes light; sometimes four tapers burning upon the altar. A rail enclosing the altar. Turnings towards the east. Adoration towards the altar used by some. The service is sung with the organ on holy days, confession, prayers, creed etc., and cathedral service on other days with choristers and singing men at eight of the clock in the morning and at four at night; this hath been used of old. A litany desk below the high altar, at which they kneel that sing the litany with their faces towards the east. Many things in their service not easily understood. [Added] The Master of this college, Dr Collins, hath since this information was drawn removed the altar and placed it tablewise within the rails, taking away the candlesticks and basin. He hath likewise prohibited adoration towards the east and standing that way at the doxology and creed.[35]

Civil War and Commonwealth

In September 1641 parliament ordered the university authorities to remove communion tables from the east end of chapels, to take away altar-rails, crosses, candlesticks and other such furnishings, and to level their chancel floors. Trinity duly removed its hangings and altar-rails; the master's wife hid the high altar. At Jesus during the levelling of the chancel the medieval stone coffin lid of Berta Rosata which now lies in a transept was disinterred, suggesting the removed steps were ancient, not Laudian. At Great St Mary's the altar rails were removed, the chancel levelled. There is no record of alterations at King's.

Parliament's ordinance of 28 August 1643 required the demolition before 1 November in all churches of altars and stone tables, the removal of altar-rails, the levelling of any chancel 'which hath been within twenty years last past raised for any altar or communion table to stand upon', the removal from communion tables of all tapers, candlesticks and basins, and the removal from churches of crucifixes and images of members of the Trinity, the Virgin Mary, or saints. A further ordinance of 9 May 1644 required the demolition of organs and abolished the use of vestments, roods and fonts.[36] William Dowsing, empowered to enforce the ordinances in the eastern counties, descended on Cambridge in December 1643. On Boxing Day he visited Pembroke and Queens' (where 'we digged up the steps for 3 hours') before arriving at King's, where he noted 'Steps to be taken & 1 thousand Superstitious Pictures ... to goe',[37] implying the levelling of the Laudian altar steps and the destruction of the stained glass. The hangings were doubtless removed; the organ was certainly dismantled. The 'Chapel ornaments' were preserved in the keeping of the Chapel clerk, Jonathan Pyndar; in 1652 they were sent to London. George Woodruffe in 1652 was paid £1 10s for work, probably repairs, about the altar-screen, requiring nails, iron and glue; Thomas Parker received £12 7s 6d for 400 paving tiles, perhaps to make good removed steps.

'Decent, though not grand'

Readornment of the Chapel followed Charles II's restoration. The carver Cornelius Austin received 12s in 1660 for repairing damaged woodwork in the choir. In 1661 nineteen English Liturgy books and a two-volume Bible were bought. In 1662 fresh hangings were purchased: 38 yards of damask cost £47 7s, 32 ounces of silk fringe cost £3 9s 6d, and 32 yards of dyed lining material cost £1 6s 6d. Austin was paid £24 12s for repairing the altar and apparently laid a new floor of black and white

34 Graffiti, exposed on the sanctuary walls in 1964, were perhaps perpetrated behind hangings, or in the eastern bays when they were unused. An Elizabethan round of music has apparently now faded, as has the date '29 April 1524' claimed by Nigel Pennick, *The Mysteries of King's College Chapel* (Wellingborough 1978) p. 69.

35 'Innovations in religion and abuses in government in the University of Cambridge', BL MS Harleian 7019 No.11. These complaints about 'high' practices contrast with those in the report made to Laud only five years earlier, when the furnishings at Trinity were described as mean, the table cloth 'not worth 14d', while at King's 'some of the choirmen cannot sing ... the choristers are near one half of them mutes ... they commonly post over their service and perform it with little reverence'.

36 Henry Scobell, *A Collection of Acts and Ordinances* (1658) pp. 53–4, 69–70.

37 A.C. Moule (ed.), *The Cambridge Journal of William Dowsing* (1926) p. 6.

marble within the altar rails, at the expense of Meric Head, MA of the college.[38] A Bible and a book of the new liturgy, sumptuously bound, were purchased for the altar. Cushions, hangings, candlesticks (1665) and other ornaments were provided. The litany desk was provided with a step in 1664 and a stool in 1673. Payments for incense are recorded in 1666, 1669, 1670 and 1674. In 1668 John Wardell provided the lectern with candleholders, and Provost Page donated a magnificent dish and two great silver candlesticks for the altar. Seven yards of purple altar cloth were bought in 1674. Having installed canopies over the stalls in 1675–8, Cornelius Austin panelled the walls between the ends of the stalls and the altar-screen in similar style in 1678–9 at a cost of £115, raised by subscription; the arms of Provosts Page and Collins and of Thomas Crouch, among others, appeared over the work. The choir as far as the altar was repaved in 1702 with black and white marble, at a cost of £300. Further silks and hangings were bought in 1704 and 1705.

Loggan's interior view of the Chapel (1690) provides the first pictorial glimpse of the east end, showing an altar with two large candlesticks on it, balustered altar-rails in front, a panelled screen behind with a carved frieze along its top, and the lower part of a canopy over the altar, probably supported on brackets. Cole (1742) describes the arrangement:

> The high altar is not erected immediately under the east wall or window, but at a pretty distance from it, against a fine wainscot screen for that purpose which runs quite across the Chapel from the division of the first and second window, which has a kind of canopy over it adorned with fine carved work; and in the middle directly over the altar are the arms of the college royally crowned, and on either side of it four fleurs-de-lis de Florence crowned also. On each side of the rails is a door finely carved to enter the aforesaid void space [the eastern bay]; and over the south one are the arms of King [Charles] the First ... Over the [north] door are the arms of King Henry VI crowned, and supported by two antelopes. These are elegantly carved as is all what is about the screen of the altar. Under both these arms on the doors is carved H.R. with portcullises etc.[39] The back of the altar is hung with a rich silk damask of purple and crimson, with a fringe of the same quite as far as the rails reach. The furniture of the altar is of the same stuff, viz: covering, cushions, and large kneeling stools on both side; though it is always covered again with a fine white damask linen cloth. On an eminence on the altar against the screen, which is also covered like the altar itself, stands the noble embossed silver dish given by Sir Thomas Page, and which has the representation on it curiously wrought of the Lord's Supper, and on each side of it stand the two magnificent silver candlesticks[40] given by the same person also, as was the small filigree worked silver paten which stands under the aforesaid dish, on the altar ... A fine purple silk elbow chair stands on the north side of the altar for the Provost when he officiates. The silver gilt hasps for the two large books on the altar, and which are bound in crimson velvet, have on them crowns and sceptres, and harps and thistles crowned. The altar stands on an eminence of one step above the rest all round, and railed in about it with neat wainscot rails, and round them on the outside, blue cloth cushions to kneel on ... The sides of the Chapel from this screen to the stalls on either side are elegantly wainscotted ... At a good distance from the eminence or first step on which the altar stands are three others.

Cole mentions the *gradus chori* 'exactly at the foot of the stalls' and records that the choir 'is entirely paved very beautifully ... quite to the screen of the altar with black and white marble squares in a regular figure'.[41] According to later writers, the 'void space' behind the altar-screen was used not only for burials but as a vestry.[42]

The antiquary Jeremiah Milles (1735) censured: 'What takes off very much from the beauty of the Chapel is the meanness of the altarpiece, which does not at all suit with the rest of the building. It is not quite at the east end of the Chapel, and is only a little wooden screen with two or three strips of silk put upon it.'[43] The first guidebook to the Chapel called the altarpiece 'decent, though not grand' and scheduled for replacement by 'a more noble one'.[44] Yet the magnificence of Woodruffe's matching choir gates, and Cole's description, suggest it was of no mean interest.[45]

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38 Cole, BL Add MS 5817 f.6.

39 'H.R.' similarly appears on the great west door (1615) and the choir gates (1636): Pevsner calls the gates 'an extremely early case of period imitation'.

40 Stolen 1749; replaced 1750 by replicas 'made as near as could be to the pattern of the old', costing £93; stolen again 1817.

41 BL Add MS 5802 ff.101–3.

42 Francis Blomefield, *Collectanea Cantabrigensia* (1750) p.128; James Cook, *An Historical and Descriptive Account of King's College Chapel, Cambridge* (1829) p. 6; J.J. Smith (ed.), *The Cambridge Portfolio* (1840) p. 435.

43 'Diary of a journey through England', BL Add MS 15,776 f.30.

44 Henry Malden, *An Account of King's College Chapel in Cambridge* (1769) p.39.

45 The altar-rails ('a seventeenth-century chinoiserie, almost' - Pevsner) survive at Milton, Cole's village. 'In 1774 I spoke to the provost [Cooke] and told him that he could not [better] dispose of part of the old altarpiece at King's College, which was lately taken down for a new one, than to give it to this dirty church of their patronage. He went into the church and said it was so squalid that unless the parish would do somewhat the altar part would make it look worse. However, part of the old rails were sent there and are now [1774] put up, and had it been the turn of the incumbent, I am confident a great part of the wainscot might have been procured; but the pomposity of Mr Naylor [the rector] was not gratified in the furniture of his church.' - BL Add MS 5807 f.2v.

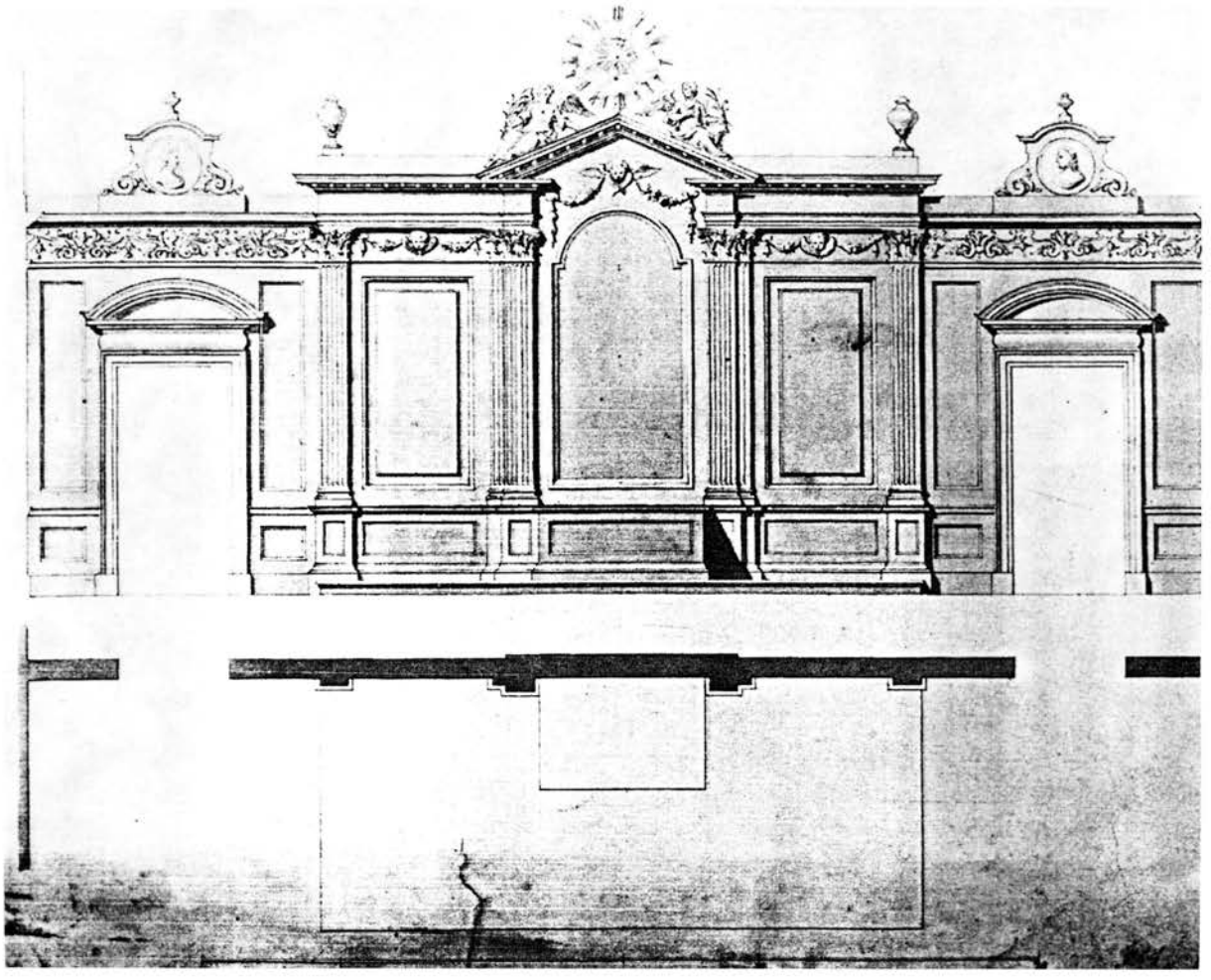

Figure 3. *James Gibbs: design for an altarpiece, 1724–7. (Victoria and Albert Museum)*

Gibbs, Burrough, Adam

Plans to replace the reredos originated in 1706 when Provost Roderick gave £150 'towards making a new altar'. William Fleetwood, Bishop of Ely, gave £21 10s in 1716; Roderick's widow bequeathed £50 in 1733. The fund looked to be greatly augmented in 1729 when John Hungerford, fellow, bequeathed two-thirds of his considerable estate to the college, to be paid after his widow's death and employed as his friend Provost Snape thought best. In 1742, shortly before his own death, Snape directed that, when received, enough of the money should go into the altarpiece fund to raise it to £1000. The inheritance was not received until 1759.

Meanwhile the college had apparently asked James Gibbs (1682–1754), while designing new buildings for them, to include a reredos: his plan for the completed college, published 1728, presumably indicates his proposals. This shows an altar-screen, still between the first piers from the east and with entrances into the vacant bay beyond, but with six columns — a large one on either side of the altar with smaller flanking ones, probably to support a large baldacchino. The altar is shown raised on three altar steps and three more steps are marked between the second pair of piers though, curiously, not quite traversing the Chapel's width, the raised level of the fellows' stalls being prolonged eastwards along the side walls to meet them. Neither the *gradus chori* nor the two steps at the choir entrance are marked. An elevation and plan for an alternative altarpiece by Gibbs also survive. This depicts a relatively plain panelled screen with flanking doorways, with a decorative frieze along the cornice and ornamental angels and portrait medallions on the top. The altar is raised on one step. But at the time all available

funds were needed to complete the Fellows' Building.[46]

When funds became available in 1759, Sir James Burrough (1691–1764), Master of Caius and amateur architect, submitted two designs, one classical in wood, the other Gothic in stone. 'Both these, as it was to be a work of public view, and of lasting use, Mr Upton [fellow], as was thought advisable, took with him to London, for the opinions of those who might be competent judges in such a matter'. Burrough's estimate for the second scheme speaks of lowering the floor 'from the library [south side-chapel] door to the new steps', of a new marble pavement costing £120, of 31 'panels of wall-work' costing £295, and of four 'towers and turrets [based on the Chapel's corner turrets]' costing £165. The total cost would have been £718. Upton reported from London on 6 March 1759 that everyone favoured Gothic and stone; James 'Athenian' Stuart was 'particularly of this opinion, which I mention the rather as he is well known to disapprove entirely of the present fashionable taste of Gothic architecture'. But the design should be plain and simple, avoiding 'all gilding and finery, which everybody condemns. This I thought proper to take notice of, particularly as Mr Burrough proposed, if I remember right, to have a great deal of gilding in his Gothic plan.' In fact 'among the several gentlemen and artists whom I have talked with and showed it to' Upton found none who entirely approved of Burrough's plan.

Burrough being dropped, nothing was done until James Essex (1722–84), his former assistant and 'the person who actually drew the plan, under the direction of Sir James', and lately designer of an altarpiece for Lincoln Cathedral (still extant), was invited to submit a design. This was considered in November 1767 but at £1550 was twice as expensive as Burrough's original. At Christmas, therefore, Richard Pottenger, fellow, approached the classical architect James Adam (1734–94) who proved, he reported, 'very ready and well-pleased to undertake the plan, which, I dare say, he will do with taste, and in a manner suitable to the grandeur of our Chapel'.[47]

Adam arrived in March 1768 to measure up but his design, not received until early 1769, proved classical and included an arrogantly towering central pediment which would have obscured the east window. Asked to resubmit, he rapidly produced an alternative design. 'There is no stopping the imagination of these *virtuosi*, especially when fired with so noble a subject', Pottenger enthused, forwarding the plans, and hoping the college would agree to go beyond the £1000 limit (Adam's estimate was £1097). But the new design, in wood painted to resemble stone and in frightful Gothick, would still have obscured the window. Adam defended it 'by saying that the pinnacles and battlements are to be in open work, and that the appearance of the painted glass through the interstices will have no bad effect' but the college was unimpressed.[48]

Gothick Triumphant

The college returned to James Essex who, unlike the other three architects, was an enthusiast of Gothic, having restored Ely Cathedral and made a particular study of the Chapel during repairs. In 1770 he submitted three estimates for what was a modified version of Burrough's scheme. The most expensive, using the same Ancaster stone he had employed at Lincoln ('it will not turn green . . . will work easily, and will look rich'), would have cost £1465; the next, using Norway oak, £1353; and the cheapest, using 'Riga wood painted', £1043. The college, with £1390 currently available, chose the second.[49]

After nearly seventy years, work finally went ahead during a restoration of the Chapel in 1774–5.[50] Set back a few feet from the east wall, Essex's oak reredos had Gothic doorways on either side into the space beyond. A central figure, based, like the doorways, on the shape of the side-chapel doorways in the third bay, was designed to contain a painted altarpiece. Along the top were eight carved replicas of the Chapel's pinnacles (replacing the turrets of Burrough's original conception), six above the

46 James Gibbs, *A Book of Architecture* (1728) plate 32; 'The altarpiece for King's College at Cambridge', Victoria and Albert Museum, E3672-1913; Terry Friedman, *James Gibbs* (Yale 1984) pp. 234–5, 294.

47 KC muniments, 'Altarpiece 1742–75': pp. 3, 5, 7, 11.

48 *Ibid.*, pp. 19, 21, 23, 27; Allan Doig, 'James Adam, James Essex and an altar-piece for King's College Chapel, Cambridge', *Architectural History* 21 (1978) pp. 79–82. Adam received £79 2s.

49 'Altarpiece 1742–75': p. 27.

50 9 April 1774: 'To moving the old altar rails'; 30 April: 'To moving the old screen at the altar back, 1½ days'; 28 May: 'To cleaning and sweeping out the dust at the altarpiece, 2½ days'; 20 August: 'To taking down the old wainscot betwixt the stalls and the new part of the altar'; 27 August: 'To taking down and clearing away the old screen, 2½ days'. - From carpenters' bills, KC muniments, 'Chapel Vouchers'.

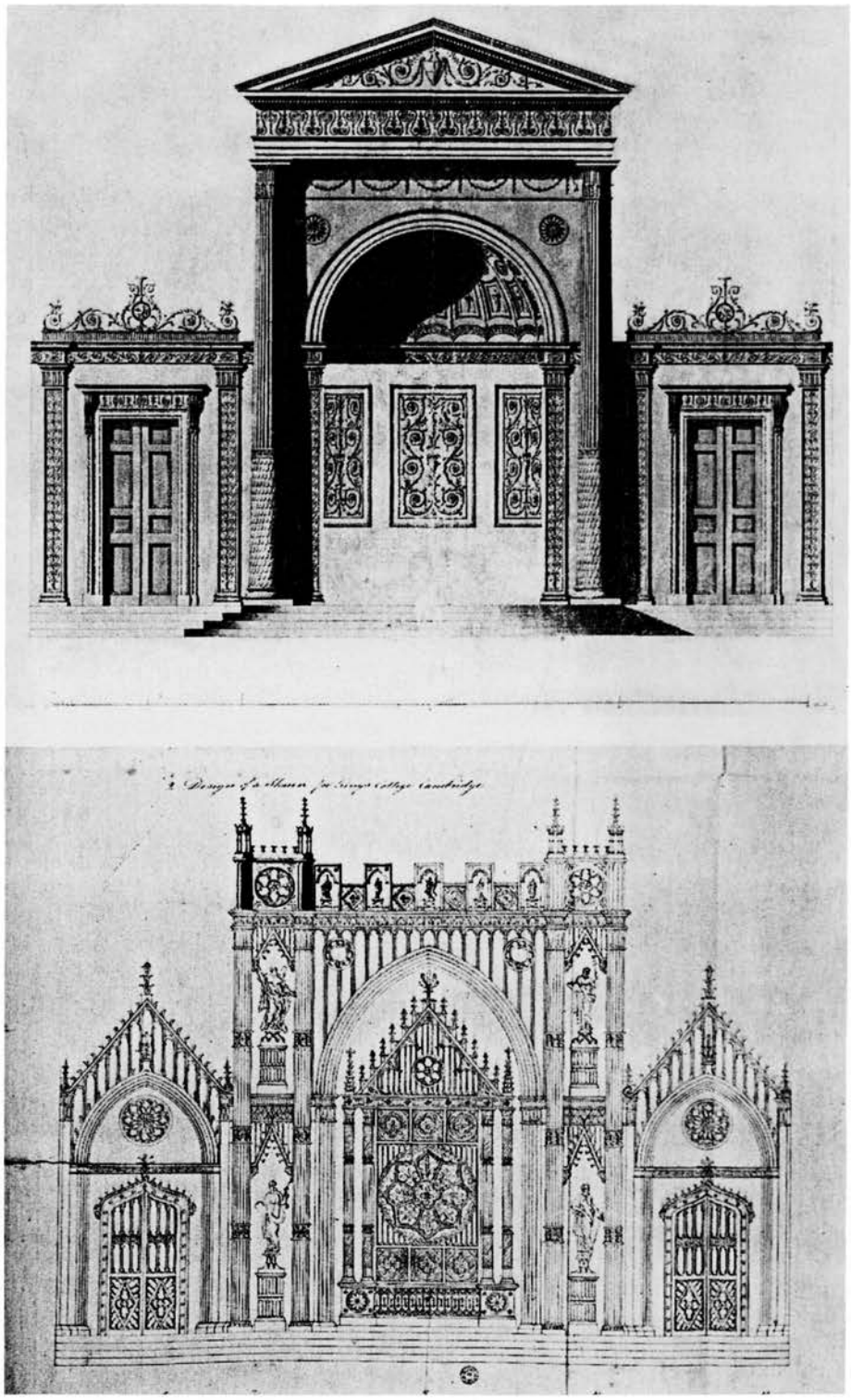

Figure 4. *James Adam: two designs for an altarpiece, 1768–9. (King's College)*

altar-screen and two at the end of continuation panelling along the walls of the first bay; all projected 10 feet above window-sill level. Between the pinnacles ran a fringe of pierced battlements in imitation of those of the Chapel roof, and the carved work was decorated with crowns, portcullises and niches. The sanctuary was approached by four steps, with two altar-steps beyond, and bordered with fretted rails; the whole of the three eastern bays, down to the *gradus chori*, was repaved in a fussy cheq-uer style similar to one Essex had used for Clare College chapel.[51] Cornelius Austin's panelling was retained in the two bays east of the stalls. The most reprehensible aspect of Essex's scheme (not included in his earlier designs) was the insertion of two gigantic niches in the stonework on either side of the east window. In the course of erecting his panelling he also 'hacked away' the string course of angel figures on the north and south walls and damaged that beneath the east window.[52] His work finally cost £1803. Additionally, £42 was spent on new plate for the altar, £23 on 33 yards of 'rich crimson damask', £36 on 26 yards of 'rich crimson Genoa velvet', £31 on 'rich gold fringe and 8 gold and crimson tassels', and £13 on 47 yards of Wilton carpet, bringing the total expenditure to £2017, twice the amount originally intended. The overall effect was closer to the Gothick pastiche of Horace Walpole's Strawberry Hill (where Essex also worked) than to authentic Gothic. The eviction of Provost Hacumblen's great brass lectern from the choir showed the college's muddled sense of medieval ideals.[53]

The 'Deposition'

The central panel of Essex's reredos being reserved for a painting, a former fellow of King's, Thomas Orde (later Lord Bolton), commissioned his friend George Romney to execute a 'Mater Dolorosa'. But some of the fellows opposed the commission and before Romney's painting was completed another former Kingsman, Frederick Howard, fifth Earl of Carlisle, donated a *Deposition*, then believed to be by the sixteenth-century Italian artist Daniele da Volterra, if not by Raphael himself, though now attributed to Volterra's contemporary, Girolamo Siciolante da Sermoneta (1512–80).[54] Although Romney's picture was 'in a state of great forwardness' he never completed it.[55] A work of this kind was, however, outside his normal vein, and of the surviving sketches 'none are very convincing as religious works'.[56]

Siciolante's *Deposition*, probably painted *c.* 1568–72 for the church of San Giovanni dei Fiorentini in Rome and removed thence in the late seventeenth century, was bought by Lord Carlisle on the Grand Tour in 1767–8.[57] The panel measures 7 ft 7 in by 5 ft 9 in (231 × 175 cm) and depicts the scene after Christ's removal from the cross. Joseph of Arimathea and the Magdalene support the body, while the Virgin Mary and two other holy women stand to the right and a centurion in a plumed helmet and two other men stand to the left. At the foot of the cross stands St John with hands upraised, looking away right. Hailed at the time of its donation as 'one of the first pictures in the world',[58] it is a static, formalised depiction. Joseph Farington in 1805 thought it 'an inferior performance'; more recent critics find it 'lacking in strength of colour and carrying power of design', refer to its 'coldly marmoreal style and zinc-like drapery', or call its figures 'mute actors in a dignified and unemotional presentation of the body of Christ'.[59]

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51 The marble was supported on brick foundations and arches, 4 feet deep, costing an estimated £51. - 'Altarpiece 1742–75', pp. 4–5. The 1702 marble in the choir, presumably not so supported, was discoloured 'by the dampness of the soil underneath'. - Malden, *op.cit.*, p. 39.

52 KC *Annual Report* 1897. Masons' bills include payments for 'cutting off projections of stone work for joiners'.

53 'I make no doubt, for I don't know it, but the litany desk is also sent packing, in this age of philosophy, reason and infidelity.' - Cole, BL Add MS 5802 f.108v.

54 'Artists pronounce it to be one of the best of Raphael's second manner' - *Cambridge Chronicle*, 31 March 1781. *A Catalogue of the Several Pictures ... in the University of Cambridge* (*c.* 1790) attributes it to Jacopo da Pontormo. The painting was still officially attributed to Volterra when cleaned in 1950 (*Annual Report*); the RCHME (1959) first officially attributed it to Siciolante; Ellis K. Waterhouse, *Burlington Magazine* 112 (1970) pp. 104–7, substantiated the attribution.

55 John Romney, *Memoirs of the Life and Works of George Romney* (London 1830) pp. 136–7.

56 Patricia Jaffé, *Drawings by George Romney from the Fitzwilliam Museum, Cambridge* (Cambridge 1977) Nos. 28–9.

57 Waterhouse, *loc.cit.*; John Brewster Hunter, ' The life and work of Girolamo Siciolante da Sermoneta' (Ph.D dissertation, University of Michigan 1983) pp. 329–32. Carlisle's own catalogue gives the price paid as £150; Cole told Horace Walpole on 17 December 1780 that it had cost £400, adding: 'Mr Essex tells me the light [in the Chapel] will not suit it'. Another *Deposition* by Siciolante, painted for Santi Apostoli, Rome, and mentioned by Vasari, is now in Poznan, Poland.

58 *Gentleman's Magazine*, April 1781 p. 189.

59 *The Farington Diary*, ed. John Greig vol. 3 (London 1924) p. 107; *Illustrated London News*, 1 February 1964 p. 175; Waterhouse, *loc.cit.*, p. 107; Hunter, *loc. cit.*, p. 330.

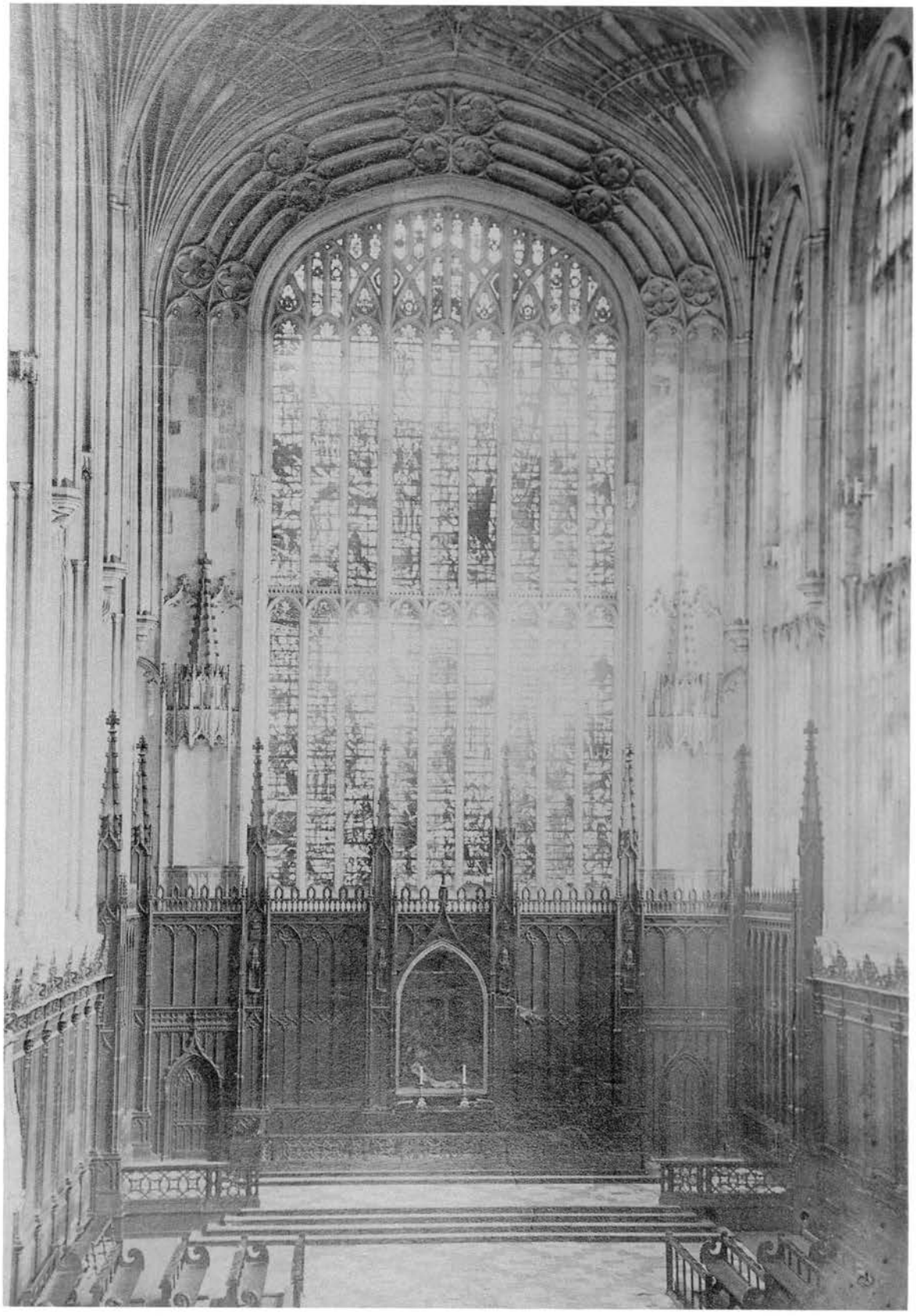

Figure 5. *James Essex's altarpiece, photographed before 1872. (Cambridgeshire Libraries)*

Donated in 1780, ceremoniously installed as altarpiece on Lady Day 1781, the *Deposition* adorned the east end for nearly two centuries: until 1897 as altarpiece (fitted awkwardly into the arched central panel of the reredos), until 1964 hanging on the sanctuary north wall. It then disappeared into the obscurity of a southern side-chapel, re-emerged briefly in 1986 to hang experimentally on the choir north wall, and is now kept in an antechapel side-chapel.

The Quest for Authenticity

Essex's Gothick east end was commended at the time as 'peculiarly corresponding to the simplicity and magnificence of the building'.[60] Sir John Cullum, the Suffolk antiquary, noted: 'I must particularly congratulate the noble Chapel of King's College upon its new Gothic altarpiece, which it owes to the superior taste of Mr Essex. How few of our venerable cathedrals have escaped without some inconsistent mass of Grecian architecture!'[61] Another writer lamented: 'Few of our present artists can now make a design truly Gothic; and I have seen one for an altarpiece to King's College Chapel, Cambridge, made by Messrs Adelphi [Adam], which though pretty enough in itself, was in no way suitable to such a fine Gothic building, and has justly given place to one that does credit both to the designer and to the workman.'[62] J.S. Storer went so far as to claim that Essex's woodwork exhibited 'better taste' than the stalls themselves, which were 'of inferior design'.[63]

Only with the Gothic Revival's maturation did the work seem unfortunate. When Queen Victoria and Prince Albert sat enthroned with their backs to the altar in 1843, it was observed that the altarpiece was 'the only ugly thing in the Chapel, with a frightfully modern *Deposizione* over it, so that was no loss'.[64] In 1865 T.J.P. Carter, a young fellow of King's and subsequently author of a history of the Chapel, privately started a Reredos Fund and pressed for a return to the spirit of the founder's original intentions.

> It is hardly necessary to say that immediate condemnation should be passed upon the woodwork which occupies the eastern bay. The motives which prompted its introduction were doubtless as excellent as the result is deplorable. The whole work is a violation of the original idea; it has no character, and belongs to the taste of no period: it contrasts most painfully with the adjoining panelwork, while the two large niches placed on either side of the east window seem only to require the insertion of two gigantic idols in order to complete their obtrusive vulgarity.

Sir G.G. Scott, requested by the fund to survey the east end to determine evidence of its original arrangement, recommended a return to what he believed were the original levels, with the altar in the middle of the eastern bay, a reredos 'of rich materials and workmanship', Essex's wall-panelling replaced by rich hangings similar to those recently hung in Cologne Cathedral 'though treated in better art', Austin's panelling retained in the second and third bays, and wooden sedilia. Carter additionally wanted the Chapel's window niches filled with statues and the great vault coloured (as required by the estimate presented to Henry VIII), and even the organ and choir-stalls gilded and coloured — 'the arms which fill the panels at the back would probably be greatly improved by colour ... though perhaps nothing would render them completely satisfactory'.[65]

In 1874 Carter's fund commissioned William Burges (1827–81), most extravagant of Gothicists, to design a scheme. Burges proposed an elaborately carved stone altar-screen smothered with figure work and ornamention, behind an 18-foot marble altar. Three large niches above the altar were to contain scenes showing the infant Christ, with the shepherds and the magi adoring, while in other niches were to be images of the Virgin Mary, St Nicholas, the Archangel Gabriel, and St Margaret. The screen was to be surmounted by five large figures on pedestals, including one of Henry VI kneeling at a desk, and there were to be doors through into the space beyond. All the figures were to be golden, the ornamental background fully coloured. Austin's panelling was to be 'heightened with gilding' and between it and the altar-screen would be 'tapestry, gilded leather, or some similar hangings'. The window niches were to receive painted statues, the window jambs and caps of the columns to be picked out, and the bosses and carving of the vault coloured. Sumptuously authentic in the eyes

60 *Cambridge Chronicle*, 25 March 1775.

61 Diary, 1 July 1775, Bury St Edmunds record office E2/44/3.

62 Letter signed Architectus, *Gentleman's Magazine*, May 1781 p. 217.

63 J.S. Storer, *Cantabrigia Illustrata* (Cambridge 1835) p. 11.

64 *Twenty Years at Court*, ed. Mrs Steuart Erskine (London 1916) p. 62.

65 Carter, *op.cit.*, pp. 76–84. Scott's report (Appendix A of Carter's book) was in fact probably prepared by his son. - Gavin Stamp, 'George Gilbert Scott, jun., and King's College Chapel', *Architectural History* 37 (1994) p. 160.

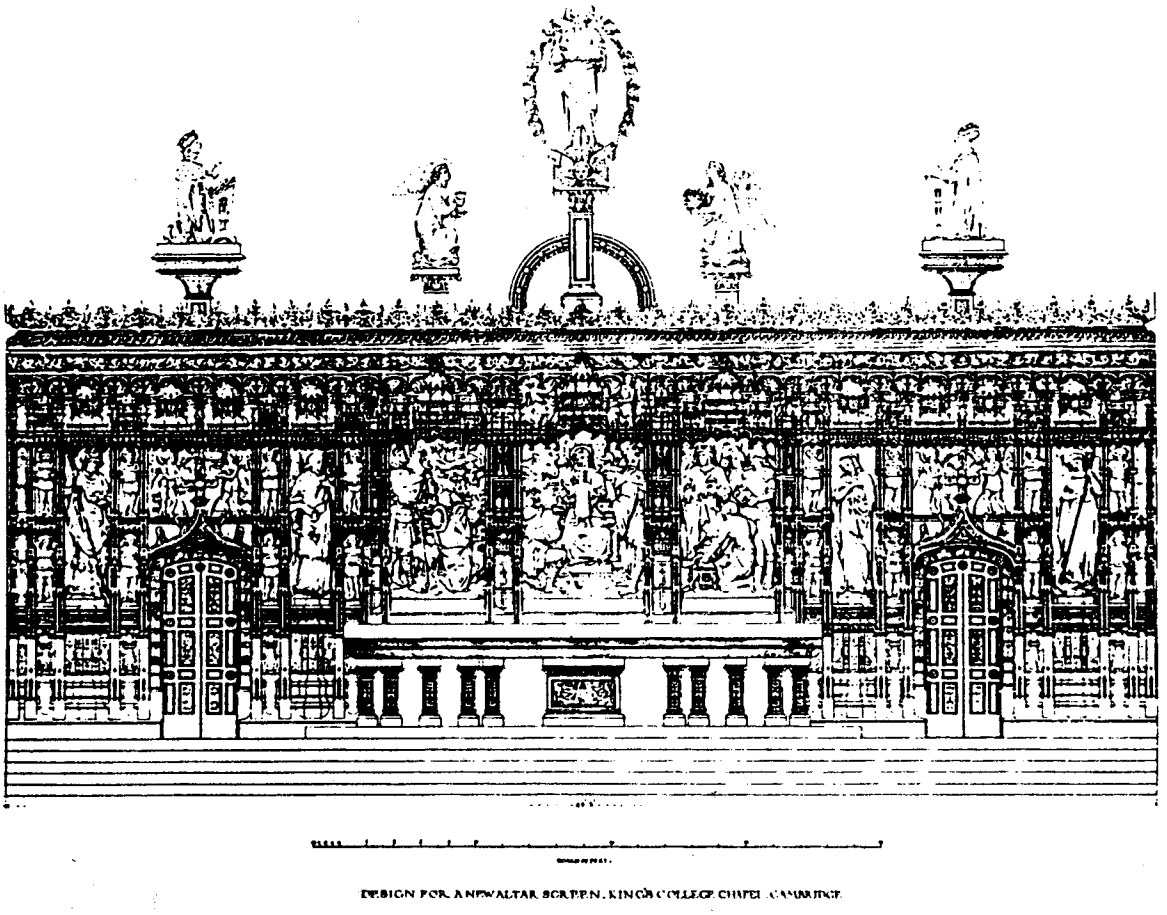

Figure 6. *William Burges: design for an altarpiece, 1874.*

of Carter's group, Burges' scheme fortunately would have cost £8000, far more than was available.[66] His commission was in any case unofficial; in 1875 a donation to the college of £100 from F.T. Cobbold, fellow, was used to open an official New Altarpiece Fund. Contributions to both funds came in slowly.[67]

Meanwhile, independent of altarpiece plans but the result of a series of donations, the appearance of the east end was improved by the installation of two giant bronze candle-standards, 13 feet high, designed in 1872 by G.G. Scott junior and executed by J. Barkentin, the leading ecclesiastical metalworker. Designed each to hold one great taper 5 feet in height and six smaller ones, the standards stood on black marble bases with supporting lions modelled on those of Hacumblen's lectern (itself restored to the choir in 1854). They cost £550. These 'magnificent examples of Victorian ecclesiastical metalwork' dignified the east end until 1964, 'imparting a monumental dignity to choir and sanctuary'.[68]

J.L. Pearson, the college's architect, commissioned by the Reredos Fund in 1889, designed a less costly stone reredos along broadly similar lines to that of Burges; but it did not prove acceptable. Then, in 1894, Thomas Garner (1839–1906) and G.F. Bodley (1827–1907) sent in a design for a triptych, 'low, with the wings supported by columns (stone or brass), generally Gothic but with Renaissance ornament admitted into the details'.[69] They wanted Essex's panelling replaced by tapestry, and the steps rearranged. M.R. James, senior dean,

66 William Burges, 'Designs for a new altar-screen and sedilia for King's College Chapel, Cambridge', *The Architect*, 22 May 1875 pp. 304–5. He received £256 12s 5d.

67 In 1892 the Reredos Fund stood at £2000, the New Altarpiece Fund at £1230.

68 Stamp, *loc.cit.*, p. 162.

69 Richard William Pfaff, *Montague Rhodes James* (London 1980) p. 95.

thought it 'not in the least likely that any altarpiece designed for the Chapel at the time of its completion would have taken this [triptych] form', which he considered unEnglish, the Chapel being 'in all main points a truly English building, notwithstanding the fact that foreign workmen were employed upon the windows and woodwork'. He was even reluctant to lose Essex's woodwork, calling it

> a really remarkable monument of the beginning of the Gothic revival. I do not say that it is very correct or very beautiful: but it does seem to me exceedingly interesting work, and surprisingly good of its time. The removal of the rails, pinnacles (and parapet, if necessary), and the masking of the whole surface with tapestry would be, I think, a practicable and desirable course to take; but I am entirely and strongly opposed to the destruction of the panelling.[70]

The triptych scheme was abandoned but in 1896, with no proper replacement agreed, the college agreed to let Garner and Bodley remove Essex's panelling experimentally, restore the steps and floor levels to 'what is presumed to have been their original disposition', remove Essex's stone niches, provide hangings for the eastern walls, and construct a new altar table in the middle of the eastern bay in 'the position originally contemplated by the founder'.[71]

'In a muddle'

Essex's reredos, panelling and stone niches were removed in 1897.[72] The angel frieze was repaired, the floor levels (which Essex had lowered at the east end by 5½ inches) were restored by prolonging the altar steps across the bay's full width, and the altar was placed in the centre of the bay.[73] The following year the east wall was experimentally hung with a loaned PreRaphaelite tapestry, executed by William Morris to a design by Edward Burne-Jones, depicting an episode from the legend of the Holy Grail.[74] This proved unsatisfactory: by 1900 the college had commissioned a London firm to produce specimen new hangings. James favoured hangings, emphasising that 'no hanging, however bright in colour, can possibly enter into competition with the windows. The scales of colour in textile fabrics and in painted glass are so absolutely different.' As for an altarpiece: 'we might possibly take the view — it has been expressed before now — that the east window formed the best possible altarpiece.'[75]

In 1900, shortly after T.J.P. Carter's death, the rival funds were amalgamated. The Reredos Fund, having paid for the alterations since 1897, had £2200 remaining; the college fund amounted to £1600. Though Garner's reredos designs were rejected, he went ahead with a new altar, comprising a slab of black Irish marble 13 feet long resting on gilded alabaster supports carved to represent angels. Built by Messrs Farmer and Brindley, it was consecrated on Advent Sunday 1902. Even the altar raised objections, for the provost had to consult the college's visitor, the Bishop of Lincoln, as to its legality,[76] probably on account of the 'Romish' gradine or shelf structure behind the altar on which the cross and candles stood. Garner designed matching altar-rails, installed soon after; a carpet for the steps cost £150. By the end of 1902 two tapestry panels out of a total of four had been made and installed on the east wall and others had been designed for the sanctuary side walls. It was intended to retain the *Deposition* as altarpiece.[77]

Then, during what must have been heated discussions in early 1903, the whole problem of the east end was reopened. While James urged acceptance of the hangings, other fellows had other ideas. A.A. Tilley wanted hangings but not those being installed. Charles Waldstein wanted a wooden reredos matching the organ screen. Oscar Browning had no preference for hangings or reredos, but wanted the *Deposition* left out of it. Eventually the fellows voted for a wooden reredos, without the picture, and to have Garner replaced.[78]

Three young architects — T.B. Carter, A. Poynter, Detmar Blow — were invited to submit designs by November. Carter's was reminiscent of Burges': it featured an oak reredos in the second bay with, above the altar, a carved

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70 M.R. James, printed circular, 26 January 1895.

71 Reredos committee, printed report, 26 April 1896.

72 'Lovers of the Chapel will be glad to learn that we shall never again see the old panelling that was so utterly out of harmony with the stalls. We trust that the new reredos will add as much to the beauty of the east end as the condemned decoration took away from it.' - *Cambridge Review*, 14 October 1897.

73 *Annual Report* 1897. Essex's panelling was reused in the passage to the college hall.

74 *Annual Report* 1898.

75 M.R. James, printed memorandum, 5 June 1900.

76 KC muniments, congregation book, 9 June 1900.

77 Reredos committee, printed report, 29 November 1902.

78 Congregation book, 31 January, 7 March 1903. At least one outside opinion was sought: W.R. Lethaby informed the Society for the Protection of Ancient Buildings on 5 May: 'I was asked to advise somewhat informally on the altar end of King's College Chapel which is in a muddle and has been for years, after their tearing down of some bogus Gothic of Essex. I send you a draft of my reply [not preserved]'. - SPAB, King's College file.

representation of the Adoration of the Magi and, in panels on either side, King David receiving the water from the well of Bethlehem and King Solomon receiving the Queen of Sheba. There were to be other kings and saints in niches, everything was to be lavishly gilded, the gates into the bay beyond, as well as the more important sculpture, being of gilded bronze.[79] Poynter's scheme, retaining the Deposition as altarpiece with heraldic decoration along the top of the reredos, was warmly favoured by James' Reredos committee; but at the congregation the fellows voted for Blow's.[80] At this point James resigned. 'When you have to take counsel with a body of 46 persons on a question of taste, unanimity is not easily secured . . . I should be loth to pass through the many stages of committees, reports, discussions, again.'[81]

Classicism Triumphant

Detmar Blow (1867–1939), best known as an architect of town and country houses for wealthy clients, designed, in collaboration with Fernand Billerey, a reredos in Renaissance classical style, to stand against the east wall. Three canopied niches above the altar, separated by pairs of Corinthian columns, were to contain statues of Christ, the Virgin, and St Nicholas made of 'light oak or bronze gilt', against 'a dark oak background enriched with ebony and gold, the gilding appearing in the shell, the frieze below the shell, and the pilasters supporting the arch'. The cresting above the reredos was to be 'in the style of St Pietro at Perugia'. The Deposition was to be framed in new panelling on the north wall. Against the south wall were to be elaborate carved sedilia with, above the three seats, an entablature supported by pilasters, and behind the pilasters a carved panel representing a New Testament scene; there was to be a bust of Christ in the lunette and medallions of the Virgin and St John. This part of the scheme was to be in memory of Provost Austen Leigh (d. 1905). It was recommended to fill the reredos niches temporarily with casts of the Donatello statues in the Victoria and Albert Museum until specially designed ones could be made. Blow's plan was approved in 1905, but dogged by lack of funds. The chosen builders, Rattee & Kett, in 1906 tendered an estimate of £3626 (excluding statues, expected to cost a further £2000); only £2150 was then available.[82]

By 1908 much of the woodwork was in place 'including almost the whole of the panelling, and the columns, together with the niches on the east wall. Progress in being made with the pilasters, capitals, frieze, and other decorative portions of the work'. By 1909 'the only part of the general scheme remaining to be executed is the sedilia', though 'the cresting around the entire reredos is not yet finished'. By 1911 'all the woodwork, including the sedilia, has been exposed to view since Easter', though 'still in an unfinished condition, awaiting, besides the statues, the cresting above the panelling'.[83] The cresting and other details had meanwhile undergone several modifications. In the end, only the canopied reredos had cresting over its three niches, the rest of the panelling being left without cresting; and the intended statues could not be afforded. By 1911 the fund was £105 overdrawn.

Austin's panelling was retained along the walls of the sanctuary's western bay and a half, but half a bay of it was removed (it was reused to panel a side-chapel) to make way for Blow's new panelling in the eastern bay and a half. After the *gradus chori*, there were now three steps across the Chapel's width between the second piers from the east, another slightly further east, then two altar steps. Essex's floor pattern in the three eastern bays was retained, as were Scott's candle-standards. A magnificent altar cross, made by W. Bainbridge Reynolds, was given in memory of Provost Austen Leigh. A bust of Christ, believed to be sixteenth-century Italian,[84] was installed over the sedilia.

Blow's reredos had to wait decades for its statues. In 1941 Sir Arthur Hill, former fellow, bequeathed £1500 for the purpose but nothing could be done during the war. In 1949 it

79 T.B. Carter, *A Letter to the Provost on the Subject of the Reredos in the Chapel of the College* (privately printed 1903).

80 Congregation book, 12 and 24 November 1903.

81 M.R. James, *Eton and King's* (London 1926) pp. 228–9.

82 Congregation book, 28 February, 11 March, 7 June 1905, 9 June 1906. Donations from fellows included: Provost James £100; Vice-Provost Whitting £100; E.C. Austen Leigh £105; W. Austen Leigh £100; W.H. Macaulay £20; C. Waldstein £15 15s; A.E. Brooke £10 10s; E.J. Dent £5; O. Browning £5; G.L. Dickinson £2; W.G. Headlam £1 1s; A.C. Pigou £1 1s. A watercolour of Blow's original design was presented to the college by his widow in 1939; reproduced in *Country Life*, 4 January 1941 p. 19.

83 *Annual Report* 1908; congregation book, 26 October 1909; *Annual Report* 1911.

84 Donated by Mr Pfungst, 'wine merchant and art-collector'. Like the candle-standards, altar cross, and many other donated objects, currently banished to store.

Figure 7. *Detmar Blow's altarpiece, c. 1910, with experimental cresting and statue. (Cambridgeshire Libraries)*

was decided it would be difficult to find three suitable antique statues, while ready-made ones 'from a church artshop' would be inappropriate, so they should be specially commissioned. Henry Moore (who had recently provided a *Madonna and Child* for a church in Northampton) was approached but indicated that he could not give an early decision as to whether he could undertake the task 'owing to pressure of other work'; after a wait of five years, the college was finally told that he was unable to submit models.[85] He was replaced by J.R. Skeaping (1901–81), professor of sculpture at the Royal College of Art. Skeaping produced his first statue, of St Nicholas, using an exotic African wood, in 1957, at a cost of about £1000;

[85] According to one fellow of the time, the scheme fell through because Moore 'decided that he did not know how to do Christ in Glory in wood' - H.N.V. Temperley, letter to *The Times*, 6 June 1994.

Christ and the Virgin were installed by 1960. The statues were unloved — 'mummified Madonnas' — and were jettisoned with the rest of Blow's work in 1964.[86]

The 'Adoration'

Described as 'appropriate,[87] 'in excellent taste',[88] 'sonorous',[89] and 'beautiful panelling which after four centuries at last gave the sanctuary the warmth and life it had always craved',[90] Detmar Blow's east end was dignified but unexciting and seemed to 'disappear mysteriously into the darkness' at evensong.[91] The sanctuary was 'lacking a proper focal point, was too cluttered, and was liturgically unsatisfactory'.[92] Minor alterations were made in 1956, including the removal of the gradine, and then in 1960 Robert Maguire and Keith Murray were invited to redesign the east end altogether. 'The prime movers on the Chapel committee when we were appointed were Alec Vidler and Victor de Waal (dean and sub-dean). Both were radical Christian theologians and much involved in the Liturgical Movement; and we were the only radical English Liturgical Movement architects.'[93] The intention was to diminish the 'present dissociation between the sanctuary and the congregation seated in the stalls' so that Eucharist could again become 'the corporate act of the whole church'. Maguire and Murray argued that the woodwork in the eastern three bays, though 'good of its kind', destroyed the sanctuary's inherent architectural meaning, that the ashlar walls were meant to be visible, and that the altar, instead of acting merely as 'end-stop for a vista', should be brought forward into the second bay (they recommended a shorter, squarer altar, perhaps with a baldacchino over it). 'The building as a whole should be seen as the masterpiece of spatial organisation it really is,' with antechapel, choir and sanctuary skilfully leading one into the next, and the altar, not the east window or 'any object placed on the lower east wall', as the true climax of everything.[94]

Then, in March 1961, came an unforeseen development. Major A.E. Allnatt (1889–1969), a property millionaire with no previous connection with the college, wrote enquiring whether King's would accept for the Chapel a painting by Sir Peter Paul Rubens (1577–1640), *The Adoration of the Magi*, which he had bought in 1959 and had decided, after failing to agree terms with the National Gallery, to donate to an ecclesiastical building. He had already saved the picture from going abroad and his proposal to reinstate this former altarpiece in a religious setting was well-intentioned. Many of the college's fellows, moreover, must have felt it was exactly what the Chapel's east end needed to relate it climactically, at last, to the rest of the building.

Of the ten or so *Adorations* that Rubens painted, versions hang in the Louvre, the Prado, the Hermitage Museum, the Royal Museum in Antwerp, and the Brussels Museum. All revel in the display of regal pomp, the contrast between the exotic kings and the humble surroundings of the child they come to worship.[95] Allnatt's version is large but comparatively simple, the last that Rubens executed, painted *c.* 1633–4 as altarpiece for the recently rebuilt convent church of the White Nuns in Louvain, Belgium. He was paid 920 florins for it (about £90). Oil on wood, it measures 10 ft 9¼ in by 8 ft 1¼ in (328 × 249 cm), weighs 15 cwt, and, unlike many works from Rubens' workshop, is entirely from his own hand. The Virgin Mary stands to the right, holding the infant Jesus, with Joseph at her side. In the foreground kneels the eldest king or magus, swinging a censer; behind him, the second king is in the process of falling to his knees, holding out a cup; behind him again stands the turbanned third king, with a golden casket. Two nonchalent soldiers and two attendants look on;

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86 Provost Sheppard, printed circular, 8 February 1949; college circulars, 5 November 1954, 1 March 1956. The statue committee comprised John Rothenstein, Richard Eurich, Eric Newton, John Piper, Victor Passmore, E.M. Forster, Dean Milner-White. Forster felt on 30 September 1948 that 'the college will be hard to persuade' that Moore would be suitable; on 20 October: 'I don't suppose the Henry Moore scheme will come to anything'. - *Selected Letters of E.M. Forster*, ed. Mary Lago and P.N. Furbank vol. 2 (London 1985) pp. 233–4. After 1964, Skeaping's statues were loaned for a while to Lincoln Cathedral.

87 Christopher Hussey, *King's College Chapel, Cambridge* (London 1926) p. 31.

88 Alec Clifton-Taylor, unpublished notebook, 1948.

89 Nicholas Booth and Philip Taylor, *Cambridge New Architecture* (3rd edition, London 1970) p. 27.

90 Hugh Plommer, *Cambridge News*, 19 December 1968.

91 *Country Life*, 30 April 1964 p. 1047. 'Far away to the east, across a piece of night, the high altar shows a few yellow points.' - Hussey, *op.cit.*, p. 25.

92 *Illustrated London News*, 1 February 1964 p. 174.

93 Robert Maguire, personal communication, 7 January 1993.

94 Robert Maguire and Keith Murray, 'King's College Chapel, Cambridge: report on the rearrangement of the east end', May 1962.

95 Max Rooses, *Rubens*, trans. Harold Child (London 1904) pp. 124, 223, 380.

two cherubs hover overhead.[96] Rubens reputedly finished the picture in eight days [97] and there are signs that it was indeed painted fast, with the rapid mastery for which he was known: the paint is in places applied thinly, and there are compositional weaknesses. An eighteenth-century critic noted that 'the Virgin is pretty, but I do not think her well seated',[98] while Sir Joshua Reynolds, visiting Louvain in 1781, called it 'a slight performance. The Virgin holds the Infant but awkwardly, appearing to pinch the thigh'.[99] The Virgin's feet seem in the wrong place, her height excessive, her appearance too bourgeois for the stable setting. Two of the kings seem to admire her rather than the child; correspondingly, it is on the kings rather than the source of their devotion that the spectator's eye dwells. There is none of the savage realism and ironic insight of Bruegel's *Adoration* in the National Gallery, a picture which would better complement the Chapel's stained glass.

Framed by a columniated grey stone tabernacle, the *Adoration* adorned the Louvain church until the convent's suppression in 1783, surviving an attempt *c.* 1770 to steal it for the collection of Empress Maria Theresa.[100] In 1783 the picture went to Brussels with works of art from 65 other suppressed houses; Emperor Joseph II took his pick, but the Rubens was among rejects auctioned in 1785. Reynolds, in Brussels, now thought it 'tolerable' though not among Rubens' best works, recommending it to his patron, the Duke of Rutland, as the only item worth purchasing, the rest being 'the saddest trash'. The duke instructed Reynolds to bid up to 300 guineas, but it went for 8400 florins (about £800) to a Brussels collector, Jean-Baptiste Horion.[101] Resold at Horion's death in 1788 for 8000 florins to an English dealer, it passed into the collection of the Marquis of Lansdowne. When Lansdowne's collection was dispersed at his death in 1806, the painting was acquired for 800 guineas by Lord Grosvenor, in whose family it remained.[102] Initially hung in the Rubens Room of Grosvenor House, London,[103] in later years it was relegated by the second Duke of Westminster to the staircase of his country seat, Eaton Hall near Chester, one of his executors admitting it 'was never highly thought of by the late duke or his advisers'.[104]

As early as 1952 the National Gallery expressed interest in acquiring the painting but were unable to offer its market value.[105] After the duke's death in 1953, his executors, faced with death duties of £17 million, decided to sell it with other paintings. Fears that it would go abroad led to questions in parliament as to why it could not be accepted in lieu of death duties. Paul Getty was among the bidders at Sotheby's on 24 June 1959. The final price was £275,000, then a world record for any painting. It was loaned to the National Gallery temporarily, but when the gallery's trustees failed to keep appointments with Allnatt 'it is not surprising that he became exasperated. Others in the know encouraged him to channel his generosity elsewhere'.[106] These included Michael Jaffé, leading Rubens scholar and fellow of King's, who wrote to the (as yet anonymous) purchaser proposing King's College Chapel as a suitable recipient. The idea of benefitting the Chapel had already occurred to Allnatt, for he used to visit Newmarket to watch his horses race 'and every time I came home from Newmarket I stopped at King's College Chapel in time to see the afternoon service. It was then that I decided, if ever the opportunity occurred, to do something for this place, with its unapproachable music.'[107]

There were already connections between Rubens and the Chapel: the 1702 floor pattern in the choir resembles one by Rubens and R.P. Huysens for the paving of the Jesuit church of St Ignace in Antwerp; a scene in window 14 (next the altar) is based on a Rubens painting; Provost Page's alms dish of 1668 was based on

96 For discussion of the painting, see Rooses, *op.cit.*; F. Grossmann, *Burlington Magazine* 99 (January 1957) p. 5; Edward Lucie-Smith, *Rubens* (London 1961) p. 37; Michael Jaffé, *Cambridge Review*, 25 November 1961, pp. 142–3; Michael Jaffé, *Display and Devotion: Rubens's Adoration of the Magi* (Cambridge 1984). A sketch for the painting is preserved in the Wallace Collection, London.

97 J.F.M. Michel, *Histoire de la vie de P.P.Rubens* (Brussels 1771) p. 194.

98 J.B. Descampes, *Voyage pittoresque de la Flandre et du Brabant* (Rouen 1769) p. 104.

99 Sir Joshua Reynolds, *A Journey to Flanders and Holland* (London 1797) p.114.

100 Edward Van Even, *Louvain monumental* (Louvain 1860) p. 265, *Louvain dans le passé et dans le présent* (Louvain 1895) p. 513. Both works contain views of the convent, which later served as a barracks.

101 F.W. Hilles (ed.), *Letters of Sir Joshua Reynolds* (Cambridge 1929) pp. 129–39.

102 Sotheby's sale catalogue, 24 June 1959 pp. 10–11.

103 Anna Jameson, *Companion to the Most Celebrated Private Galleries of Art in London* (London 1844) pp. 227, 238, 271.

104 Frank Herrmann, *Sotheby's: Portrait of an Auction House* (London 1980) pp. 358–9, 361.

105 Lord Robbins, letter to *The Times*, 17 June 1959.

106 Herrmann, *op.cit.*, pp. 359–64.

107 A.E. Allnatt to Noel Annan, 7 May 1969: MS, KC library. Allnatt donated an El Greco, bought at the same sale, to New College, Oxford.

a Rubens design; and Rubens himself may well have visited the Chapel during his trip to Cambridge in October 1629. Nevertheless, Allnatt's offer (which was conditional on the picture being displayed prominently on the Chapel's central axis) needed careful thought and the college spent two months acquiring expert opinions. In April Provost Annan reported: 'We are hard at work on the aesthetic and technical problem which this wonderfully generous offer has posed. We must first be quite certain that no damage could come to the picture if it were placed in the Chapel. We are consulting experts on humidity, temperature, the effect of sunlight and pollution, and vibration from the organ.'[108]

On 6 May 1961 the college's governing body unanimously accepted the provost's motion 'gratefully to receive this munificent gift and rare addition to the worship, dignity and beauty of the Chapel, and to undertake to place it *either* in the antechapel above the archway of the organ screen *or* as an altarpiece whether in the choir or in the antechapel; if no scheme can be devised and preferred for treating it as an altarpiece, to hang it on the organ screen.'[109] A letter from Sir Kenneth Clark urged the college to disregard the argument that a baroque picture would be out of place in a Gothic church; but what 'probably clinched' the vote was a speech by Eric Milner-White, former dean, urging its placing behind the high altar.[110] It is debatable whether the fellows as yet realised the difficulties involved in incorporating a picture of this size and style beneath the Chapel's east window, or whether the alternative of hanging it on the organ screen was seriously contemplated. Soon afterwards the college agreed 'that the present altar and the two steps on which it stands be dismantled and stored'.[111] In October the views of five outside experts were solicited: though divided over matters of detail, four (Clark, Sir John Summerson, Anthony Blunt, Geoffrey Webb) favoured installing the Rubens as altarpiece; only Sir Nikolaus Pevsner dissented.[112]

'Pure C.P. Snow'

The Rubens arrived at King's on 15 November 1961 and was placed provisionally by Maguire and Murray on an easel in the antechapel near the south end of the screen. It remained here for over two years, seeming to many so superb that a faction developed which favoured keeping it permanently in the antechapel. However, in this position it obscured the screen and did not meet Allnatt's stipulation about the axis, while to make it the altarpiece to a new altar placed against the screen made little liturgical sense, and siting it in front of the great west door would have flouted the Chapel's powerful orientation, reduced seating capacity for carol services, and ruined views through the door.

In fact, once the difficulties of assimilating the Rubens into the building became apparent the unanimity with which it had been accepted disappeared. The atmosphere in the college during the debates that followed has been described as 'pure C.P. Snow',[113] with the altarpiece faction (Jaffé, Annan, bursar A.N.L. Munby and others) ranged against the antechapel faction. In March 1963, in response to the latter, Allnatt conceded that, while hoping the Rubens would be installed at the east end, 'he was content to let it stay permanently in its present position'; but the committee was enjoined, while taking note of this release from the original condition, to continue with their plans for incorporating it at the east end.[114] Maguire and Murray duly produced two new schemes. One, with the Rubens as altarpiece within a baldacchino after Torrigiano's altar at Westminster, was rejected as making the picture seem unimportant; the other, placing it in a mildly baroque pedimented frame against the east wall with an altar in the second bay, was initially

108 *The Times*, 26 April 1961. A survey of the Chapel's interior climate, made between June 1961 and July 1962, concluded that humidity levels would not damage the picture. - R.E. Lacey, 'A note on the climate inside a medieval chapel', *Studies in Conservation* 15 (1970) pp. 65–80.

109 College circular, 6 May 1961. Fifty fellows, plus the provost, voted in favour.

110 L.P. Wilkinson, *A Century of King's* (Cambridge 1980) p. 130.

111 College circular, 28 July 1961.

112 Provost Leach, printed circular, 22 May 1967. 'When Pevsner was asked his opinion . . . he looked at the colour photograph the college was using and said enigmatically, "too much brass . . ." The picture, the price, or the college's acquisitive ambition?' - Robert Maguire, letter to *The Independent*, 30 December 1992.

113 *Burlington Magazine*, July 1969 p. 413.

114 College circular, 9 March 1963. At one point a jet was chartered to convey fellows to Holland to view a baroque reredos which Jaffé had persuaded a priest to sell, on the grounds it was the perfect solution. 'This was in black marble, the whole works, with a split pediment, angels with gilded trumpets, frame for a missing picture, monstrance throne with canopy, tabernacle, gradines, and altar.' The Rubens would have fitted it, but the ensemble would have obscured most of the east window and proved otherwise quite inappropriate. - Maguire, personal communication, 12 October 1993.

accepted. But the architects' concern for liturgical and architectural meaning was overruled and they were replaced by a more amenable architect, Sir Martyn Beckett (b. 1918), a designer of country houses and housing estates who had worked for the National Trust.[115]

An experimental one-year scheme was evolved, involving the removal of all the sanctuary woodwork and placing the Rubens in the eastern bay on low white marble balusters. The altar would be flanked by white marble candelabra mounted on black marble plinths, 9 feet tall and modelled on ones in a baroque church in Praque (plaster mock-ups were used initially); these would contain automatic hidden lighting to illuminate the picture. Only if the trial scheme proved successful in all seasons and light conditions would the college proceed with the total scheme, which would involve levelling the sanctuary floor and relaying it throughout to the same pattern as in the choir. In justification of the levelling, it was alleged that the north side-chapel doorway 'appears to have been cut off at the bottom [*sic*] by the raising of the floor level'; therefore lowering the floor 'would be a step nearer the original design'. Drawings and models, with previous east end designs, actual and proposed, were displayed in a side-chapel early in 1964.[116]

All the woodwork east of the stalls, by Cornelius Austin and Detmar Blow, was removed in March–April 1964.[117] The Rubens, still in its nineteenth-century frame,[118] was placed in the eastern bay on 21 April and subsequently reframed in its present 11-inch Antwerp black-and-gold frame. It was placed unnaturally low, at the level it would be if the sanctuary were levelled. For one critic, however, the first sight of it on entering the choir was 'most unexpected and thrilling', creating 'a new and closer relationship of antechapel and choir', although there was also 'great shock at seeing bare stone walls . . . Tapestries seem to be called for.'[119] Speaking to the press on 22 April, Jaffé called the banished woodwork 'brown Windsor soup' and the Rubens 'the obvious and magnificent focus for the east end', pointing out that levelling the floor would allow 80 extra seats at carol services. 'Walking backwards and forwards along the centre line of the Chapel, Sir Martyn and Mr Jaffé demonstrated that the painting does not cut into the bottom of the east window until one is really too close to appreciate it. 'When one is 14 ft back from the painting, only 10 ft of the window is obscured', said Mr Jaffé, 'and that, by proportion, really isn't much'.[120] However, to minimise the obscuring of the window, in January 1965 the picture was shifted closer to the east wall.[121] The baroque candelabra having proved unpopular, Beckett designed instead four modernist wall-sconces, two for each side wall, comprising bunches of metal sticks, resembling elongated clarinets, with electric lights inside and glass candle-holders round the outside. Two mock-ups were fixed on the north wall in 1965.[122] 'Poor King's Chapel!' one critic commented at this point. 'Once the cynosure of Cambridge, it has now had its interior turned upside-down at the whim of art-historians probably not even Christians.'[123]

Problems remained. Once seen beneath the east window, a conflict was felt between the picture's swirling colours and those of the stained glass. The Rubens was also a similar shape to the window, which 'dwarfed it and made it look rather like a dependent postage stamp.'[124] Jaffé proposed plain shutters, one on each side, to give it a triptych shape (although the picture was never part of a triptych) and lend it independence of form.[125] The key problem, however, remained the picture's size. Total levelling of the floor was the only

115 'We were not sacked: the Chapel committee, after a stormy session in which the cultured were narrowly defeated by the aesthetes, produced a situation which so compromised us that we had no real alternative but to resign.' - Maguire, *Independent* letter. Beckett was privately commissioned by Jaffé, a friend of his, while Maguire and Murray were still officially the architects. - Maguire, personal communication, 12 October 1993.

116 *The Times*, 14 November 1963; *Illustrated London News*, 1 February 1964 pp. 174–5. Hugh Plommer, like Maguire and Murray, suggested a return to a Tudor altar with baldacchino. But: 'What a pity the Rubens was not given to Trinity! It would have looked superb above the high altar there'. - *Cambridge Review*, 23 November 1963.

117 It was stored, at their request (Blow's reredos having been made by their craftsmen), by Rattee & Kett.

118 Later sold to Michael Heseltine MP.

119 *Country Life*, 30 April 1964 p. 1047. *The Times*, 23 April 1964, was also favourable about the east-end position.

120 *Cambridge News*, 23 April 1964; *The Times*, 23 April 1964.

121 *Cambridge News*, 12 January 1965; Rodney Tibbs, *King's College Chapel, Cambridge: The Story and the Renovation* (Lavenham 1970) p. 34.

122 Chapel adornment committee report, 23 November 1965. The sconces were scarcely practical, needing a step-ladder to reach the candles. In 1988 artificial candles were installed.

123 Hugh Plommer, *Cambridge Review*, 12 June 1965.

124 Wilkinson, *op. cit.*, pp. 130–31.

125 The shutters also have practical use, enabling the picture to be closed up for symbolical or security purposes.

way it could be accommodated beneath the window — an unusual and questionable proposal for an ancient church and one which was accepted without public debate. To abolish Essex's floor pattern and restore to the sanctuary the 1702 one (which, as Cole testifies, had extended as far as the second bay) was one thing; to abolish the sequence of ritual steps required by the founder quite another. Yet the two alterations were interlinked by the altarpiece proponents in the phrase 'restoration of former floor levels and pattern', Essex allegedly being as responsible for the existence of steps as for the condemned pattern, the floor before his time, it was claimed, having been level.[126]

In November 1965 twenty-one fellows and one honorary fellow signed an eleventh-hour paper condemning the altarpiece scheme. Their reasons included the 'serious clash of tone and colour between picture and east window', the fact that most visitors were 'dissatisfied and often distressed by the present position of the picture', a feeling that the altar was 'becoming virtually an appendage to a picture', the bare sanctuary walls, the 'various metal objects now attached to the walls', and the 'triptych effect of the present frame'. They felt the picture had looked better in the antechapel. Fearing that 'enthusiasm for a great work of art, the Rubens, may lead to the spoiling of an even greater one, the Chapel', they called on the college to 'admit that it has made a mistake' and 'be willing to think again on so grave a matter as the whole treatment of the east end, whatever the cost in labour, in time, in money and even in sore feelings'.[127] The levelling of the floor was not mentioned.

However, when the scheme came before the college's governing body on 30 November, its supporters presented a battery of expert opinion in its favour, including letters from Sir Dennis Proctor, Professor John Coolidge, Professor P. Lasko, Denys Lasdun, Lord Methuen, Anthony Blunt, and Hugh Scrutton, and the scheme was approved by a majority of three votes. It was decided to implement it during a full-scale restoration of the Chapel's interior, work on which commenced at the end of 1967.[128]

Anxiety lingered. On 24 October 1966 the Royal Fine Art Commission visited the Chapel. Their conclusion was that 'some conflict in interest is inevitable between the painting and the east window above it' and that had they been asked their opinion at the outset 'it is doubtful whether any members would have advised in favour of an attempt to use the picture as an altarpiece'. In the circumstances they could only recommend alterations to detail.[129] They too did not question the levelling.

Art Display Triumphant

King's College Chapel remained closed throughout 1968. An architecture undergraduate who watched the work almost daily claims that, when the sanctuary floor was taken up and the brick vaults[130] on which it had rested were destroyed, 'not merely human remains but entire, unopened lead coffins . . . were found all over the sanctuary area in the first and second bays . . . I saw the bones and skulls with my own eyes, and the portions of lead coffins exposed as the fill which underlay the demolished brick vaults was removed.'[131] The dean, David Edwards, was called to conduct a brief service. The uncovering of remains was never published and few knew about it. Apparently no record was made of where they were found, nor of their identity (where evident). The marble was relaid on concrete.

The floor levelling necessitated lowering the sills of the side-chapel doorways and adding panels to the bottoms of the doors, altering their proportions. The ugly scars left along the side

126 *Cambridge News*, 23 April 1964, 8 October 1968; press release 1967; *Annual Report* 1967; Wilkinson, *op.cit.*, p. 130.

127 Typed circular, 24 November 1965. The signatories were F.E. Adcock, Peter Avery, R.R. Bolgar, J.B. Broadbent, R. Burridge, Kendal Dixon, Prof. M. Fortes, J.H. Goldthorpe, M.N. Hill, G. Horn, H.E. Huxley, Lord Kahn, Bryan Matthews, Christopher Morris, D.A. Parry, George Rylands, George Salt, A.F. Scholfield, S. Max Walters, David Willcocks, J.H. Williamson; 'also approved by E.M. Forster'.

128 Allnatt's Chase Trust provided £41,000 towards the cost of rearranging the east end.

129 Royal Fine Art Commission to the provost, 22 November 1966. A draft of 9 November, slightly stronger, called the decision to use the Rubens as altarpiece 'wrong in principle'. Those who visited the Chapel were Lord Bridges, Sir Colin Anderson, Sir Leslie Martin, Henry Moore, John Piper, Godfrey Samuel. Moore (presumably glad he never made those statues), Piper and Martin held 'quite definite' views about the picture's unsuitability as altarpiece. The commission's involvement was ambiguous: the provost initially informed them that King's 'were entitled to do as they wished with the Chapel'. - RFAC, King's College file.

130 Believed at the time to be Tudor (Tibbs, *op.cit.*, p. 41; Woodman, *op.cit.*, p. 242), they probably dated from 1774.

131 Peter Hodson, personal communications, 18 February 1987, 24 October 1990. See also Graham Chainey, 'A season for crying in the chapel', *The Independent*, 24 December 1992.

walls where the base stone met the ashlar were concealed behind stone benches in imitation of those in the antechapel. Cosmetic flights of steps were built to the turret doorways (stranded three feet above the new level), the doors themselves now being blocked up. The steps from the fellows' stalls into the sanctuary were removed.

The altar, reduced in length to match the width of the Rubens, was raised on a dais of three shallow marble steps and provided with a modernist new frontal featuring a pattern of octagons with gold appliqué stars forming a central cross, the colours chosen to harmonise with the Rubens. Designed by Joyce Conwy Evans of the Royal College of Art, woven by the Edinburgh Tapestry Company and embroidered in London by Elisabeth Geddes, it was said to be the only ecclesiastical textile in Britain in which tapestry weaving was combined with embroidery.[132]

The Chapel reopened in December 1968 to controversy. Canon Hugh Montefiore, vicar of Great St Mary's, protested at the omission of an altar cross, apparently intended to allow 'an unbroken view' of the Rubens: 'Is this a symbol of secularisation? . . . Is it right to subordinate liturgical function to aesthetic effect?'[133] A cross was later provided. The *Architects' Journal* agreed that the Chapel had been 'tastefully secularised' and thought the alterations 'motivated not by the demands of liturgical worship but by those of museum display . . . The focal point of the Chapel is an ambiguous muddle . . . The altar, in its lowered state, is unrelated to the space of the choir.'[134] The *Burlington Magazine* called the changes 'the best of a bad job . . . The basic problems — how rich stained glass with natural light streaming through it is to be reconciled with smooth oil paint lit by electric light, how slender Gothic is to be reconciled with exuberant Baroque — remain.'[135] Another critic regretted the removal of the panelling — 'the Chapel now reverts to frigidity' — and called the frontal 'a bad copy of a fifteenth-century Italian ceiling'; a wag wrote: 'The restored Chapel at King's College is magnificent but I feel that if the Rubens was moved to the right, say as far as the Fitzwilliam Museum, it would look even better.'[136]

Critical response to the alterations has continued to be predominantly hostile. The Chapel was in danger of 'becoming an embalmed art gallery'.[137] 'If any building in the whole country was not made for [the Rubens], it was King's College Chapel.'[138] The east end was 'less dignified, and with a lesser sense of worship, than when it was backed by Blow and Billerey's fine classical altarpiece'.[139] 'The result is a botch-up job, attempting to mix perpendicular and renaissance with 1960s coffee-bar modern without regard to the true [geomantic] purpose of the Chapel as a microcosm of creation.'[140] The east end was 'swept, scoured, sterilized and hung about with 'Habitat' light-fittings', it was 'diminished in stature, in mystery, in reverence', transformed 'into a picture gallery.'[141] The alterations were the 'most reprehensible . . . of all examples of contemporary arrogance' in the treatment of ancient buildings, 'historically nonsensical and visually barbaric'; the 'cavalier treatment of one of the finest buildings in England remains an extraordinary scandal' and an 'aesthetic catastrophe'.[142] The choir had been 'devastated' by the removal of the panelling, leaving the walls 'absolutely and starkly bare, their whiteness vying with, instead of the woodwork setting off, the glorious glass.'[143] The introduction of the Rubens was 'a disaster . . . its colours belong to a totally different spectrum from those of the great east window', it destroyed the Chapel's inner harmony 'as cruelly as an F sharp in the middle of a C major chord'.[144] The Rubens was 'at odds with the

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132 The weaving employed cotton warps with wefts of wool and silk, metals and synthetic metals. The embroidery used gold and copper kid, Orlon cloth, lurex fabrics, Japanese gold cord, pearls, crystal glass beads, rocailles diamanté, sequins, and filigree and handmade buttons. The total cost was £1750. For several years before installation a mock-up was used, made from ingredients such as string, pipe-cleaners, silver foil, and plastic imitation Hepplewhite furniture mouldings, coloured with paints, inks and aerosols. - Patricia Wardle, 'The new altar frontal at King's College Chapel, Cambridge', translation of an article in *Bijvoorbeeld* (1971) No.1 (typescript, KC library). It was originally intended to light the frontal with a striplight let into the top step. - RFAC, King's College file. The frontal was removed in 1989.

133 *Great Saint Mary's Newsletter*, December 1968.

134 *Architects' Journal*, 11 December 1968 p. 1368.

135 *Burlington Magazine*, July 1969 p. 413.

136 Hugh Plommer, Arthur Thair, letters to the *Cambridge News*, 19 December 1968.

137 Booth & Taylor, *op.cit.*, p. 28.

138 Nikolaus Pevsner, *The Buildings of England: Cambridgeshire* (2nd edition, Harmondsworth 1970) p.107.

139 Bryan Little, *Cambridge Evening News*, 26 September 1970.

140 Pennick, *op.cit.*, p. 72.

141 Robert O. Plowright, letter to *The Times*, 17 February 1975.

142 Gavin Stamp, 'The art of leaving things alone', *Cambridge Review*, 28 January 1977 p. 76; *Private Eye*, 16 December 1982; letter to *The Independent*, 30 December 1992.

143 Gerald Cobb, *English Cathedrals: The Forgotten Centuries* (London 1980) p. 17.

building . . . works of art should not be added to churches for the sake of it, so that the building becomes a museum.'[145] The ensemble was 'badly thought out and crude in the extreme,' the Rubens 'a baroque masterpiece stranded in a Gothic church surrounded by gaudy shop-front tat'.[146] The 'spartan' walls 'removed some of the strong sense of enclosed space in the choir' and the Rubens was 'in competition with' the window.[147] 'I cannot think of any major ecclesiastical building which has suffered a comparable deformation.'[148]

The controversy resulted in 1974 in vandals scratching the letters 'IRA' across the foremost magus in the Rubens (the damage is still discernible). This in turn necessitated the introduction of security barriers, closed-circuit cameras and vandal alarms, so that the picture is rarely now seen from closer than 25 feet.

If the arrangements at the east end of King's College Chapel have reflected succeeding ages' liturgical and aesthetic aspirations, the current arrangement may be thought aptly to reflect its decade: celebrity art replaces spiritual symbolism, architectural meaning is replaced by interior design. Whereas before 1968 choir and sanctuary were one enclosed space, resonant with the same harmony, while the steps and change in floor pattern indicated gradations of significance within that space, now the bare walls differentiate sanctuary from choir, music from ritual, making two separate areas through which the levelled floor extends anomalously to the forced climax of the Rubens.

144 John Julius Norwich, *The Architecture of Southern England* (London 1985) p. 88.

145 Roger de Grey, lecture at Winchester Cathedral, 6 October 1989.

146 John Hoar, 'How atheists vandalised King's', *Sunday Telegraph* 24 June 1990.

147 *Blue Guide to Churches and Chapels: Southern England* (1991) p. 135.

148 Peter Hammond, author of *Liturgy and Architecture*, personal communication, 26 October 1993.

References

BLOMEFIELD, F. 1750. *Collectanea Cantabrigensia.* Cambridge.

BOOTH, N. & P. TAYLOR, 1970. *Cambridge New Architecture.* 3rd ed. London.

BURGES, W. 1875. Designs for a new altar-screen and sedilia for King's College Chapel, Cambridge, *The Architect* 22 May: 304–5.

CARDEN, R.W. 1912. The Italian artists in England during the sixteenth century, *Proceedings of the Society of Antiquaries* 24: 179–85.

CARTER, T.B. 1903. *A Letter to the Provost on the Subject of the Reredos in the Chapel of the College.* Privately printed.

CARTER, T.J.P. 1867. *King's College Chapel: Notes on its History and Present Condition.* London.

CLIFTON-TAYLOR, A. 1948. Unpublished notebook.

COBB, G. 1980. *English Cathedrals: The Forgotten Centuries.* London.

COOK, J. 1829. *An Historical and Descriptive Account of King's College Chapel, Cambridge.* Cambridge.

DESCAMPES, J.B. 1769. *Voyage pittoresque de la Flandre et du Brabant.* Rouen.

DOIG, A. 1978. James Adam, James Essex and an altar-piece for King's College Chapel, Cambridge, *Architectural History* 21: 79–82.

ERSKINE, S. (ed.). 1916. *Twenty Years at Court.* London.

FRIEDMAN, T. 1984. *James Gibbs.* Yale.

GIBBS, J. 1728. *A Book of Architecture.* London.

GOLDING, A. 1562. *A Brief Treatise Concerning The Burning of Bucer and Phagius.* London.

GREIG, J. (ed.). 1924. *The Farington Diary* vol. 3. London.

GROSSMANN, F. 1957. Flemish paintings at Bruges, *Burlington Magazine* 99 (January): 5.

HERRMANN, F. 1980. *Sotheby's: Portrait of an Auction House.* London.

HIGGINS, A. 1894. On the work of the Florentine sculptors in England in the early part of the sixteenth century, *Archaeological Journal* 51: 145–50.

HILLES, F.W. (ed.). 1929. *Letters of Sir Joshua Reynolds.* Cambridge.

HUNTER, J.B. 1983. The Life and Work of Girolamo Siciolante da Sermoneta. Unpublished Ph.D dissertation, University of Michigan.

HUSSEY, C. 1926. *King's College Chapel, Cambridge.* London.

Illustrated London News 1 February 1964.

JAFFÉ, M. 1961. The Rubens altarpiece in King's College Chapel, *Cambridge Review* 25 November: 142–3.

JAFFÉ, M. 1984. *Display and Devotion: Rubens's Adoration of the Magi.* Cambridge.

JAFFÉ, P. 1977. *Drawings by George Romney*

from the Fitzwilliam Museum, Cambridge. Cambridge.

JAMES, M.R. 1926. *Eton and King's.* London.

JAMES, M.R. & J.W. CLARK. 1896. *The Will of King Henry the Sixth.* Cambridge.

JAMESON, A. 1844. *Companion to the Most Celebrated Private Galleries of Art in London.* London.

LACEY, R.E. 1970. A note on the climate inside a medieval chapel, *Studies in Conservation* 15: 65–80.

LAGO, M. & P.N. FURBANK. (ed.). 1985. *Selected Letters of E.M. Forster,* vol. 2. London.

LAMB, J. 1838. *A Collection of Letters, Statutes and other Documents ... Illustrative of the History of the University of Cambridge during the Period of the Reformation.* London.

LUCIE-SMITH, E. 1961. *Rubens.* London.

MALDEN, H. 1769. *An Account of King's College Chapel in Cambridge.* Cambridge.

MICHEL, J.F.M. 1771. *Histoire de la vie de P.P. Rubens.* Brussels.

MOULE, A.C. (ed.). 1926. *The Cambridge Journal of William Dowsing.* Cambridge.

NICHOLS, J. 1788. *Progresses and Public Processions of Queen Elizabeth.* London.

NORWICH, J.J. 1985. *The Architecture of Southern England.* London.

PARKER, J.H. 1896. *A Concise Glossary of Architectural Terms.* Oxford.

PENNICK, N. 1978. *The Mysteries of King's College Chapel.* Wellingborough.

PEVSNER, N. 1970. *The Buildings of England: Cambridgeshire.* 2nd ed. Harmondsworth: Penguin.

PFAFF, R.W. 1980. *Montague Rhodes James.* London.

POPHAM, A.E. 1944. Hans Holbein's Italian contemporaries in England, *Burlington Magazine* 84: 12–17.

REYNOLDS, J. 1797. *A Journey to Flanders and Holland.* London.

ROMNEY, J. 1830. *Memoirs of the Life and Works of George Romney.* London.

ROOSES, M. 1904. *Rubens,* trans. Harold Child. London.

SCOBELL, H. 1658. *A Collection of Acts and Ordinances.* London.

SMITH, J.J. (ed.). 1840. *The Cambridge Portfolio.* London & Cambridge.

STAMP, G. 1994. George Gilbert Scott, jun., and King's College Chapel, *Architectural History* 37: 160.

STORER, J.S. 1835. *Cantabrigia Illustrata.* Cambridge.

STRYPE, J. 1822. *Ecclesiastical Memorials* vol. 3. London.

TIBBS, R. 1970. *King's College Chapel, Cambridge: The Story and the Renovation.* Lavenham.

VAN EVEN, E. 1860. *Louvain monumental.* Louvain.

VAN EVEN, E. 1895. *Louvain dans le passé et dans le présent.* Louvain.

WATERHOUSE, E.K. 1970. An altarpiece by Gerolamo Siciolante da Sermoneta, *Burlington Magazine* 112: 104–7.

WILKINSON, L.P. 1980. *A Century of King's.* Cambridge.

WILLIS, R. & J.W. CLARK. 1886. *The Architectural History of the University of Cambridge.* Cambridge.

WOODMAN, F. 1986. *The Architectural History of King's College Chapel.* London.

Field-Work in Cambridgeshire: October 1993–September 1994

Alison Taylor, Tim Malim & Christopher Evans

The following field-work has been carried out by the **Archaeological Field Unit of Cambridgeshire County Council.**

Alison Taylor & Tim Malim

Excavation Summaries

Balsham, Fleam Dyke TL548541
(see *PCAS* LXXXI)

Paul Spoerry & Tim Malim, for English Heritage

Cattle pelvis from first phase bank C14 dated to 1580±55 BP (OxA-4066) which puts construction of the Dyke into the early Anglo-Saxon period.

Cambridge, Old Addenbrookes Hospital TL45105787 (Report no. A43)

Ken Welsh, for Lynxvale Ltd

Five skeletons were disturbed during building work. They represent two females, one male and two too fragmentary to determine. One female, aged about 16 showed signs of severe stress (starvation or feverish illness) by her teeth, and the strain of carrying heavy loads in youth by her vertebrae. One indeterminate skeleton had a tropical ulcer on its leg, a common disorder of the period. Documentary evidence suggests that they were patients of the hospital, buried in the 1770s.

Ely, The Maltings TL546798 (Report no. 96)

Tim Reynolds, for East Cambridgeshire District Council

The area assessed was in the vicinity of the medieval waterfront, and background research had suggested warehouses, hythes and lanes would lie on the site. A single trench was excavated by machine to reveal medieval deposits which were then hand-excavated. Two superimposed medieval banks were discovered overlying deposits of a former foreshore into which a single pit had been dug. The pit and banks were all medieval, dating between 1200 and 1400 AD on pottery evidence. In front of the banks the waterfront had been pushed further east by dumped layers of building material (tile, limestone rubble, and small fragments of burnt clay) interspersed with layers of clay. The rear of the upper bank had eroded during its lifetime and was refurbished by dumping limestone rubble and tile over the puddled area.

Ely, St Mary's Lodge TL53788032
(Report no. A71)

Ben Robinson, for Hereward Housing Association

A recording brief was carried out during the redevelopment of a property bordering the postulated tenth- to eleventh-century planned market at Ely. A cluster of twelfth- to thirteenth-century pits were recorded on the street front, suggesting a post-thirteenth-century change of alignment in St Mary's Street. Residual Ipswich and St Neots Ware confirmed a mid and late Saxon presence. A short length of 'L'-shaped beam slot was located (on the street front, but on a different alignment to the present buildings) possibly indicating a pre-thirteenth-century building.

Folksworth TL16109035 (Report no. A58)

Stephen Kemp, for Cambridgeshire County Council Transportation Department

Two flint cobble layers overlying made-up ground were found to form the agger of Roman

Ermine Street which was found to the west of a prominent hollow way. No roadside ditches were detected.

Godmanchester, Sweetings Road TL246698 (Report no. A31)

Stephen Macaulay, for Galliford Sears

A Palaeolithic hand-axe was found in a post-medieval quarry. Roman burials were also noted on the site, but were not excavated.

Hinxton Hall TL496448

Paul Spoerry, for the Wellcome Trust

Prehistoric quarries and pits containing Neolithic and Bronze Age flints were excavated. One of a number of Neolithic curvilinear pits was excavated and distinctive soil layers of late Neolithic–early Bronze Age date were sampled. A chalk shaft 1.8 m deep contained bone and worked flints in the lower fills and Beaker pottery at the top.

Evaluation trenching and magnetometer survey had indicated the approximate extent of the Anglo-Saxon settlement. This was followed up by an area excavation. Close to localised Roman quarrying a middle Saxon settlement comprising a loose cluster of four or more *grubenhauser*, and at least one other timber structure, was identified. Domestic craft material in the form of spindle whorls, bone needles, knives, loom weights and possible loom timbers, were recovered from the *grubenhauser*. A late Saxon sequence of occupation followed which was characterised by several buildings of the 'hall' type, the largest of which was over 15 m long. Most of the major structures were located within a roughly rectilinear enclosure which was approximately 45 m across east to west, and which may have had a second enclosure adjoining it on its west side. Several phases of re-building and construction were identified. However, all buildings within the main enclosure were constructed on a formal alignment, perhaps suggesting continuity of occupation. Other features identified within the 'domestic' enclosure include two ovens, three wells and many rubbish pits. Only part of the possible second enclosure was excavated, the remainder being under a tree belt. This contained evidence for a much less substantial wooden building, plus one or more probable retting pits. The discovery of a sizeable deposit of carbonised flax seed elsewhere on the site may support this latter identification. The final phase to activity on the site seems, from ceramic data, to date to the twelfth century. An oven, or drier, with a flue several metres long which is cut into the almost completely filled main enclosure ditch, is the most obvious feature of this last, post-Conquest phase.

Hinxton Grange TL511464

Richard Heawood & Ben Robinson, for Department of Transport

A salvage excavation in advance of the A11 widening on a site located by metal detectors uncovered a high status building of which a short length of robbed-out stone wall and a small section of intact flint rubble foundations survived. The rest of the building had been quarried away — possibly during construction of the adjacent highway in the mid-nineteenth century. The robbing of materials from the building's foundations also seems to have occurred at this time.

Hinxton/Stumps Cross TL505441

Ben Robinson, for the Department of Transport

Trenching of the area around Stumps Cross roundabout for the A11 dualling scheme produced a very limited array of archaeological features, mostly ditches of Romano-British date. A bronze hoard was reputed to be found by illegal metal detecting just south of the county border, in Essex.

Huntingdon, Hartford Road, High Street TL24067167 (Report no. 105)

Ken Welsh, for Paul Bancroft, Architect & Marshalls

Three trenches were excavated, all of which revealed a variety of archaeological deposits. The earliest of these were dated by pottery evidence to the thirteenth or fourteenth century and included a gravel surface, perhaps part of a yard. The next period of activity recognised archaeologically was an apparently deliberate raising of the ground surface, perhaps to combat problems of flooding. Large quantities of clay and other materials much of it burnt, were observed in all three trenches and may have been dumped there at the end of the medieval period.

Following this, a cellared building was constructed on the High Street frontage, perhaps around 1500. This building may well be one of the three inns mentioned in a document dating to 1572. Evidence of a seventeenth-century building, probably fronting onto Hartford Road, was also recorded, These buildings seem to have

survived until the early nineteenth century, when they were demolished to make way for St Mary's Vicarage.

Little Linton TL556473

Simon Bray & Tim Malim (see *PCAS* LXXXI)

No concensus on pottery could be obtained and to resolve whether the pottery dated to the Anglo-Saxon or Iron Age period a number of sherds were sent to the Oxford Research Laboratory for thermoluminescence dating. Results showed the pottery was pagan Anglo-Saxon: i) 1535±120 BP, ii) 1515±105 BP, iii) 1380±105 BP, and iv) 1485±125 BP.

Milton, Landfill Pit TL464624 (Report no. 104)

Tim Reynolds, for East Waste Ltd

Emergency excavations in advance of clay extraction to create waste pits revealed several periods of Iron Age and Roman settlement that can be summarised as follows:

Phase 1. An Iron Age settlement of at least four buildings was placed on a gravel ridge, with agricultural boundaries around it and some gravel extraction taking place to the east and northeast of the settlement itself.

Phase 2. The northeastern area of gravel pits was infilled and a timber building built over it. This building was rebuilt on approximately the same site and a further building placed to the east of it.

Phase 3. An enclosure ditch was dug around these buildings together with a system of at least three other enclosures running south of it. A timber mortuary enclosure was constructed inside the northern enclosure and the timber buildings of Phase 2 demolished. Four cremations were placed inside the mortuary enclosure together with at least three other pots. The settlement itself was then dismantled.

Phase 4. The dismantling of the settlement was followed by extraction of gravel from the ridge the houses were placed on. A Roman villa estate was laid out, disregarding existing field boundaries.

Phase 5. The villa estate ditches were realigned, and the site of the Iron Age settlement was ploughed over.

Phase 6. The villa estate was destroyed, building remains appear in the tops of ditch fills, a regular series of new ditches are laid out — possibly showing the reallotment of land to local residents.

Phase 7. A timber barn was built (probably of two stories) with an external access ladder and a corn drier nearby. A pond has formed over the intersection of infilled ditches and two dumps from a corn drier are thrown into it, as are a large amount of broken pottery and an old boot. A latrine positioned behind the barn is probably contemporary with it.

Excavations on adjacent sites will continue in 1995.

Oakington, Anglo-Saxon Cemetery TL416646

Stephen Macaulay, for South Cambridgeshire District Council

Following the discovery of an Anglo-Saxon grave (female, accompanied by one annular and one small-long brooch and a copper alloy buckle) in 1993, a larger part of the cemetery was investigated before further earth disturbance in 1994. There were 24 burials (including 1993 discovery), of which nine were children, eight female, five male and two too fragmentary for identification. An unusual number of females and children were accompanied by grave-goods, giving overall totals of 78 beads (65 amber, 11 glass, 2 silver-on-glass), 20 brooches (5 annular, 1 applied disc, 4 cruciform, 1 disc, 8 small-long, 1 great square-headed), 11 knives, 1 ivory bag ring, 1 spear, 2 shield bosses, 3 buckles, 4 pins, 1 spindle whorl, 4 pairs of wrist-clasps (not all complete) and 3 keys. Eleven graves had large potsherds or almost complete pots and 2 contained sheep bones, apparently deposited as grave-goods. One of the burials, a girl in early teens, was accompanied by 47 amber beads, 2 small-long brooches, 2 buckles, an ivory bag ring with 3 keys, a small ivory ring, iron chain, copper alloy belt end and sheep bones. Another young girl, about 11 years was buried with the gilded great square-headed brooch with a detached catch-plate, 2 bone pins and one iron nail. All graves appear to fall within the sixth century.

Pampisford, Brent Ditch TL51454753

Ben Robinson & Tim Malim, for English Heritage (see *PCAS* LXXXI)

Human pelvis fragment C14 dated to 2105±55 BP (OxA-4065); this date suggests the sample was a residual piece of Iron Age bone, found in

basal ditch deposits which also contained coins of the second century AD in a fairly unworn state.

Parson Drove, Throckenholt Farm TF355090 (Report no. 109)

Simon Bray, for English Heritage

During November 1993 an evaluation excavation of detailed cropmarks was carried out as part of a continuation of a survey of the archaeology of the County Farms Estate (Malim 1990). The site is located on a slight rise on siltland, reclaimed during the late first century AD, and from cropmark and field-work evidence it seems to represent an extensive agricultural and settlement landscape. Excavated evidence supported this functional interpretation for enclosures studied, but the dating suggests a short period of occupation in the late second to mid third centuries. The remains of pottery vessels, domestic tools and two rubbish pits were identified. Abandonment of the site was possibly attributable to rising water levels, and the subsequent flooding of the site during the late second or third century. Later activity on the site was identified in the form of two post-medieval ditches possibly forming part of a later drainage network.

Peterborough, The Still, Cumbergate TL19109880 (Report no. 101)

Ken Welsh, for Lambert, Scott & Innes

The site is close to the medieval core of Peterborough, and lies behind the street frontages of Westgate and Cumbergate. Initial historical research indicated that the area consisted of orchards and gardens in the post-medieval period, but specific references to Cumbergate were rare.

The assessment revealed, in the courtyard of The Still, a series of intercutting rubbish pits, containing pottery dating from the twelfth to fourteenth centuries. In the northern part of the site, behind the Westgate frontage, a large quarry pit was found. It contained pottery indicating that it was filled in the mid to late thirteenth century. Further medieval features had been dug into the top of this pit and date from the mid thirteenth to early fourteenth centuries. A stone-lined cesspit, probably in use during the fifteenth century, was also recorded.

Further deposits recorded across the site, seem to confirm that the area was then given over to gardens and orchards. This situation persisted (although apparently as formal gardens in the nineteenth century) until the early years of this century when the adjacent arcade was built. The area now forms the garden of The Still and a service area for the Queensgate Centre.

St Neots, Eynesbury, Ernulf School TL182588 (Report no. A41)

Stephen Macaulay, for Huntingdonshire District Council

A shallow ditch was identified as part of a Neolithic cursus, after expectations derived from aerial photographs. A ditch producing Roman pottery was excavated and this appear to relate to a north–south trackway ditch identified from cropmarks. Two other north–south ditches were investigated which yielded no artefacts, however one of these may be the eastern ditch of the Roman trackway. Within the trench, it was not possible to locate the western ditch of the cursus. Stripping of the pitch and laying of drainage/service trenches was watched. The shallow depth at which soil disturbance ceased over the pitch (i.e. topsoil) meant that no archaeology was revealed, however a raised gravel bank was identified. A service trench revealed the continuation of four of the five linear features recorded, and the western cursus ditch, on the north side of the site.

Sawston, Borough Hill TL47174948 (Report no. 95)

Simon Bray, for Spicers Ltd

A pipeline crossed an Iron Age hillfort where it was possible to record survival of the bank and ditch of the hillfort with a preserved buried soil beneath the bank. The bank was shown to be on a slightly different alignment to the surviving earthwork as a result of soil creep outwards and downslope from the bank. Inside the hillfort a thick silt layer was recorded, protecting any internal features from modern agricultural practices. Later activity was identified outside the fort in the form of a well-defined, shallow ditch and a square-cut pit or ditch.

Sawtry, Tort Hill TL17208460 & TL17208485 (Report no. 103)

Ken Welsh, for Cambridgeshire County Council Transportation Department

On the west side of the A1 a small ditched enclosed and various pits and ditches were revealed,

probably representing a farmstead. Pottery from some of these features indicate that settlement initially occurred in the period immediately before the Roman invasion of Britain in the first century AD, and possibly continued well into the Roman period.

To the east of the A1, pits, ditches and other features were recorded. These produced a large quantity of mainly second- to fourth-century Roman pottery, as well as iron objects, coins and other domestic refuse. These deposits probably represent a peripheral area of the Roman roadside settlement, where activities such as rubbish disposal and perhaps small-scale industrial processing took place.

Stukeleys, Huntingdon Race Course TL200723

Stephen Macaulay, for Tarmac Quarry Products

Features of the prehistoric environment, including burnt-out tree boles and a palaeochannel were excavated.

Thorney, Dog-in-a-Doublet TL27469947 (Report no. 106)

Ken Welsh, for Cambridgeshire County Council Transportation Department

Assessment revealed the original road, constructed on a causeway to raise it above the surrounding peat as it approached the bridge. A sub-structure of wooden planking and uprights formed the foundation of the causeway, with layers of redeposited peat, silt and gravel being used to build up the road. Finally, the road was surfaced with limestone cobbles.

Pottery, clay tobacco pipes and glass bottles found within the road structure date its construction to the first part of the eighteenth century. It appears to have remained in use until the present bridge over the Nene was built in 1932.

Whittlesford Moat TL42159304

David Mitchell, for Mr & Mrs Wareham

Excavations within a well-preserved moat close to the village church revealed occupation layers to a depth of 2.5 m below the surface. Fifteenth-, sixteenth- and eighteenth-century occupation horizons were noted overlying deposits of an earlier date, the latter possibly associated with the original medieval Manor of Whittlesford.

Wimblington, Bridge Lane TL421927 (Report no. A27)

Ben Robinson, for Finnpave Ltd

Evaluation excavations revealed a late Iron Age ditch and traces of the medieval hamlet of Eastwood End. The ditch is an out-lying remnant of a previously known Iron Age/Romano-British settlement, situated at the southern headland of a medieval field. The earlier medieval features on the site represent structures that were erected during the fourteenth to fifteenth century. This activity was probably succeeded by a period of cultivation. Rubbish filled ditches, dated by pottery to the sixteenth and seventeenth centuries, indicate the proximity of the dwellings at this date.

Wimblington, Stonea Camp TL446931 (Report no. A27)

Stephen Kemp, for Cambridgeshire County Council Farms Estate

Excavations of the mere to the south of the Camp revealed a peaty layer above clays, with occasional finds of animal bone and Iron Age pottery, at one point in association with a pit. The insertion of a plastic membrane to impede drainage revealed a peat layer buried beneath rodden silts, and this was sampled by monolith for pollen analysis and carbon dating.

Tim Malim, for English Heritage

Three further C14 dates have been received in addition to the one reported in *PCAS* LXXXI.

i) 2210±90 BP: Oak leaves from basal fill of outer defensive ditch (Gu-5331).
ii) 2110±50 BP: Oak leaves from basal fill of outer defensive ditch (Gu-5332).
iii) 1985±55 BP: Human bone from skeleton deposited in upper silt fill of outer defensive ditch (OxA-4064).
iv) Overall all four dates put construction and use of Stonea Camp into the Mid–Late Iron Age with 95% confidence:

Gu-5331	*cal BC 510–90*
Gu-5332	*cal BC 360–30*
OxA-3620	*cal BC 340–50 cal AD*
OxA-4064	*cal BC 100–130 cal AD*

Assessments which revealed no significant archaeological remains were carried out at:
Ely, RAF Hospital TL548819
Ely, Ship Lane TL54497996
Ely, Witchford Road TL527796

Foxton, High Street TL411483
Godmanchester, London Road TL25106974
Impington, Histon Road Allotments TL445612
Littleport, Camel Road TL563877
St Neots, Eynesbury, Barford Road TL184583
Yaxley, Parsonage TL17649189

Archaeological studies, including background research into archaeological and historical records, field visits and geophysical surveys were published for the following areas, in order to mitigate effects of development proposals:
A15 Werrington–Glinon upgrading
Abbey Farm, Ickleton
Weybridge Farm, Alconbury
A142 Fordham by-pass
A47 Thorney by-pass

Construction of the following pipelines was observed:
A1–Norman Cross
Bluntisham–Colne (2 palaeoliths found)
Bourn
Peterborough South
Grafham
Stapleford–Wandlebury

Archaeological recording was also carried out before demolition of part of the tower of St Mary's Church, Shudy Camps (Ben Robinson, for English Heritage).

Reports on all of the above projects are available from the Archaeology Section, Cambridgeshire County Council, and can be consulted in the Haddon Library, or the Cambridgeshire Collection.

Cambridge Archaeological Unit, University of Cambridge, Excavation Round-up: October 1993–September 1994

Christopher Evans

Bury, Owl's End Road TL28375284

C. Begg

Assessment investigations across a 3.5 ha plot recorded earthwork banks, ditches, in-filled ponds and at least one house platform. To date, subsequent excavation has revealed multi-period settlement activity interrupted by at least three periods of alluviation. Although evidence for an early Neolithic presence was recovered (*in situ* flint knapping), no contemporary features indicating settlement were recorded.

The earliest phase of settlement was represented by a series of narrow ditches/gullies, including a ring-ditch, from which Late Pre-Roman Iron Age pottery was recovered. The majority of the features represent medieval settlement activity: ditches, pits/tanks and substantial post-holes, ranging in date from the twelfth to fourteenth century; a small number of sherds of Saxon pottery were also recovered. These are potentially associated with the medieval hamlet of *Hepmangrove*. The earthworks represent the final phase of activity and relate to medieval/post-medieval floodplain management; fieldwork continues at the time of writing.

Cambridge, New Hall TL44005950

C. Evans

Large-scale excavations were undertaken over three and half months in the winter-spring. This is the largest exposure of extra-mural Roman Cambridge (*c.* 3000 sq. m) with more than 300 major features excavated. Two areas were investigated: south behind the Nuffield Building (I); and in the main parking lot west of the College, from the Huntingdon Road frontage back to the coachouse.

Although Bronze Age flintwork and pottery was found throughout, the intensity of Roman activity had truncated any contemporary features. The singularly most important discovery was a 7 m wide, E–W oriented ditch-flanked road in Area I. Of early Roman date (mid first century), its projected line would run east to the known 'Cam ford' near Bridge St. Major ditches, some with deep 'V'-shaped/ankle-breaker profile, ran parallel with the road. One extended north beneath Huntingdon Road (the line of the Roman road to Godmanchester), where it was truncated by a later first-century roadside ditch, thus indicating that the Godmanchester route was secondary. Thereafter these two alignments — the 'Back College' and 'Godmanchester' — co-existed, the former evidently dictating the alignment of a series of late Roman/Saxon inhumations.

A dense network of ditches and cluster of early quarry pits were found across the main area of excavation (II), and, in its northwestern corner, a series of enormous water storage/processing tanks or wells. These had been backfilled with midden-like deposits, whose extraordinary abundance of pottery, including many imports, suggests a military-type assemblage of later first-century date. These features were flanked by lines of intercutting pits. Of distinct lobate/'troughed' form, these were probably for tanning. Great quantities of large bone waste were recovered throughout the site and, as these pit groups were set within a regular net-

work of ditch compounds, the area appears to have functioned as stockyard/tanning complex.

Given an extra-mural situation, the density of features found was remarkable. There is evidence of a military presence (ankle-breaker ditches and pottery assemblage) which either suggests that this was the site of an army supply centre/marching camp and/or the army was involved in laying-out the framework of the Roman town's hinterland.

Cambridge, Sidney Sussex College TL45015867

D. Hind & I. Marsden

Assessment excavations, south of the Master's Garden and west of Garden Court, revealed a clay-lined fish tank/pond, dating to between the thirteenth and fifteenth century. Evidently monastery-associated, this was sealed by successive dumped layers including demolition debris deriving from the Grey Friars, dating shortly after its dissolution in 1538.

Cherry Hinton, Fulbourne Road TL49105600

A. Dickens

An assessment was carried out for Peterhouse College in August 1994. Analysis of aerial photographs and a resistivity survey confirmed the presence of three ring-ditches thought to be ploughed-out barrows. The trenching and test pitting programme revealed a very low level both of archaeological features and artefacts. The only definite features identified were the ditches of the three putative barrows. Excavation revealed the northern arc of a northern(most) ring-ditch which was not visible in either the aerial photographs or geophysical survey. On excavation, a high density of post-medieval material was recovered from it. Further excavation of the southernmost ring-ditch produced flint and Bronze Age pottery and a central cremation was exposed. With the features confirmed as prehistoric, the high incidence of post-medieval material in ring is thought to be the result of rabbit or root activity.

Cottenham, Lordship Lane TL44906810

R. Butler

Evaluation established the extent of a Saxon site in the Crowlands/Lordship Lane area. Saxo-Norman and medieval activity was notably absent immediately adjacent to Crowlands Moat; any remains evidently having been truncated through subsequent ploughing following the demise of the manor lands. The area was subject to intensive post-medieval activity.

Earith, The Minnaar Site TL38107490

A. Dickens & G. Lucas

Twenty burials of probable early twentieth-century date, which must relate to a former Quaker Meeting House to the east of the site, were discovered during assessment trenching. These were removed by undertakers and re-interred (Old Borough Cemetery, St Ives). No other archaeological remains were found.

Ely Cathedral TL54208030

M. Alexander

Excavation of a pipe trench to the south of Ely Cathedral revealed the footings of the inner wall of the twelfth-century cloister. The fifteenth-century cloister foundations appear to have been used to support the existing garden wall, its outer wall was robbed away. Deep foundations, probably associated with the 'Bishop's Parlour' mentioned in documentary sources, were found to the west. There was considerable evidence for occupation prior to the construction of the cathedral including mortared surfaces and a substantial stone foundation possibly relating to the Saxon church. Structural remains of a medieval covered gallery were anticipated, but not satisfactorily identified.

Ely Sewage Treatment Works and the South Sewer Pipeline, Cawdle Fen TL52907870 & TL53407860

M. Alexander

Evaluations were conducted along a pipeline route and in a field designated for a new treatment plant south of Ely. Although no archaeological features were present, sporadic finds of prehistoric flints and abraded Roman and Medieval pottery were recovered.

Hinxton, Hinxton Quarry-Mid Field Arm TL48884646

M. Alexander

A late Iron Age cremation cemetery was excavated in advance of gravel extraction. Eight cremation burials, five of which were centrally

located within ring-ditches, were recovered. All, including those without encircling ditches, were placed within roughly circular pits and accompanied by one or more complete pots. The pottery is provisionally dated between 50 and 10 BC; three (secondary) inhumations are provisionally assigned to the Roman period.

Impington, St Andrew's Church TL44806320

D. Gibson

An evaluation was conducted within the footprint of the proposed extension to adjoin the existing vestry of the medieval church. The remains of ten inhumations were identified and recorded; associated artefacts included six sherds of Saxo-Norman pottery. Although residual in its present context, the pottery possibly derives from features disturbed by grave digging. These truncated features could relate to structures associated with the earlier church of St Etheldreda which the present church replaced in the fourteenth century.

Isleham–Ely Water Pipeline

K. Gdaniec

Archaeological survey and excavation was conducted along the route of Anglian Water's Isleham–Ely pipeline. A landscape 'corridor' rich in prehistoric settlement, five major areas required detailed investigation:

1) *Prickwillow Road, Isleham* (TL63797510) An earlier Bronze Age settlement was located on high ground, the presence of which had been recognised as a flint scatter during route evaluation. A round post-built structure was found associated with numerous large intercutting pits, with extensive evidence of specific-artefact deposition, principally involving cattle bone. A miniature antler bow, carved as if strung, was found in the base of one.

2) *Hall Farm, Isleham* (TL63537416) A relict pond was investigated having exhibited cultural activity through its infill sequence and on its banks. While no structural evidence was found, large quantities of burnt flint (worked prior to burning) recovered from all but its lowest layers indicate the use of the water source until at least the middle to later Bronze Age.

3) *Chalk Farm East* (TL62977334) Medieval quarry pits, dug around a field boundary, almost totally truncated a Neolithic and Early Bronze Age settlement marked by a dense scatter of flint. Few flint tools were present, but a large quantity of knapping debris from flint axe production were recovered, and fragments of broken axes and hammerstones.

Two large storage pits, containing pottery, bone and seed remains, represent the first Iron Age features to be found in Isleham parish; no further contemporary settlement evidence was found.

4) *Chalk Farm West* (TL62667342) Post-medieval field ditches provided evidence of early enclosure. A medieval farmstead was found with pits and possible building trenches containing thirteenth-century pottery.

An Early Bronze Age ring-gully and other associated features were truncated by the later farm-related features.

5) *The Snail Palaeo-channel, Fordham Moor* (TL62257355) A former channel of the River Snail provided environmental evidence from the early Neolithic. This was complemented by artefact assemblages largely consisting of early Neolithic to early Bronze Age flintwork. Human skull fragments, a dog-gnawed femur, aurochs tibia, Neolithic flint blades and a pygmy cup were recovered from a sondage through the channel. Four pits on its western bank, positioned to naturally infill with water, yielded exceptionally high quantities of burnt flint. Fieldwalking and test pit finds densities had already demonstrated high concentrations of burnt flint in the vicinity of the palaeo-channel with distinctive concentrations of burnt/unburnt flint on each side (see *The Snail Valley*, below).

Little Thetford TL52777625

K. Gdaniec

A multi-period farmstead dating from late Iron Age and Romano-British periods was discovered (sealed beneath well-preserved medieval ridge-and-furrow) during assessment investigations. Numerous ditches, some re-cut several times, contained large bone assemblages. Two distinct alignments of enclosure were recorded. It is not yet clear whether the settlement was only restructured during the Romano-British period or was total re-modelled during the later first century AD. Further excavation is anticipated.

Pampisford, Bourn Bridge TL517495

J. Pollard

Following field evaluation in November 1993, excavations were conducted between May and October 1994 on a 6 ha borrow-pit site occupying the 1st to 2nd terrace of the River Granta,

immediately to the west of the new A11 widening. These revealed evidence for intermittent settlement and ceremonial activity from the Mesolithic to the early Saxon period.

The area was traversed by several marl-filled palaeo-channels of Pleistocene date. The earliest indications of human activity were provided by occasional pieces of Mesolithic flintwork (including microliths and a tranchet axe). A low-level scatter of worked flint and pits containing charcoal-rich soil and burnt flint are indicative of episodes of short duration settlement during the fourth to second millennia BC. Perhaps associated with one of these episodes of occupation was a small circular ditched monument (*c.* 9 m in diameter), with radial external pits, post-settings within the ditch, and a sunken central area with a post-pit containing the cremated remains of an adult. A second cremation came from a pit within 15 m of the monument. Peterborough Ware, sherds of Grooved Ware or urn, animal bone and large quantities of flint debitage came from the ditch and pits, supporting a later Neolithic date. Few analogies are evident for this monument, which seems more closely linked with individual funerary ritual than the kind of communal ceremonial activity normally associated with henges/hengiforms.

Roman activity is represented by the ditches of rectilinear fields and a riverside droveway. Set within the (then abandoned?) field-system were seven early Saxon sunken-featured buildings, six of which were clustered on a terrace *c.* 50 m to the south of the river. Substantial quantities of bone, pottery, baked clay and other artefactual material were recovered from their 'midden' fills. It is unlikely that all were directly contemporary. Individual structures were evidently replaced upon going out of use and served a secondary function as refuse pits for rubbish generated within the new building(s). Though searched for, no post-built 'halls' were located. The *Grubenhauser* probably represent a shifting farmstead occupied by a single household unit. Taken in conjunction with the results of work at Hinxton Hall and Hinxton Quarry (Taylor & Evans 1994: 164, 170), the site adds to increasing evidence for extensive early Saxon settlement on the gravel terraces of the southern Cambridgeshire downlands.

The Snail Valley TL62257355

K. Gdaniec

English Heritage funded a programme of fieldwalking and test-pitting to enhance the data recovered from the Isleham–Ely Pipeline around the Snail palaeo-channel. The results of fieldwalking, undertaken in September, show highly variable densities of material across the area suggestive of a palimpsest of sites from the early Neolithic to early Bronze Age.

St Ives, Meadow Lane TL32907060

J. Pollard

In advance of gravel extraction, fieldwork was undertaken on a 8.5 ha site within A.R.C. quarries to the east of St Ives during the summer and autumn of 1994. The area lies on the 1st to 2nd terrace of the River Great Ouse; and was bisected by two palaeo-channel systems (ultimately of Pleistocene origin), probably former courses of the Ouse. Because of the 'wet' nature of the site it has been part of a marginal landscape throughout its history. This was reflected in the character of the archaeology: boundary and settlement-edge features of later prehistoric and Roman date sealed under deep alluvial deposits. These were probably associated with a later Iron Age — Roman farmstead known from salvage excavations during the 1950s on high gravels to the west of the site.

Context for a low density scatter of later Neolithic flintwork across the dry margins of the site was provided by a deposit of burnt material, bone (including a bear claw) and flint in the fill of the west palaeo-channel. This is considered to represent short-lived task-specific activity rather than settlement.

The west channel provided a natural boundary, the social appropriation of which becomes archaeologically visible with the digging of two pit alignments during the early — mid first millennium BC. Both ran parallel with western edge of the channel for a distance of over 110 m. Rather than forming a double system, differences in specific alignment and the morphology of pits (one set rectangular, the other round) indicate they were successive. Due to its location on the channel edge, the eastern alignment was waterlogged, demonstrating it was covered by floodwater over much of the year. The pits produced a rich assemblage of environmental remains and worked wood (sharpened roundwood, split lengths and hedge trimming debris). Neither alignment could have served as an effective physical barrier.

Redefinition of this boundary during the late first millennium BC and into the Roman period is seen in successive ditches upon the same line, providing evidence for prolonged landscape continuity. Settlement-related features, includ-

ing pits, gullies and a well preserved midden, can be linked to a dry phase during the first to second centuries AD. Following a pattern seen in floodplain sites elsewhere in the region, conditions became wetter during the later Roman period, resulting in renewed alluviation.

An exceptionally fine Penard phase bronze spearhead was found by a member of the quarry staff in a field to the south of the excavation. Trial trenching around the findspot revealed only lake deposits of probable Ipswichian date. Though the specific context is ambiguous, the spearhead clearly comprised a votive deposit.

Wandlebury Hillfort TL49405340

C. French & K. Gdaniec

Permission was granted by the Cambridge Preservation Trust and English Heritage for a programme of survey, geophysical prospection and excavation as a student training exercise, coordinated by the Department of Archaeology, Cambridge. This had two main aims: non-intrusive survey within the interior of the hillfort and investigation of possible remains exterior to the rampart. The excavations conclusively demonstrated Iron Age settlement features occurring outside the eastern circuit. Great quantities of bone, pottery and environmental remains were recovered from ditches, gullies, post-holes and large under-cut storage pits, and confirmed extensive occupation of the hill crest. Mesolithic to Bronze Age flint, Neolithic polished flint axe fragments and Beaker pottery indicated that this area had also been the focus of earlier prehistoric activity of, as yet, unknown form and extent.

Yaxley, Vicarage Way TL17809200

C. Begg

Anticipating residential development, an assessment was conducted on land adjacent to the site of a medieval and post-medieval manorial complex at Manor farm. Trial trenches revealed ditches and pits reflecting agricultural land-use associated with the original six acre home close of the manorial complex to the west. A few struck flints recovered from the site indicate prehistoric activity in the vicinity.

The following excavations were carried out by other organisations:

Foxton TL400484–402479

John Price Engineering Archaeological Service, for British Gas

A rich and intensive group of Roman features were excavated adjacent to Shepreth villa. These included a Romano-Celtic temple, burials of first- and third-century and possibly Anglo-Saxon date (including one lead coffin), military style ditches, farming enclosures and a pit containing a hoard of iron work.

Haddon

Stephen Upex, for Peterborough Regional College

Excavations continued on a Roman bath-house that was also occupied very early in Anglo-Saxon times.

Wimpole TL343495

John Price Engineering Archaeological Service, for British Gas

Three circular gullies 12 to 13 m in diameter representing Iron Age round houses were excavated with pottery dating between the first century BC to first century AD. A rectilinear enclosure 19 m × 21 m was also found.

Wittering

Ian Meadows, for Peterborough Archaeology Group

A massive Roman tile kiln is currently being excavated.

References

MALIM, T. 1990. *Archaeology on the Cambridgeshire County Farms Estate* (Cambridgeshire County Council & English Heritage).

TAYLOR, A. & C. EVANS. 1993. Field-Work in Cambridgeshire: July 1991–December 1992, *Proceedings of the Cambridge Antiquarian Society* 81: 157–68.

TAYLOR, A. & C. EVANS. 1994. Field-Work in Cambridgeshire: January 1993–September 1993, *Proceedings of the Cambridge Antiquarian Society* 82: 163–71.

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Theses: Mark Campbell, 'The changing residential patterns in Toronto, 1880–1910' (unpubl. M.A. thesis, University of Toronto 1971).
Articles: K.R. Dark, 'Archaeological survey at Sidney Sussex College, Cambridge, 1984', *Proceedings of the Cambridge Antiquarian Society* 74 (1985) pp.81–4.
Chapters in books: John Patten, 'Changing occupational structures in the East Anglian countryside, 1500–1700', in H.S.A. Fox and R.A. Butlin (eds), *Change in the Countryside: Essays on Rural England, 1500–1900* (London 1979) pp.103–21.

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